6300 words

a close study and
~~the~~ intimate knowledge of the Embryology, anatomy, morphology and histology of the testis forms an Essential prelude to the investigation of the various and remarkable tumours of this organ.

At a very early period the genital and urinary systems are so intimately connected that a synchronous study of the development of these two systems is called for.

This development is not one of gradual progress: we are confronted by successive saltatory developmental stages in these systems.

Morphologically and Evolutionary we consider three kidney periods - each having an excretory organ adapted to its own definite period.

Pro-nephros - the first tubular structure to appear, soon disappears and has no functional bearing in human Embryology.

Meso-nephros - constitutes the Wolffian body; to the inner of this appears a ridge and from the Epithelium covering this ridge the material, on the one hand, for the ovary in the woman and, on the other hand, for the testis in the man is derived.

Meta-nephros - the permanent kidney.

Each succeeding nephros supplants its predecessor which, when no longer required, degenerates and leaves traces of its existence Except the pronephros.

In man the pronephros, occurring at a very early period, has only a short, incomplete and obscure existence. Nothing pathological can be traced to any of its vestigial remains.

The metanephros becomes the permanent kidney. The mesonephros - temporarily functioning as a kidney - becomes a part of the permanent reproductive apparatus. This indicates the impossibility of endeavoring to dissociate the development of the reproductive system from the urinary system. Accordingly there is little wonder that many tumours and cysts of the reproductive gland were attributed, in former years, to possible vestigial remains of these several evolutionary phases.

While the pronephros, primarily situated in the cervical region of the embryo, is rapidly vanishing the mesonephros is formed along the posterior wall of the body-cavity behind the peritoneum which, by its own growth, it pushes forward as a fold. This is the "urogenital fold" which, except at its cranial and caudal ends, undergoes a longitudinal division into:-

1. The Genital Fold.
2. The Mesonephric Fold.

Caudally the urogenital folds come together and fuse; thus arises the genital cord whereby the cavity of the primitive pelvis is divided into a dorsal and a ventral portion.

At first the upper edge of the genital cord lies at the level of the third lumbar vertebra but later at a lower level. This genital cord is formed throughout its whole length at once and with it further sexual differences appear. In the female a distinct "excavatio-vesicalis" is seen in front of the genital cord but in the male the mesonephric folds, approaching each other in the middle line, unite with the wall of the bladder.

The anlage of the reproductive gland — the common sex-gland or the indifferent reproductive gland — already present, now grows into the urogenital fold and by protrusion results in a broad-based fold being surrounded by fossae so that the fold becomes stalked; this stalk becomes twisted. In this way the axis is changed no longer to lie ~~fronto~~ in a frontal plane but sagittally. This stalk forms the stalk of the sex-gland and its mesogenitale (mesorchium or mesovarium).

The urogenital folds within which occur a series of wondrous and important processes lie originally parallel to the vertebral column, now become displaced by the appearance of the Suprarenal glands and ~~are~~ a pressing back is continued by the metanephroi.

The ovary and testis during the earlier stages and up to a certain period of their development are alike because they are respectively formed from the same common or indifferent reproductive gland by the emphasis of certain characteristics which ultimately produce the particular differences of the male and female gonad.

The differentiation can be first distinguished microscopically in the fifth week but it is not until the third month (twelfth week) that the difference becomes apparent to the naked eye.

The last and perhaps, in connection with the ultimate position of the testis, the most important change in the urogenital fold is brought about by its connection with the lateral and later with the anterior abdominal wall. At the third month there is no trace of an inguinal canal. From the fourth to the seventh month the testis lies in the

iliac fossa at the site of the future internal abdominal ring while the ovary has fallen into its position behind the genital cord. During the seventh month the testis passes ~~through~~ along the track prepared for it through the abdominal wall. At the Eighth month the testis leaves the Inguinal Canal and lies at the external abdominal ring; it is not until about or shortly after birth that the testis reaches the Scrotum

Comparative positions: - In man and most mammals the testes are normally found within the scrotum; however, this is not the invariable rule. In some ~~animals~~ mammals the testes are always Extra-abdominal - e.g. Elephants & Seals

In others, the testes become Extra-abdominal only during the season of sexual activity

e.g. Insectivora - mole, shrew, hedgehog.
Chiroptera - bats.
Rodents - mice, rats, voles
squirrels & rabbits.

In man the testis has been found at every conceivable stage in its transit from the lower edge of the genital ridge along the lumbo-iliac tract and via the inguinal canal to the scrotum or any neighbouring extra-abdominal site.

For years it has been advanced and is still taught that the retained testis is more liable to malignant disease. I would rather say that the undescended testis is more frequently the seat of a congenital aberration which is responsible for non- or incomplete migration of the organ. Further teratomata are prone to Evidence malignancy, accordingly the undescended testis, being frequently the seat of a teratoma, is the more frequently affected by malignancy.

Cysts and Cystic Conditions.

Tumours of the testicle are very varied in their clinical features and difficult in their pathogeny. In this country, it is a growing practice to castrate male animals at an early age so that those tumours of the testis which might, at a later date, evidence malignancy have become limited for their comparative pathological study except in the dog. Nevertheless, this practice affords valuable material for comparative teratology.

The term fibro-cystic disease of the testis, which dates back to an early period when the resemblance of a cystic condition in the testis to a cystic state in the kidney led to the assumption that the causation was similar, was applied by Curling to the condition previously known as the "hydatid testis" of Sir Astley Cooper.

An attempt to classify tumours of the testis is beset, on all sides, with almost unsurmountable difficulties which are, in no way, lessened when we seek to subdivide the wide group of cystic conditions of the testis.

Legion are the varieties of conditions of the testis collected under the old title of fibro-cystic disease. Sometimes, even as large as a cocoanut with a wavy contour on manipulation, the suspected aggregation of cysts is revealed by translucency; at other times the density of the fibrous tissue or the intracystic extravasation of blood obstruct the transmission of light. Microscopically these fibrocystic tumours have long been known to contain hyaline cartilage. Eve classified these tumours as follows:-

1. Cystic Fibroma - Cysts, Unstriped Muscle and Cartilage.
2. Cystic Myxoma - Cysts, Fibrous Tissue and Mucus.
3. Cystic Sarcoma - Cysts, less in Evidence, cartilage, muscle and fibrous tissue

It may be more clear to speak of the constituents of these tumors as:-

1. Dense fibrous tissue
   Muscle. Cartilage and Bone } Mesoblastic.
2. Cysts lined with
   a. Squamous cells – Epiblastic.
   b. Columnar cells – Hypoblastic.

The term has well served its purpose but today it is merely a name indicative of the evolution of the pathology of the tumors of the testis and points out to the clinician that, when he is confronted by a tumor of this character, there should be to him no specific difference between the innocent and malignant cystic tumors of the testis.

As similar cystic tumors occur in the testis of the male and in the ovary of the female the sources of such formations must, surely, be present in the common sex-gland prior to sex differentiation. In connection with this statement it is interesting to point out that teratomata which are considered to occur more frequently in the human ovary than in the human testis are found in the equine to preponderate in frequency in the testis.

Dermoid Tumors.

The term dermoid has come to have two meanings which must be kept distinct

1. Dermal origin – an inclusion.
2. Dermal contents – a teratoma.

Let us not fail to keep closely before our eyes the picture that the "inclusion theory" which bears the name of the illustrious pathologist Cohnheim was primarily employed to explain the dermoids at

the outer angle of the orbit; that this theory is applicable to dermoid cysts of branchiogenetic origin and affords an adequate explanation of dermoids of the septum - sertal raphé -- but in dermoids within the tunica albuginea this cannot be upheld. Often a tumour of the testis containing hair, oleaginous substances and even teeth has been looked upon as a dermoid of the scrotum pushing aside the testis whereas the condition is a teratoma pushing aside the particulate tissue of the testis.

Dermoids in the different regions of the body occur at approximately the same Embryonic period and it is difficult to conceive of the inclusion as coming from the ectoderm into the testis lying within the abdominal cavity en route for its extra-abdominal position. Again these so-called dermoids of the testis are less rare in the organ which has reached the scrotum than in the cryptorchid. Further the testis has not advanced far far upon its migration before the formation of the scrotum has not only been initiated but even completed for its reception into its ultimate normal situation in man.

Teeth - Too long has the presence of teeth in a tumour been considered as evidence of the dermoid: surely a tooth is more than Epidermal!; at least, it belongs to a tissue which is peculiar to the cephalic pole of the Embryo. In many instances such ectopic teeth are partially enveloped in a bony case To me the presence of teeth is indicative of a tumour not solely Epidermal but also mesodermal i.e a teratoma.

Adamantinoma. The examination of a series of

Equine teratomata of the testis reveals all manner of masses of dentigerous origin. Among these masses are to be found tumours of adamantine density, derived from the enamel organ and called adamantinoma.

Again in teratomata which contain teeth and the elements of teeth ~~are to~~ almost every possible variety of cyst of the jaw of dental origin occurs - a wide and remunerative field for the dental pathologist's researches

Cartilage. Bone. Mucus. Calcification.

No reference to cartilage as a component of testicular tumours would be complete without mention of Paget., The interest aroused and the discussion which followed upon the classical specimen described by Paget as "malignant Enchondroma of the testis" led, in later years to re-examinations by Kanthack and Pigg, Fullerton, Nicholson and many others.

The presence of cartilage in tumours has always been mistrusted; we find connected with its occurrence in tumours such diverse terms as:-Osteochondroma Myxo-chondroma, Chondro-Sarcoma, Chondro-carcinoma and Fibro-chondro-myxosarcoma - surely a veritable teratoma.

Ossification and calcification are observed in many teratomata even to the extent of forming an almost complete capsule and not infrequently a delicate interlacement throughout the whole tumour, ~~enclosed by this hardened tissue~~. This occurrence ~~condition~~ is in no way comparable to the calcification found in old hydrocele sacs, cystic tumours of long standing or in tumours resulting from Extra-uterine gestations because the conditions above referred to occur in teratomata removed from very young animals.

Teratomata

History. — A search into the annals of medicine, three hundred years ago, reveals the earliest observations on teratoma of the testis.

As early as tissues were recognizable the finding of tissues or even organs, more or less developed, in parts of the body where they are not usually found, attracted attention.

According to Velpeau the earliest reference to such structures as cartilage, bone, hair etc in the testicle was made by Duverney in 1666; but the first definite and authentic observations we owe to St Donat who, in 1696, operated on a tumour of the right testicle corresponding in size to a six-month foetus. This created a great stir. On dissection this large mass was found to be composed of a dense fleshy anterior portion full of fluid in which floated a bony sphere - the skull with two orbit-like cavities containing black vesicles. No distinct vessels were recognized in this mass which in its other parts was full of porosities comparable to a sponge.

In 1835 Geoffrey Saint-Hillaire took up the study of these tumours in a truly scientific way.

In 1855 Verneuil described, in a complete way, a tumour of the testicle with foetal remains; credit should here be given that he presaged the theory of Wilms (1896) and one might even read into his work the trophoblastic ectodermal origin of Chorion-Epithelioma

Every succeeding year has brought an ever-increasing number of observations: attention must here be especially drawn to the able and extensive work begun by Wilms in 1896

In 1907 there appeared the great collaboration of Sakaye Ôkubo who arranged, in chronological order, all recorded cases and gave a resumé of almost all that was known about the Evolution of this absorbing subject.

Pigmentation and Pigments in Tumours of the Testis

The blood - arterial and venous - the urine, the bile, the colour of the skin, of the hair and of the irides in fact, the coloured plumage of birds and the dappling of quadrupeds all indicate the normal presence of pigments in man and animals.

When the skin of the negro is contrasted with that of the European it is found that, in its deepest layers, there is a pigment - melanin -; the same pigment chemically but different in quantity.

In 1855 Curling wrote that melanosis had been observed in the testicle in only a few instances.

The Norwich Hospital Museum once contained a specimen of melanosis of the Testicle. Writers during the past forty years have denied the occurrence of primary melanomas of the testis but have recorded the rare occurrence of secondary metastases of malignant melanosis to in the testis.

~~The pigments is the product of cell activity~~

These melanins, - iron-free bodies, - are the product of cell activity being elebrated in the Melanoblasts and given over to the Chromatophores.

~~These pigments~~ When a small pigmented mole takes upon itself an increased activity its spread is rapid, alarming symptoms appear and grave anxiety is aroused because a malignant melanome is considered as one of the most lethal of tumours.

Melanins may be excreted in the urine colourless to be later demonstrated by a charged colour of the urine. This and the coal-black metastases - sometimes all over the skin - may have led to the terror-stricken view of former surgeons. Even today the clinical teaching are unchanged and the laity speak of it as the Black Cancer.

Other pigments to be found in the testis are: haemosiderin and lipochromes. The presence of bile in a teratoma is ocular evidence of the presence of hepatic tissue within the walls of the cyst. (Cf Fig 2a).

Parthenogenesis

It can be truly asserted that, in the study of teratomata, their pathogeny, more than anything else, has taxed the sagacity of the pathologist. Many theories have been advanced but only two call for our consideration today.

1. The theory of parthenogenesis - This theory suggests that teratomata of the ovary are the results of abnormal proliperative changes which occur in ova without fertilization: by inference teratomata of the testis result from similar changes either in the Spermatozoa or in the primordial ova which may remain in the testis.
2. The blastomeric theory - This theory implies that teratomata are derived from (a) blastomeres which have not gone so far as full differentiation or (b) fertilized polar bodies.

Parthenogenesis, which is well-known in insects, means the development of an organism from an unfertilized ovum. In bees the fertilized ovum becomes a queen bee, the unfertilized ovum becomes a drone.

Unfertilized ova parthenogenetically produce only one sex. Waldeyer primarily invoked parthenogenesis to explain the production of teratomata of the ovary and in 1891 Répin published a vigorous appeal in support of parthenogenesis as the origin of an ovarian dermoid. Because teratomata occur with greater frequency in the sex-glands their derivation from the reproductive cells of these glands has been presented to us as obvious; the statement has been made that as these cells, under normal conditions, produce a complete embryo, they will and do produce, under pathological conditions an incomplete embryo. Whatever is applicable to teratomata of the ovary should be equally applicable to teratomata of the testis i.e. if parthenogenesis is accepted for the ovum we are ~~forced~~ compelled to admit the application of parthenogenesis for similar tumours of the testis.

Furthermore if parthenogenesis is accepted the several component tissues of a teratoma should be more constant in their degree of development at various stages: we ought to find not always such mixture but different stages corresponding to different ages just as in normal pregnancy so that when the period of full-term arrives every teratoma should testify to this period by a similar degree of development.

Parthenogenesis in insects takes place at the time of sexual maturity, i.e. reproduction by parthenogenesis is the function of adults. Of

Again if parthenogenesis is accepted in the human ovum and, by analogy, accepted as possible in the testis how are we to extend this view to ova in the neck, palate, mediastinum Etc - Parthenogenesis was easy to accept as long as teratomata were considered "para-testicular", but not so now they have been proved to be "intra-testicular", in asmuch as it was possible to invoke the presence of primordial ova in the testis.

The occurrence of teratomata in other parts than the ovary and testis is a blow to the theory of parthenogenesis so seductive at the first glance. Though a teratoma may arise in a supernumerary ovary or testis no such organ has ever been met with in the branchial, mediastinal or retro-sacral regions.

Askanazy has shown that a teratoma is of the same age as the carrier; hence it is co-aetaneous whereas the parthenogenetic offspring is of a different age.

In his endeavour to answer objections to the parthenogenetic theory Bard advanced his theory of the "nodal cell" — a single complex neoplastic cell which only exists during the ante-natal period of organogenesis and which hypothetically contains the elements of different tissues also being possessed of immense powers of development. This 'nodal-cell' is really analogous to a blastomere

((Experimental embryology * gives much support to the blastomeric theory. Ross reports the remarkable good fortune of observing in the middle of the Embryonic Layers of a prof^{r} larva isolated cells which he considered to be a blastomere undergoing division -)) → to page 15

The theory of parthenogenesis appearing, at first sight, to explain teratomata of the ovary and testis cannot explain the origin of teratomata far removed from the genital glands especially in situations where aberrant genital cells cannot be admitted, for example the palate and brain.

No theory of a purely local and exclusively genital character is adequate: we must, therefore, turn our attention to wider considerations of the question such as a primary developmental ovular error by which the tumours can occur in very diverse situations.

The Blastomeric Theory.

After fertilization the ovum divides into two daughter-cells, these further divide into four cells; again these cells divide into eight cells, the eight produce sixteen cells and so on with a continuation of the cleavage or segmentation-process until the morula blastoderm is formed and later, by the invagination of this morula, the gastrula stage is reached with its:-

Outer layer - Ectoderm or Epiblast.
Inner layer - Endoderm or Hypoblast.

and between these layers yet derived from each of them a Middle layer - Mesoderm or Mesoblast

In each successive stage of division the power of development possessed by the cells is important when one seeks seeking to explain the origin and formation of tumours. The fertilized ovum is capable of giving rise to all the tissues of the body - it is totipotent. The primary segmentation spheres or blastomeres are similarly endowed with this potentiality as is proven by the development of twins from one ovum. - These blastomeres are likewise spoken of as totipotent because each can give rise to all the tissues characteristic of the adult organism. In later stages of segmentation the blastomere are still capable of producing many tissues but not complete and perfect individuals. - These blastomeres are "multipotent." At still later stages this power of the blastomeres is more rigidly limited to the formation of certain organs or parts of organs - in other words, a gradually diminishing power finally results in the formation of one tissue only. - such cells or group of cells are termed "unipotent." Here we may see the congenital track of Every tumour, however complex or however simple.

If it is accepted that one blastomere can become independent at a certain stage in segmentation then the development of a mass of tissue of almost any degree of complexity must be acknowledged. This blastomere of independent growth may be attached to the Embryo become partly or completely surrounded by the growing Embryo and so enclosed within its body. Material illustrating every stage of attachment, inclusion and Enclosure of one body within another is so abundant that the picture story seems complete.

"from page 13.

As teratomata contain derivatives of all ~~these~~ three layers of the blastoderm — ecto-, meso- and endoderm they may justly be considered to originate at a very early ~~period~~ Embryonic stage from blastomeres.

Five teratomata have been found in one organism therefore, Adami was not in full accord with this blastomeric theory, nevertheless he accepted the hypothesis that Embryoid tumours have their origin in a special system of blastomeres, namely, those of the germinal group dedicated from the first to reproduction.

This may be criticized as begging the question to suit a particular case - We are fully aware of twins, triplets, quadruplets and even quintlets. These have each their several ~~primary, secondary~~ blastomeres. Experimental Embryology has given such results as justify our looking upon the inclusion of a primary blastomere as possible and that such an included blastomere can give rise to an Embryo with multiple tissues and with an organization more or less advanced. These studies seem to give us the key to the very obscure points in the pathogeny of teratomata of the testis. Further it may be that, when included in the genital ridge - in the future sex-gland -, a

blastomere

meets with conditions more favourable, than elsewhere, to its development; indeed, this probability is supported by the proved fact that tissues implanted experimentally on the ovary find conditions more favourable to development.

Conclusions. - A Teratoma is due to a developmental anomaly during ~~the~~ early segmentation of the subject in whom it is ultimately discovered. Particular conditions connected with the particular developmental irregularity probably give rise to particular varieties of teratomata. At one end of the series we find double monsters which are probably due to fecundation into the same ovum by two spermatozoa. The degree of complexity of a teratoma will be proportional to the stage at which the blastoderm was included: - The nearer to the primary segmentation of the ovum the less differentiated is the blastomere consequently the more complex will be the teratoma whereas the further away from the primary segmentation the more simple.

This lecture has in its essential the bearing upon the clinical and surgical aspect of tumours of the testis as well as their profound pathogeny. - Suppose it, then, for us to appreciate that the blastomeric theory comes within the Domain of experimental embryology and teratology. From work already done we are led to expect further revelations. As comparative embryology is complementary to and must precede Experimental Embryology so comparative teratology must precede Experimental teratology.

Malignancy.

~~X~~ Frequently a tumour has developed in the tissues of a teratoma and ~~grown to~~ invaded its host: such tumours may grow from only one type of tissue or from more than one as is indicated by such terms as myxo-sarcoma, myxo-chondro-carcinoma etc

Many a teratoma does not present any of the characteristics of malignancy from its congenital appearance to advanced age - such instances form the variety of fibrocystic testicle which does not recur: Yet the diagnosis of a teratoma with its long clinical existence must not be looked upon as an earnest against malignancy.
Any suspected teratoma calls for early castration - prior to any pain or any increase in size. Why this alarming view? Any pain or increase in size following upon an injury, such as when paracentesis yields a blood-stained fluid, beware lest the erroneous diagnosis of haematoma or haematocele is made.

The parasitic theory of cancer has today the larger number of adherents and has prompted research not only with an immense addition to our knowledge but with much hope yet this theory hardly meets the question of malignancy in teratomata.

Recent work by Gye and Barnard has predominated in the field of Experimental cancer investigation so that we are back to the old fields of "the germ and the soil". This work may prove only to be a matter of metabolism of tumours. Nevertheless, whatever may come of it, this work deserves the highest commendation because the Experiments, in the clearest possible way have proved the hypothesis advanced and will, therefore, guide in the future those who are investigating cancer from the point of view of an agent and a virus.

The teratomata contain tissues derived from the three layers of the blastoderm accordingly malignancy may arise in any vestige of Epithelium to form a carcinoma or in any tissue derived from the mesoderm to form a Sarcoma or even from both concurrently.

Though it cannot be said that malignancy is one of the characteristics of a testicular teratoma

nevertheless we are justified in the opinion that there is in Every teratoma a cancerous propensity. Neither can it be surmised when the antenatally determined morbid lesion may or will make itself more evident by the appearance of a malignant trait.

Any increase in size or the onset of pain heralds the advent of a new pathological factor:- (1) infection (2) haemorrhage (3) rupture of some limiting membrane and effusion of fluid or blood. (4) initiation of a growth. The malignancy commencing in the testis may be long confined by the dense tunica vaginalis. If any part of the tumour grows with great rapidity softened areas of wholly or partly broken down tissue may present the clinical features of a cyst.

Chorion-Epithelioma

The hydatidiform mole and the condition of Chorion-Epithelioma in the female are today well-known as originating in the chorion-epithelium. This Epithelium is differentiated into two layers of about Equal thickness:-

Trophoblast (Diplotrophoblast)
- a. Inner Layer or - Cytotrophoblast. Layer of Langhans
- b. Outer Layer or - Syncytium (Plasmodiotrophoblast, Syncytiotrophoblast)

On the outer surface of the Syncytium a delicate membrane with stiff hairlike processes - the stereocilia - is generally to be recognized.

The function of the trophoblast is to open up the vascular channels of the uterine walls by the loosening action of its cells so as to obtain nourishment from the maternal blood for the growing Embryo. Moreover, its foetal origin is no longer doubted.

The invading power of the Syncytium is increased when its cells pass over the boundary of normality into the Chorion-epithelioma as is Explained by the haemorrhages and metastases.

These metastases are round nodules of variable size, deep-red in colour (from haemorrhage) or ragged pigmented masses scattered, in abundance, through such organs as the lungs liver and brain.

Marchand's work cleared away any pathogenetic difficulty by shewing that ~~the~~ chorion-epithelioma in the female arises in the chorion-epithelium or the foetal ectoderm and that both its layers are involved in the chorion-epitheliomatous tumours. When tumours morphologically identical with the chorion-epithelioma of the uterus are found to occur in the testicle we are forced to reflect and, when disbelief has been dispelled, our amazement is increased while further investigation adds to our perplexity.

Malignant disease originating in the testis was, until ~~recently~~ comparatively ~~recently~~ recent years, looked upon as Sarcoma. Kanthack, one of our own pathologists, in 1897 put forward ~~that~~ the rapid growth of Sarcoma of the testis as Evidence in favour of deciduoma malignum of the uterus being a Sarcoma. The work of Schlagenberger followed five years later.

How can tumours in which the essential characteristic is the proved presence of trophoblast with cells of Langhans arise in the testis? From what part of a testicular teratoma can the trophoblast originate?

The more careful the investigations carried out in Chorion-Epitheliomatous tumours of the testis the more frequently are the presence of two and even three layers of blastodermic origin shewn to exist. Often the metastases are the Elucidators of the teratomatous nature of the growth: Chorion-epitheliomatous tissue alone may be found the other types having been crowded out or overshadowed by its intensified growth. Under these conditions chorion epithelioma may be more frequent than is at present considered.

[Was pinned to p. 20]

As the syncytium belongs to the foetal ectoderm so does the Chorion-Epithelioma found in Teratomata arise from the ectoderm which has now assumed the character of a Trophoblast. ~~Vice versa~~: The occurrence of in the male of a syncytium, derived from the Ectodermal layer of the tridermic teratoma, proves that under normal conditions in utero the syncytium is of foetal origin.

Accordingly a Teratoma may be regarded as an imperfect foetus which has formed around itself foetal membranes - incomplete though such may be they are yet able to break out, spread into the tissues of the host and send metastases to other organs -

What determines this malignancy?

When the Syncytial anlage becomes Enclosed within the boundaries of the Teratoma it is frustrated in its growth, pari passu, with the placenta of its coeval host.

So complex it is not yet to develop until some attenuated spot yields to the gradual loosening action of the syncytial cells, or slowly increasing intra-teratomatous pressure or sudden breach by a trauma.

Such a remarkable condition is no less remarkable than the regression which occasionally occurs at the termination of pregnancy by the complete disappearance of deciduæ, Chorion-, Epithelioma.

This occurrence led to the speculative assumption that at the end of pregnancy there may be formed in the maternal blood a substance which possesses the power to destroy those syncytial Elements which may remain in the uterine wall or elsewhere. Schultze and his disciples, working along these lines, prepared a substance, what they called Syncytiolysin. Further studies along such exceedingly interesting avenues of research may serve to throw light upon tumor-growth and tumor-regression.

Thus freed the chorionic anlage carries out its peculiar powers, becomes a chorion-Epithelioma and widely disseminates metastases: or the trophoblast may invade the vascular channels of the Engulfed blastomere so that the lines of growth may proceed along the fresh avenues of nutrition or via the haemorrhagic tracts consequent upon injury. Whatever the cause may be once the limiting zone is impaired or overcome there is no cessation to this progressively fatal invasion by one of the most unrelenting types of cancerous growth. The bony casing or calcified capsules form a safe barrier and teratomata so Enveloped present their innocence or restrain their malignancy for years or even throughout the life of the individual.

[Was pinned to p. 21]

Operation is the only primary measure, in our present state of knowledge, to pursue - The extent of the surgical procedure will vary according to the nature, size and position of the tumour but Operative success will depend upon its early and preventive aspect because Every teratoma is a potential focus for malignancy and no surgeon can discern what hidden death-trap lies dormant ~~there~~ within it.

The discrepancy in post operative results is great Sometimes the patient remains well for years but in other patients the condition is so malignant that death ensues speedily in spite of operation

The most rapidly growing tumours
consisting of cells seem
to be the ~~[illegible]~~ among the
category which are
markedly affected by Radium

The diagnosis will be based upon general laws, transillumination, x-rays and incision but above all upon a clinical acumen borne of a profound knowledge of pathology and wide clinical Experience.

From the rapidly growing character of malignant tumours of the testis I urge the employment of ~~Rad~~ radium in massive doses.

I have presented to you, in rapid sequence, tumors ~~from~~ in the bovine, canine, equine and human subjects - a wide field of comparative pathology and clinical surgery. The many problems opened up have taxed and will continue to tax the most skilled embryologists and pathologists.

In these days of the quest for the origin of cancer it is, indeed, disheartening to find so many of the tumours of the reproductive gland are not only virulently malignant in character, teratomatous in origin but deeply embedded within the common sex-gland at so early a date that over ~~its~~ their formation we can exercise no control and over ~~its~~ their maturation we have only one drastic course - Castration. Even this in many instances is 'too late'.

If among the legion of hypotheses of the origin of cancer I have limited my lecture to the congenital aspect I trust that at least two important points will emanate.

1. The early recognition that any congenital aberration is to be mistrusted.
2. Those who follow the present paths of cancer research, as well as those in practice who ride on the waves of fashion will at least reflect upon the philosophic reasoning of former masters of medicine

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History and Heroes of the Arts
of Medicine, London 1861, cloth,
faded, illus. 15/-

Walker (Richard) Memoirs of Medicine Including
a Sketch of Medical History
from the Earliest Accounts to
the Eighteenth Century, London,
1799, old mottled calf,
a little strained. 18/-

Welsh Leech Book; or, Llyfr o Feddygiaeth
Faithfully Reproduced from the
Original Manuscript, edited by T. Lewis,
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The Four Queens

by Evelyn Sorrell

OXFORD
8. — PM
15 MAR 19

OXFORD
8. — PM
15 MAR 19

J. Howell Evans Esq. M.R.C.S.
25. Berkeley Square
London. W.1

314

Dental Condition of the Tongue

Note Depressions (tooth pressure)

nor Excavations (ulcer loss of tissue).

Observe movements of the tongue very carefully

24 Dec 1902

Wm Thacker

11 Tarn Road

Edinburgh

Dr Evans

Relative Papillomas of

Bladder

214

PARTICULARS OF OPERATIONS FOR THEATRE.

Date 30.1.19 *Hour* 10 am

Surgeon Mr Howell Evans *Surgeon's Assistant*

Anæsthetist

Fibrous nodule in External oblique

Numerical order of Cases.	NATURE OF OPERATION.	Name of Ward.
1.	Scar hernia Jacob Levy Spinal (Mr Atherton)	Morley
2.	Suprapubic cystolotomy John Keith , Dr Gurney Champion	V Mary
3.	Curettage & Hysteropexy "	Howard
4.	Varicose veins "	V Mary
5.		
6.		
7.		

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SHIELLS & FORD.

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38, BERNERS STREET,
LONDON, W.

Aug 14 1921

T Howell Evans Esq FRCS
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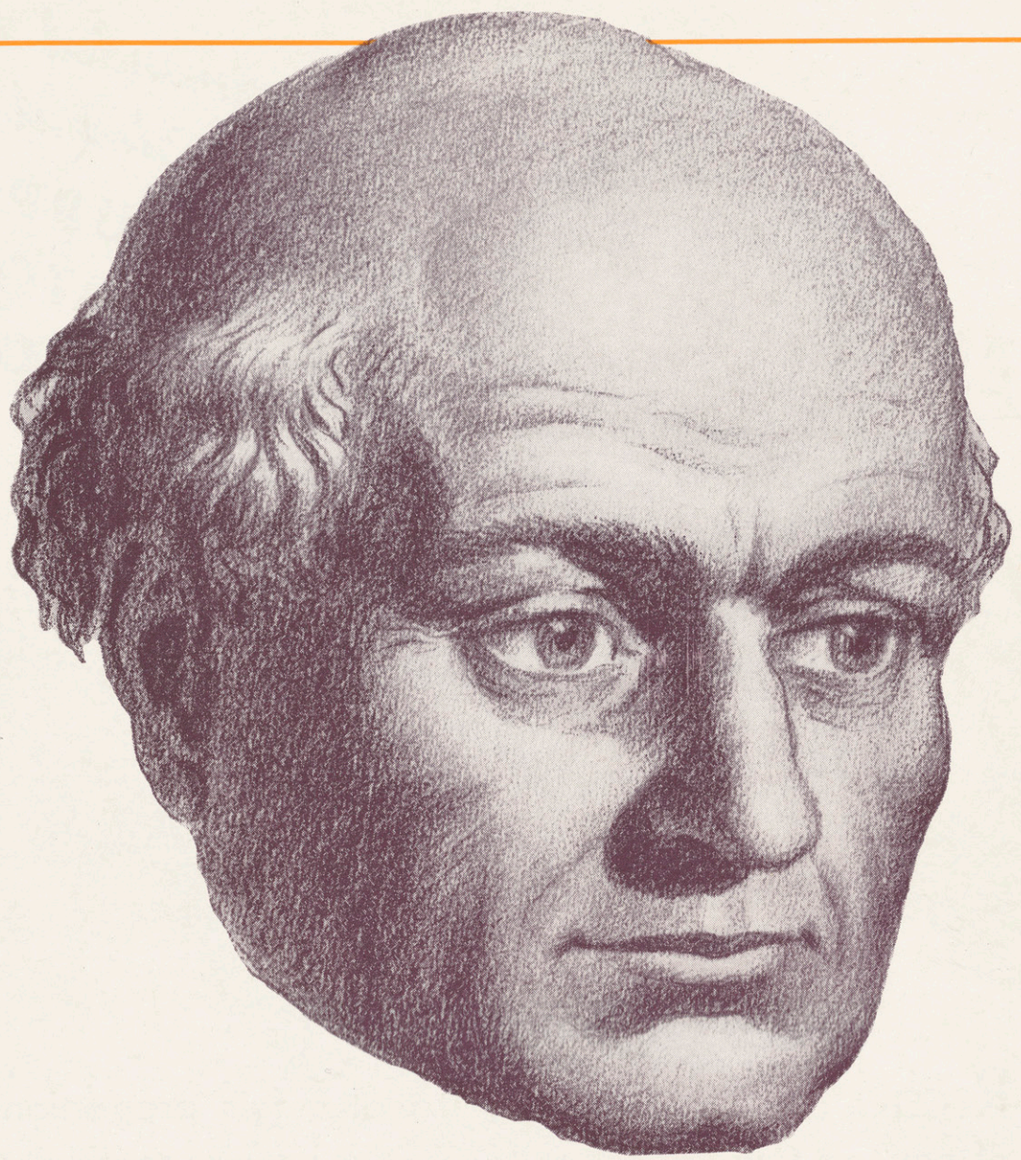
To making 2 Views of appendix £1-5/-

With Compts

FATHERS OF MEDICINE



PARACELUS*

(A.D. 1493-1541)

The great rebel of the profession. Born at Einsiedeln in Switzerland, Aureolus Philippus Theophrastus Bombast von Hohenheim — "Paracelsus" is his own latinized form of Hohenheim — was the first to question the authority of Hipprocrates and Galen, and to attack the latter's dogmatic theories. He stood out boldly for independent study and the right of private judgment. Paracelsus' own theories were altogether too mystical and fantastic but he did lasting service to the advancement of medicine as a pioneer in chemistry and chemical therapeutics, and as a seeker for the active principles of drugs and the sworn enemy of polypharmacy and indiscriminate bloodletting.

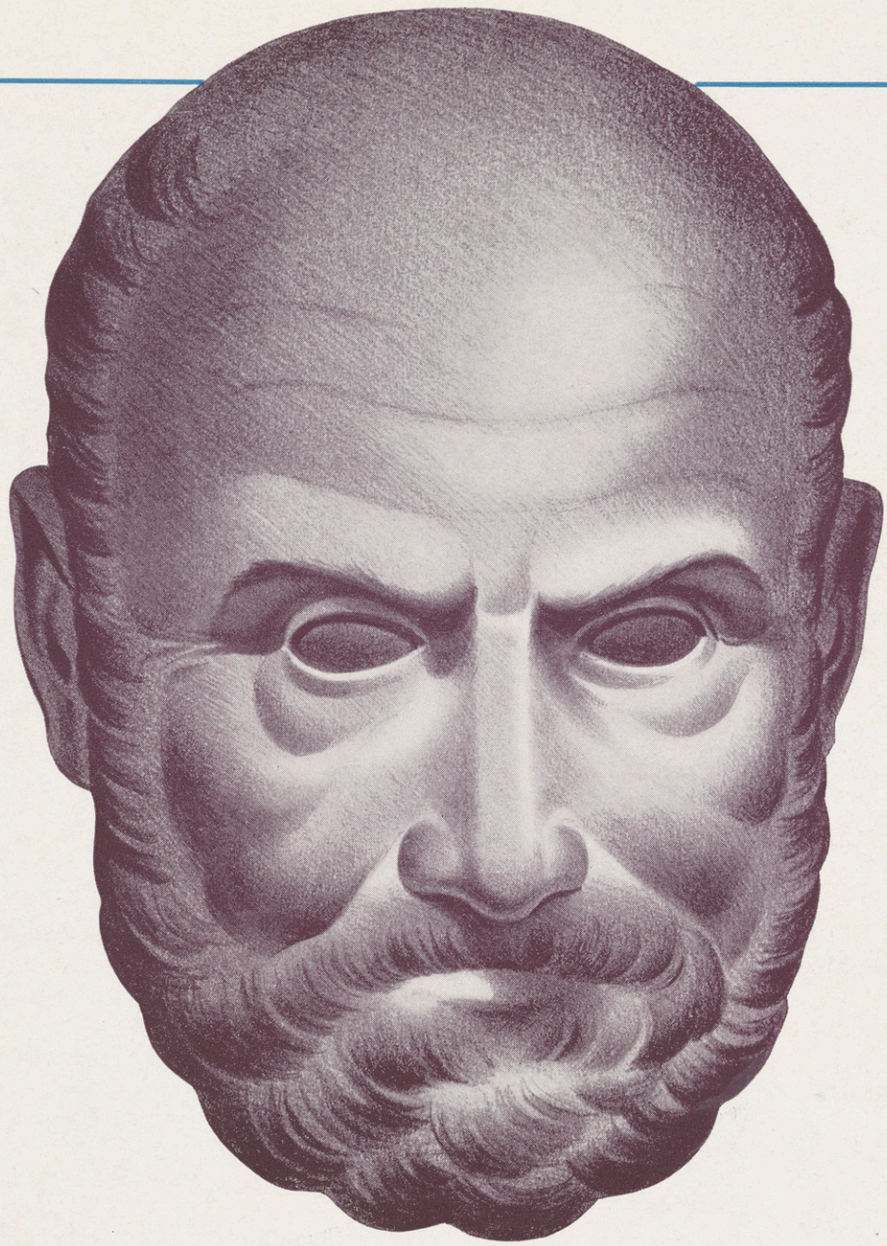
Prepared for the interest of the Canadian Medical Profession
by Charles E. Frosst and Co.

*Should be spelled "Paracelsus"

RECENT observations suggest that a fair proportion of patients treated with sulfonamides acquire sensitivity to them. This sensitivity may persist for a relatively long time. Therefore, it is suggested that the administration of sulfonamides be restricted to the treatment of serious illnesses specifically responsive to sulfonamides, and that you continue to rely on Acetophen and Acetophen Compound tablets for the treatment of minor ailments.

214

FATHERS OF MEDICINE



HIPPOCRATES

(460-370 B.C.)

A Greek physician: one of the great figures of an age that also produced Sophocles, Aristophanes, Socrates, Plato. Author of a number of medical treatises, now known as the Hippocratic Collection, which together form an encyclopedia of medicine and surgery as practiced in his day.

It is the method of Hippocrates: his rejection of superstition, his mental honesty, his scientific approach to diagnosis, his deep respect for his patients, and his high conception of the physician's calling that make him, by common consent, the father of scientific medicine.

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1943-4

to Re-establish
NORMAL BOWEL ACTION

"KONDREMUL"

A PLEASANT-TASTING, EFFECTIVE EMULSION CONTAINING 55% MINERAL OIL WITH CHONDRUS CRISPUS (IRISH MOSS) USED AS THE EMULSIFYING AGENT.

Advantages:

Chrondus Crispus holds the oil in a highly dispersed state. This *emulsion permanence* prevents coalescence of the oil into blobs, thus preventing leakage. There are no digestible carbohydrates in "Kondremul"; the latter does not break down in passing through the intestinal tract but mixes intimately with the intestinal contents. The stool approaches normal consistency and passes easily, without straining.

"Kondremul" pours freely from the bottle; does not break down at extremes of temperature; does not contain alcohol nor alkali; is purely regulative—not habit forming. May be taken undiluted or mixed with hot or cold water, milk or cocoa.

APR _ 1944

FATHERS OF MEDICINE

AMBROISE PARÉ

(1510—1590)

The greatest surgeon of his time, who contributed something to almost every branch of his profession, especially that dealing with the treatment of gunshot wounds.

Trained in Paris at the Hôtel-Dieu, Paré began his surgical career as an army surgeon, later becoming Professor of Surgery at the College of St. Côme and surgeon to King Charles IX.

Like Vesalius, Paré approached every problem with an open mind, accepting nothing on the sole grounds that it was approved dogma. His digest of the "Fabrica" in French popularized that great work and made it more widely accessible to surgeons.

Prepared for the interest of the Canadian Medical Profession by Charles E. Frosst and Co.

214

FATHERS OF MEDICINE

DIOSCORIDES

Greek surgeon in the army of Nero (54-68 A.D.). Originator of the materia medica and sometimes referred to as the "Father of Therapeutics".

Dioscorides was the first to write on medical botany as an applied science and his works are the authoritative source on the materia medica of antiquity. Up to the beginning of the 17th century, the best writings on medical botany were still simple commentaries on his treatises, which are the historic source of much of our herbal therapy.

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Remarkable Results

reported in the treatment of infected wounds with

"SULFAMUL"

Frosst

A non-adhesive, non-hygroscopic 5% Sulfathiazole emulsion

The most effective CONCENTRATION
The most satisfactory VEHICLE
The most effective METHOD
developed for local application of Sulfathiazole

- **in the treatment of INFECTED WOUNDS, abscess cavities, burns, chronic ulcers and superficial infections.**
- **as a dressing for BURNS about the face, hands and points of flexion.**
- **as a bacteriostatic packing in INFECTIONS about the cervix and vagina.**
- **as a non-adhesive bacteriostatic pack in the VAGINA before and after operative procedures in the birth canal.**

"In critical areas, for all practical purposes, we have found M.G.H. emulsion offers a particularly satisfactory adjunct to pressure dressings. The bacteriostatic action prevents or controls infection and, because of this, the frequency of the redressing may be timed. It is usually possible to leave the original dressing on for at least one week without discomfort and with little odor, more often none. Moreover, this emulsion dressing affords a single continuous form of treatment from first-aid to final healing even with grafting."

Gurd, Ackman, Gerrie, and Pritchard—Annals of Surgery, Vol. 116, No. 5, November 1942.

Frosst

The Canadian Mark of Quality
Pharmaceuticals Since 1899.

WHERE QUALITY AND PRICE ARE EQUAL OR BETTER - -

214

FATHERS OF MEDICINE

GALEN

(131-201 A. D.)

Greek physician; the most skilled practitioner of his time and founder of experimental physiology. His writings on the physiology of the nervous, respiratory and circulatory systems, however faulty in the light of later discoveries, were the only real knowledge until Harvey (1578-1657). His anatomical investigations were unrivalled in antiquity for their fullness and accuracy. An unscientific dogmatism and a tendency to explain everything in terms of pure theory unfortunately limited the value of Galen's contribution to the progress of medical science.

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Orchisterone

CANADIAN TESTOSTERONE

The Male Sex Hormone

FOR
- Replacement Therapy in Male Sex Hormone Deficiency States,
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The synthesis of "Orchisterone" (Testosterone "Frosst") and its derivatives makes available for therapeutic purposes a commercially practical product with exactly the same chemical composition as the natural hormone experimentally extracted from the male sex gland.

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Symptoms of the Male Climacteric: Loss of Muscular Tone, Impotence, Psychic Disturbances. Eunuchoidism. Dwarfism. Benign Prostatic Hypertrophy. Castration Symptom Complex.

IN THE FEMALE:

Menopausal Syndrome Dysmenorrhoea. Uterine Bleeding. Chronic Mastitis. Suppression of Lactation. Frigidity.

IN BOTH MALE & FEMALE:

Angina Pectoris and Peripheral Vascular Disease.

WRITE FOR BROCHURE OF "Frosst" HORMONE PRODUCTS JUST PUBLISHED.

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FATHERS OF MEDICINE

AVICENNA

(980-1036 A. D.)

Most celebrated Islamic physician of the 11th century and known as "Prince of Physicians". Said to have been the first to describe the preparation and properties of sulphuric acid and alcohol. His best known work, "The Canon", which was the text-book of physicians for several centuries, is a monumental attempt to codify the entire medical knowledge of the time and square its facts with the theories of Galen and Aristotle. Its unfortunate effect on the progress of medicine was to confirm physicians in the unscientific attitude of Galen that theoretical reasoning is better than first-hand investigation.

Prepared for the interest of the Canadian Medical Profession
by Charles E. Frosst and Co. 1943-4

"FERRO-CATALYTIC"

THE ORIGINAL IRON-COPPER* PREPARATION

for the Treatment of

ANAEMIA

ADVANTAGES:

SOLUBLE ELASTIC CAPSULES PREVENT OXIDATION:

The "Ferro-Catalytic" capsule — an impermeable but quickly soluble gelatin envelope which remains soft and easy to swallow — keeps the contents fresh and un-oxidized. This contrasts with ferrous carbonate pills, which, unless administered when fresh, become hard and resistant and progressively oxidize to the less effective ferric form.

NO CONTRA-INDICATIONS - NO UNTOWARD EFFECTS:

When properly preserved, as it is in the "Ferro-Catalytic" capsule, ferrous carbonate is the least irritating form of iron. Such toxic symptoms as low abdominal cramps, diarrhoea, nausea and vomiting therefore do not occur with "Ferro-Catalytic". Discoloration of the teeth, also, is avoided.

AVAILABLE IN A RANGE OF FORMULAE TO MEET THE PHYSICIANS' NEEDS:

See list on opposite page. Specimen package of formula of choice, with haemoglobin scale, will gladly be sent on receipt of request.

★ Charles E. Frosst & Co. are holders of the iron-copper patent rights for Canada.

WHERE QUALITY AND PRICE ARE EQUAL OR

214

FATHERS OF MEDICINE

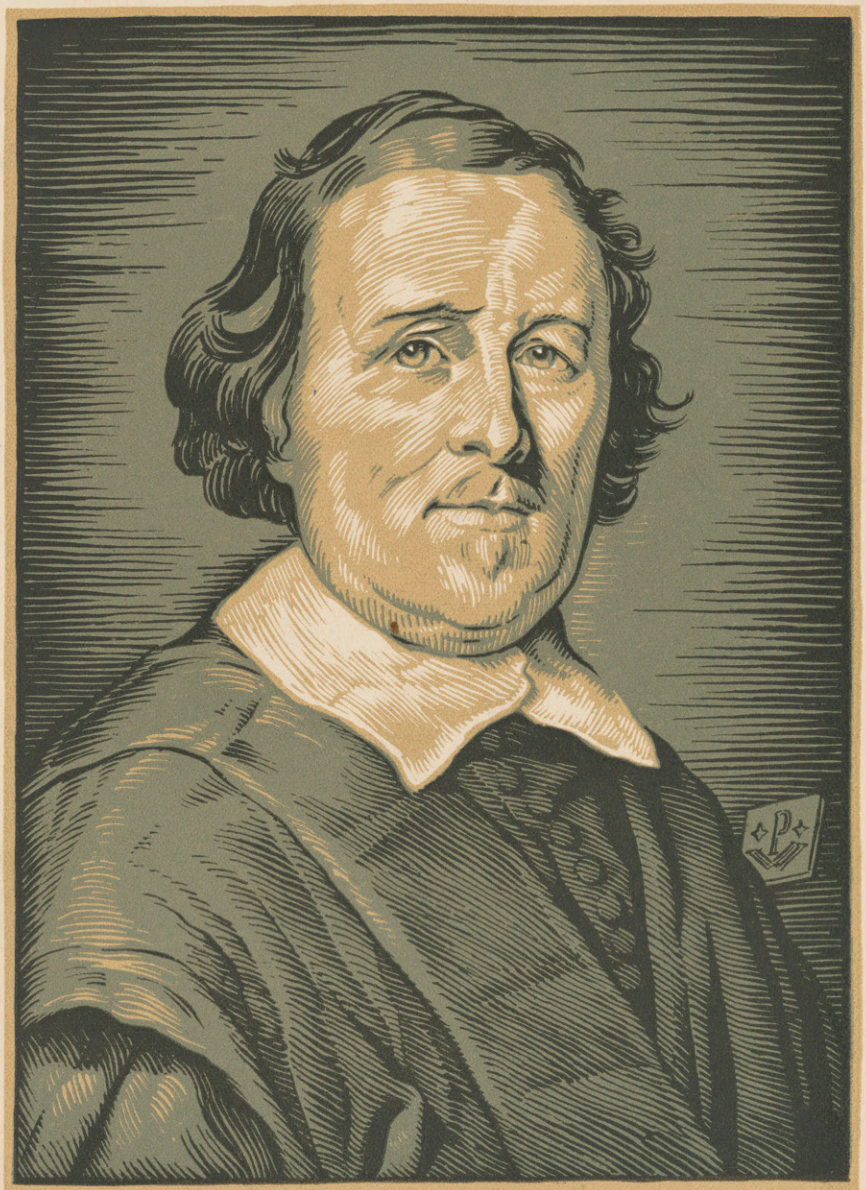
VESALIUS

(A.D. 1514-1564)

Andreas Vesalius, the most commanding figure in European medicine after Galen and before Harvey, was born at Brussels, studied at Louvain and Paris, and became professor of surgery at Padua at the age of twenty-three! Before thirty he had effected a revolution in the science of anatomy.

Vesalius reaffirmed the method of Hippocrates and the importance of first-hand investigation as a check on theoretical reasoning. His great work "De Humani Corporis Fabrica", 1543, the first complete and accurate anatomy, enlarged and corrected the work of Galen, which was based on the dissection of animals. It has been called "the greatest medical book ever written—from which modern medicine starts".

Prepared for the interest of the Canadian Medical Profession by Charles E. Frosst and Co. 1943-4



HERMANN BOERHAAVE

HERMANN BOERHAAVE

Born in Leyden, Holland, 1668. A remarkable man, whose fame was so universal that letters addressed to "Dr. Boerhaave, Europe" were delivered to him. Lecturer at the University of Leyden upon the theory and practice of medicine, upon botany and upon chemistry.

He introduced bedside teaching, and placed the microscope and Fahrenheit thermometer at the service of the clinic. His maxim, "simplex sigillum veri" (simplicity is the stamp of truth) "was never manifested in his treatment," says one of his critics, and "his prescriptions were less effective than his personal appearance." Yet, the kindly, dignified and unassuming personality of Boerhaave deserves recognition as well as his assiduous labours to observe carefully and interpret correctly the tangible evidences of disease. Died in 1738, and his home town, where he spent his entire life, erected a statue to his memory.

BOERHAAVE

Was a Unique Genius in Medicine

TO HIM IS ATTRIBUTED the virtue that most of his contemporaries lacked—he never mixed his theories with his practice. His writings reveal that he at times believed in heroic measures of treatment. His therapy of constipation included large and repeated bleedings, "diluting and antiphlogistic glysters" repeated several times a day; incessant hot drinks, and "fomentations of the like kind applied all over the belly and chiefly the application of live hot and sound animals, such as puppies or kittens".

The rationalization of medicine, as a result of pharmacological experiment and clinical observation, makes such drastic measures unnecessary to-day.

It is now a recognized fact that in atonic constipation, the stimulation of peristalsis is of paramount importance. To accomplish this, it is not sufficient to introduce bulk. In chronic constipation the bulk is there; its outward movement constitutes the problem.

Because it meets scientifically the requirements which have been found necessary for the re-establishment of the normal function of the colon, AGAROL BRAND COMPOUND, the original mineral oil emulsion with phenolphthalein, simplifies and improves the modern treatment of constipation.

The stimulation of peristalsis may not only be useless but actually harmful, unless the intestinal contents are sufficiently soft and pliable, so as not to offer abnormal resistance to the segmentation process of the intestine. To accomplish this purpose, a sufficient moisture must be present that is not absorbed in the colon. Unless the fæcal mass is soft and

easily passed, injury may also result to the rectum, causing fissure, ulceration, and even incontinence in the final result.

The quantity of indigestible and unabsorbable liquid introduced into the digestive system should be as small as consistent with good results, so as not to interfere with gastric and intestinal function by coating the stomach and intestinal walls, thereby forming a barrier to digestion and absorption.

AGAROL BRAND COMPOUND, as the experience of those thousands who are prescribing it shows, is safe from these objections. The dosage is small (from two teaspoonfuls to one tablespoonful) and may soon be reduced to a teaspoonful as the intestinal stasis shows evidence of improvement. The mineral oil and water held in emulsified combination is just sufficient to prevent complete dessication of the intestinal contents, preserve their pliability and obviate the irritation of mucous membranes. Because of thorough intermixture of the emulsion with the fæcal mass, no leakage of oil can occur.

In addition AGAROL BRAND COMPOUND *gently stimulates* the peristaltic function, and makes evacuation easy and painless. Used over an adequate period, Agarol tends to re-establish normal function.

There is a steadily growing conviction among the medical profession that in the treatment of atonic constipation AGAROL BRAND COMPOUND as nearly approximates to the ideal as any preparation yet made available for this purpose.

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INTERNATIONAL CONGRESS ON ALLERGY

The Second International Congress of Allergology was held at the beginning of November 1955, in Petropolis, a summer resort near Rio de Janeiro. The Congress was attended by some 300 delegates and, despite the great distances which many of them had to travel, representatives of all continents were present, including delegates from 14 European countries.

The following subjects were discussed at the Congress: Histamine and the Mechanism of the Allergic Reaction; Immunology and Allergy; Drug Allergy; Asthma; Skin Allergy; Hormonal Allergy; Leprosy and Tuberculosis; Treatment of Allergy.

Each of these subjects was discussed in a separate symposium, which provided an opportunity to hear the leading specialists in the field and to exchange views with them. The lectures on "Immunology and Allergy" were particularly interesting and mention may be made of the following papers: "Immunological techniques in allergy" by Dr. E. A. Kabat; "Transfer of bacterial hypersensitivity of the delayed type in man by means of whole or disrupted leucocytes" by Dr. H. Sherwood Lawrence; and "Production of allergic injury to organs by the injection of homologous tissue and antigens and adjuvants" by Dr. J. Freund.

In the course of the symposium on the relationship between leprosy and tuberculosis, conducted by Prof. F. E. Rabello, the usefulness

The official platform at the opening session. From left to right: Dr. Fred. W. Wittich (U. S. A.), retiring President of the I. A. A.; Dr. U. Fabiano Alves (Brazil), first Vice-President of the I. A. A.; Prof. B. Halpern (France), elected President for 1958; Prof. Robert Cooke (U. S. A.), guest speaker.

of BCG vaccination in the prevention of leprosy was particularly stressed.

The lectures held in connection with the symposia were delivered in the large lecture theatre to the assembled delegates and were translated simultaneously into four languages. In addition, the week's programme included approximately 150 shorter papers in which various aspects of allergy were discussed.

Prof. Halpern showed a number of experimental and clinical films which had been made by the team working under Prof. Pasteur Vallery-Radot. These included a film of unusual technical perfection which demonstrated by means of bronchoscopic photography the mechanism of the asthma attack.

During the Congress, the delegates of the International Association of Allergology (I.A.A.) held a number of meetings. The retiring President, Dr. Fred. W. Wittich * handed over his office to Prof. Samuel Feinberg. For the period 1958 to 1961, Prof. Bernhard Halpern was elected President. The Third International Congress of Allergology will be held in Paris in 1958.

* See article by Dr. F. W. Wittich on p. 183 of the preceding issue.

A HUNDRED YEARS AGO

Advances in medicine in 1856 included:

A study of the pharmacological actions of curare — which has since become classic — was published. (BERNARD C.: Analyse physiologique des propriétés des systèmes musculaire et nerveux au moyen du curare. *C. R. Acad. Sci., Paris* 1856, **43,** 825.)

The first experimental extirpation of the adrenal glands was performed and the vital importance of these organs demonstrated. (BROWN-SÉQUARD M. E.: Recherches expérimentales sur la physiologie et la pathologie des capsules surrénales. *C. R. Acad. Sci., Paris* 1856, **43,** 422.)

The zones of sensitivity of the skin corresponding to the various spinal nerves were described (TÜRCK L.: Vorläufige Ergebnisse von Experimental-Untersuchungen zur Ermittlung der Haut-Sensibilitätsbezirke der einzelnen Rückenmarks-Nervenpaare. *S. B. Akad. Wiss. Wien* 1856, **21,** 586.)

A study was made of summational and differential tones and the existence of resultant tones demonstrated objectively, i. e. independently of the human ear. (HELMHOLTZ H.: Ueber Combinationstöne. *Ann. Physik Chemie* 1856, **99,** 497.)

It was demonstrated that venous blood varies in temperature according to the organ from which it is derived, blood from the hepatic vein being the warmest. (BERNARD C.: Recherches expérimentales sur la température animale. *C. R. Acad. Sci.* 1856, **43,** 329.)

The action of veratrin on striated muscle (prolonged contraction) was discovered. (KÖLLIKER A.: Physiologische Untersuchungen über die Wirkung einiger Gifte. *Virchows Arch.* 1856, **10,** 235.)

ERRATUM

Line 8 on p. 65 in No. 2 of this volume should read "1 % o-phenanthroline solution".

present and interpret statistical evidence — not, of course, the "high-brow" kind interspersed with the Greek alphabet but just "straightforward" figures. Since this confidence is a trifle misplaced we have, as a result, a constant *misuse* of statistics that makes sceptics of us all. It is just those "straightforward" figures that demand so much thought and critical reflection and so rarely get them — from either writer or reader.

Observation and experiment

No statistician believes that you can prove anything by statistics. A cautious person, by nature and nurture, he is much more likely to assert that you can *prove* nothing. He realizes that there is probably no other form of evidence so difficult to interpret. Observations made in the course of "every-day life", and not by means of some carefully conceived experiment, may be at the mercy of many influences. An observed association may be due *not* to the factor that would appear on the surface most obvious but to some other underlying and concealed factors — for example, the heightened incidence of malaria in marshy places. The situation invariably calls for a detailed, and sometimes difficult, disentangling of the chain of causation, and, by such means, to a final narrowing down to the *most likely* explanation.

It is important, however, to appreciate that no hard and fast line can be drawn between observation and experiment. Observations may be made in such a way as to simulate an experiment, so that "uncontrolled" and "unwanted" variables are excluded. Thus, for example, did Dr. John Snow (Fig. 1) one hundred years ago demonstrate the association between the pollution of the water supplies and the incidence of cholera epidemics — some 30 years before Koch's discovery of the cholera vibrio [1]. We thus may reach a conclusion, based upon circumstantial evidence, upon which

Fig. 1: John Snow 1813–1858.

no reasonable person should refuse to act. The great strength of the experimental approach lies in the fact that by its means the "unwanted" variables can be *more often* eliminated and thus cause and effect be more conclusively and speedily demonstrated. In recent years the best of both worlds has been sought in the development of the statistically-designed and statistically-guided "experiment" for the solution of human problems.

Preventive Medicine

The problem of B. C. G.

To take an example of no little importance to mankind, the value of B. C. G. vaccination against tuberculosis has been argued for at least a quarter of a century. On balance the evidence has suggested that protection is conferred but in the absence of a controlled trial

it has been able to do no more than suggest. For instance, the comparison of those who *choose* to be vaccinated (or choose to have their children vaccinated) with those who do not choose is fraught with dangers. In such circumstances it is well known that the choosers may come more frequently from a different social class, that they may take other precautions against infection, that they may come from differently constituted families, e. g. the mother of a single child may bring it for vaccination and the mother of five not trouble to do so, and so on. In short the choosers may be a selected group and, therefore, quite apart from vaccination, not comparable *in features which may well affect the incidence of tuberculosis* with those who do not choose.

For such reasons the arguments pro and con have meandered along inconclusively with the protagonists optimistically accepting the statistical evidence and the antagonists pointing pessimistically to its weakness.

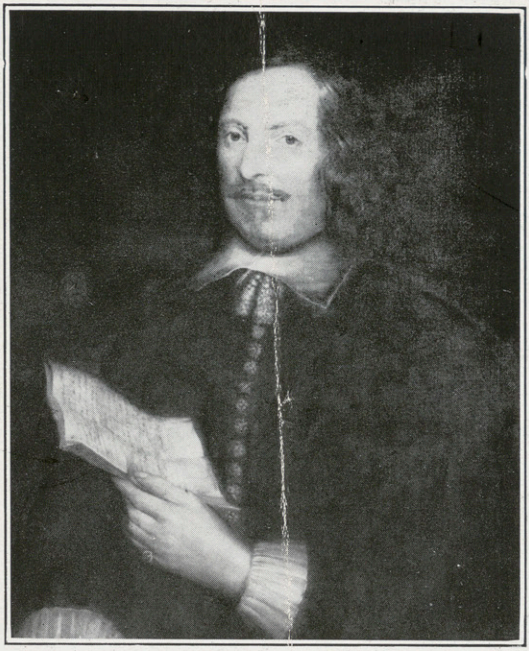
A controlled trial of B.C.G. Aware of this situation the Medical Research Council of Great Britain decided in 1949 to set up a controlled trial to study what contribution B.C.G. vaccination might make to the problem of tuberculosis in children leaving school and entering upon the adult environment of work, i.e. a time of life at which the incidence of tuberculosis begins to rise in the highly industrial community of Britain.

In and around three large cities — London, Birmingham and Manchester — the parents of boys and girls aged 14½ to 15 years and about to leave school were invited to allow their children to enter the trial. Between 1950 and 1952 more than 56 000 did so. Initially they were divided by the tuberculin test into those already positive (40 per cent of the total) and those still negative (60 per cent of the total). The latter were divided *at random* into three groups, namely 14 100 who were vaccinated with B.C.G., 6 400 who were vaccinated with a vole bacillus vaccine and 13 200 who were left unvaccinated. The important aspect to be noted is the division *at random.* The allocation to one or other vaccination group or to the unvaccinated group was, in effect, a lottery and thus the three large groups are quite unselected and should be strictly comparable. Further, to avoid bias in the results every definite or suspected case of tuberculosis brought to light in the follow-up was reviewed and accepted or rejected by an independent assessor *who was kept unaware of the group to which the child belonged,* i.e. of the results of tuberculin tests and whether vaccination had been performed. By such means confidence in the results is greatly increased.

All groups, both tuberculin positive and negative, have now been followed-up regularly and with equal intensity over two and a half years and an interim report has been published[2]. It shows that in that period of time there have been in total 165 definite cases of tuberculosis—104 pulmonary tuberculosis, 36 pleural effusion without evidence of pulmonary tuberculosis and 25 other forms of tuberculosis. Ignoring in the present instance the cases in children positive to tuberculin at entry to the trial, the annual incidence rates in the fundamental categories have been as follows:

Children tuberculin negative and left unvaccinated	1.94 per 1000
Children tuberculin negative and B.C.G. vaccinated	0.37 per 1000
Children tuberculin negative and vole bacillus vaccinated	0.44 per 1000

It will be seen that tuberculosis of one form or another has occurred about five times as frequently in the unvaccinated group as in the vaccinated (see also Fig. 2). In short there is here unequivocal evidence that in this population and environment both vaccines conferred a



This painting of Edward Winslow is a copy by Elisabeth Weber-Fulop of the only contemporary portrait of a 'Pilgrim Father'. It was presented to the town of Droitwich, the birthplace of Edward Winslow, by the Historic Winslow House Association of Massachusetts. It was unveiled in London in 1954 by The Hon. Winthrop W. Aldrich, the American Ambassador to the Court of St. James'.

THE Dean and Chapter of the Cathedral Church of St. Paul in the Diocese of London have directed that at the Service of Evensong on Sunday, May 8th, 1955, at 3.15 in the afternoon, the Tercentenary of the completion of the life's work of

EDWARD WINSLOW

(1595-1655)

shall be commemorated to the strengthening of the good Anglo-American understanding that this great Christian pioneer laboured so faithfully to promote.

AN ANGLO-AMERICAN TERCENTENARY

EDWARD WINSLOW was born at Droitwich, Worcestershire on 18th October, 1595. He died at sea, off Jamaica, 8th May, 1655, after devoting the greater part of his life to the service of the little settlement of New Plymouth in New England which was established by the doughty pioneers we now remember as 'The Pilgrim Fathers'.

Prominent among the 'Pilgrim' band, Edward Winslow sailed in the famous 'Mayflower' emigration of 1620.

His prolific writings and the records of his career show him to have been a man of outstanding courage, enterprise and ability. His life was supremely adventurous.

After a sound education at King's School, Worcester, he was apprenticed to a London printer and stationer. He cut short his apprenticeship to join the little colony of exiled Pilgrims in Leyden, Holland, where he worked on a private press which produced Puritan propaganda for distribution in England. After the 'Mayflower' landing the Indians were attracted by Edward's genial and sincere character. Visiting the capital of King Massasoit, he found the great chieftain dying. With simple doctoring he restored his health and a lifelong friendship was established between the two men, paving the way to thirty years peace. Edward's skill and diplomacy had won the small Pilgrim settlement the security that was essential.

Archbishop Laud, in the reign of Charles I, desired to bring the independent New Englanders more directly under the discipline of the Church. Others in England, with eagerness to lay hold on the new

plantation, began to defame the Pilgrims whenever possible. Four times did Winslow brave the perils of the Atlantic Ocean to defend the infant Colony's cause in England.

The way to the subsequent establishment of Massachusetts, Mother State of the Revolution, was opened and prepared by his sincere and strenuous diplomacy. He was the statesman among the Pilgrims.

The first British Missionary Society for propagating the Gospel among the Indians received a charter in 1649, largely as the result of Winslow's endeavours and persuasions.

Edward Winslow was three times Governor of the New Plymouth settlement, many times Assistant to the Governor and he was a Commissioner representing New Plymouth on the Council of the United Colonies, North America's first 'Parliament'.

Cromwell, with an instinct for choosing the right man, had assessed Winslow's sterling qualities in conversations with him while the Statesman-Pilgrim was visiting England, Winslow having close and friendly contacts with the Parliamentarians. In 1646 Cromwell persuaded him to remain and serve the Commonwealth, assigning him a series of important executive commissions. His later employment on the Navy Committee and his wealth of experience of Colonial settlement led to his final appointment as Cromwell's Chief Commissioner on an expedition against the Spanish possessions in the West Indies.

In this year, 1955, Jamaica is celebrating a Tercentenary. She is the oldest and most important Colony in the British West Indies. On the night of 9th May, 1655, a British Fleet under Admiral Penn,

the land forces serving under General Venables, bore down on the island to wrest it from the dominion of Spain. It was a tragic circumstance that only that day ships of the Commonwealth had lain to while the body of Edward Winslow was committed to the waters of the Caribbean with a salute of 42 guns.

Edward Winslow stands first among the early advocates of Anglo-American understanding and goodwill. The presence of American Servicemen in Britain and Holland today, and the presence in the U.S.A. of British and Dutch NATO trainees, may be said to be a manifestation of the resolve to defend and maintain the freedoms for which the Pilgrims strove and to which Winslow's soul was pledged.

The Tercentenary of the completion of the life on earth of the 'Pilgrim Diplomat' is charged with a special emotion by virtue of the truth that his influence still endures to inspire the English-speaking peoples.

The British Broadcasting Corporation are planning a programme on the life of Edward Winslow in the week preceding the Service in St. Paul's Cathedral.

SURREY FINE ART PRESS LTD., REDHILL, SURREY.

Paracelsus

Paracelsus

A contradictory character; he blundered much; his mistakes were manifold, but he had some great ideas, and this is a virtue that few possess.

VICTOR ROBINSON: *Pathfinders in Medicine.*

PHILIPPUS AUREOLUS THEOPHRASTUS BOMBASTUS VON HOHENHEIM was a Swiss, born in Einsiedeln in 1493. He gained his first knowledge of medicine from his father who was a physician. After obtaining his medical degree, he travelled extensively in Europe, accumulating a wide fund of knowledge in medical folk-lore, alchemy and astronomy.

He adopted the name Paracelsus, and early in his career as professor of medical science at Basle he launched into deprecation of current authority in medical thought, which at this time was completely under the influence of the erroneous concepts of Galen. His antagonistic attitude brought about his persecution, which forced him to flee from place to place.

Paracelsus taught that sickness is due to chemical disturbances in the system and can be cured by the proper chemical. He wrote several books expounding his theories, had a large following among the patients, and did accomplish some wonderful cures. True medicine, he asserted, rested upon four pillars: philosophy, astronomy, alchemy and the virtue of the physician. He practised what he preached.

Paracelsus died in utter poverty in 1541. Three centuries later, his native city erected a statue to his memory, in recognition of his contributions to medicine. He introduced several new mineral drugs, but his greatest service to the profession was accomplished by overthrowing its thoughtless subservience to ancient authority.

PARACELSUS *was a keen observer.*

DIGESTION he considered a chemical process which separated the nutritive part of the food from that which was not inert but actually harmful. If the latter was not removed from the body, it might in itself become a poison and cause disease.

Not a far shot from present-day medical observation concerning the effects of constipation. The pathology remains, but the treatment has changed. The "Specificum Purgans" of Paracelsus has given away to rational treatment along physiological lines.

AGAROL BRAND COMPOUND, the *original* mineral oil and agar-agar emulsion with phenolphthalein, is in keeping with the modern conception of the efficient treatment of constipation. Agarol supplies just the right quantity of mineral oil, properly emulsified, to mix with the intestinal contents, keep them soft and pliable, and make evacuation easy and painless.

Agarol pours easily from the bottle as a good emulsion should. It is so palatable that it appeals to the most fastidious taste, because it contains no artificial flavouring. Children take it readily.

As an easy-flowing emulsion, Agarol Brand Compound is so stable that it may be diluted with water, milk or any liquid, for those who prefer it that way, or when it must be disguised for any reason. It may be mixed with porridge, mashed potatoes, or any soft food, or used as a salad dressing.

Experience shows that normal functioning of the bowels can be restored and maintained only by habit formation and by mental impression upon the patient. To accomplish these desirable results, it is necessary that the sluggish intestinal tract be stimulated so that evacuation occurs at regular and desired intervals. By *gentle stimulation* of the peristaltic function, Agarol

makes the result certain. Taken at bedtime, evacuation will generally occur soon after breakfast next morning. Taken during the day, the result will follow in about eight hours. In proper doses, Agarol is effective enough for the most resistant case of constipation, yet gentle enough for the aged and for very young children.

The composition of Agarol is based not on theories but on carefully controlled experience. It contains no excess of mineral oil to cause leakage or to interfere with intestinal absorption of food. Test animals can be actually starved to death by such an excess of unabsorbable liquid.

Agarol places little stress on bulk. The bulk should be supplied by properly regulated diet. In constipation, however, the bulk is generally there; its outward movement constitutes the problem. To add more bulk would merely overload the intestine, cause distention and aggravate the condition.

Agarol Brand Compound is destined for the physician who places facts above theories and who is willing to be convinced by his own experience. To those who have tried it, Agarol has brought a new conception of therapeutic efficiency in the treatment of constipation. This efficiency is attested by the fact that the dose of Agarol can be reduced after a brief period of treatment, and eventually its administration discontinued.

What better proof need there be of therapeutic result than the fact of early improvement and eventual recovery?

AGAROL *for* CONSTIPATION

Manufactured by
WILLIAM R. WARNER & CO., INC.
113 WEST EIGHTEENTH STREET, NEW YORK CITY

Kindly address all enquiries to the British Distributors
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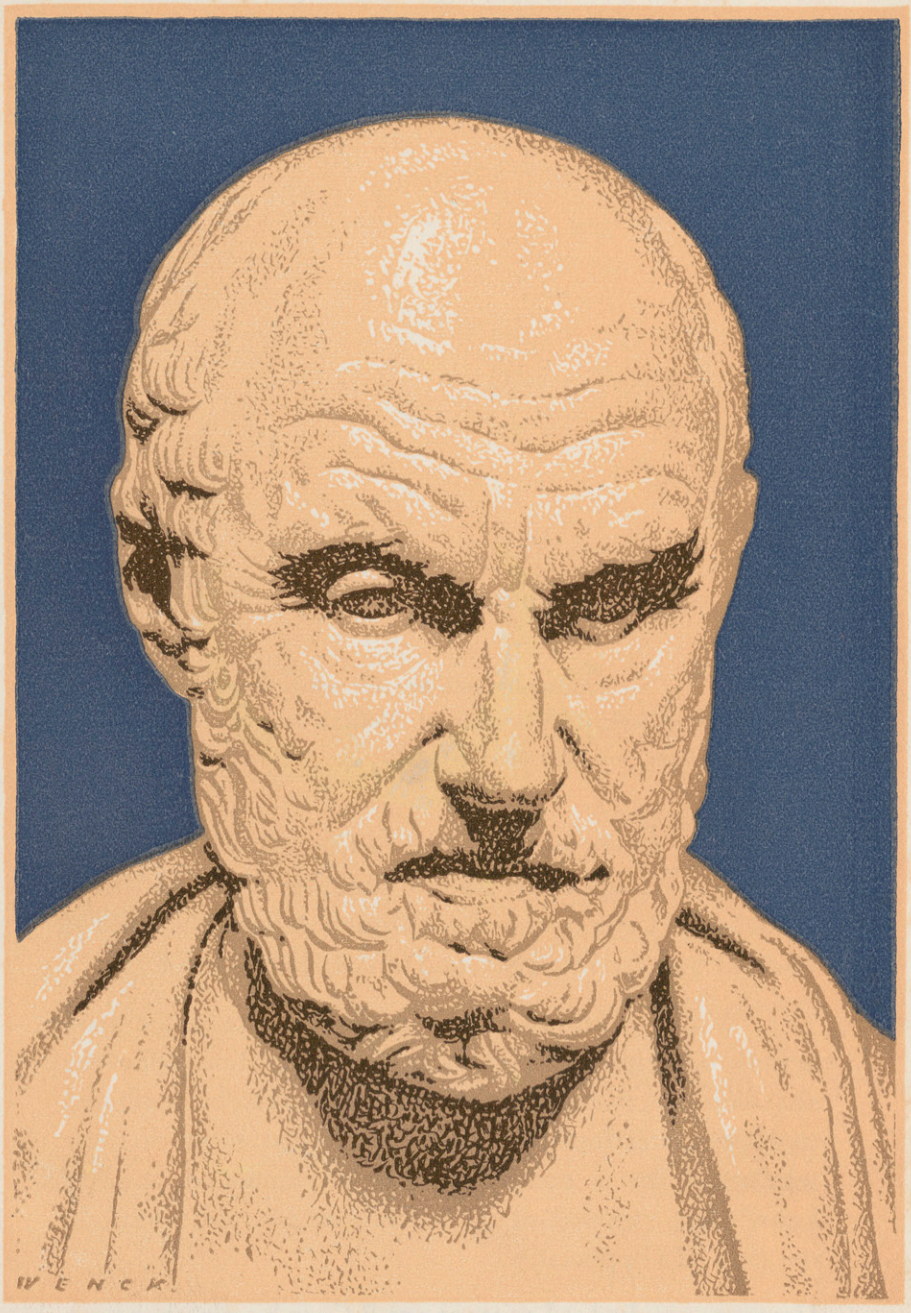

Ἱ π π ο κ ρ ά τ η ς

HIPPOCRATES

"To Hippocrates we owe the establishment of the inductive method of logic. The Father of Medicine was also the father of inductive thought."—LORD MOYNIHAN.

BORN on the island of Cos, 460 B.C., Hippocrates received his early medical training from his father, Heraclides. Later he travelled through Athens, the cities of Thessaly and the Black Sea, and of Asia Minor and Egypt.

THE "Works of Hippocrates" are the measure of the man, because biographical facts concerning him are few. But of the sixty books perhaps not more than twelve can be attributed to Hippocrates himself. It is certain that most of these writings form a compilation of accumulated medical knowledge, stripped of its legends and superstitions, in the time of Hippocrates.

HIPPOCRATES died at Larissa in 370 B.C., in his ninetieth year.

Even in the Time of Hippocrates There Was a Traditional "Old" Medicine

MEDICINE was "old" even in the time of Hippocrates. Its beginnings were lost in the dim prehistoric period of the Greeks. But in that intellectual period of Grecian life when Phidias carved his magnificent sculptures; when Sophocles and Euripides wrote their immortal tragedies, and Aristophanes his comedies; when Socrates and Plato represented philosophy, and Herodotus and Thucydides recorded history, medicine could hardly have remained at a standstill.

FROM the maze of superstition that had grown around medicine, Hippocrates saw his way out clearly. He rightly believed that the proper way to start the patient toward recovery was to re-establish normal bowel function, a principle that has survived because of its soundness.

ONLY the methods have changed. Hellebore and suppositories have given way to mineral oil emulsion,–to Agarol Brand Compound; because the methods of another age have been translated into modern therapeutic conceptions.

TO THE axiom that experience is the best teacher, may also be added—experiment. Experience and experiment have placed their stamp of approval on Agarol, the original mineral oil and agar-agar emulsion with phenolphthalein.

AGAROL BRAND COMPOUND combines the sound principle of softening the intestinal contents with the gentle stimulation of peristalsis. It contains just enough mineral oil, emulsified with exceptional thoroughness, to mix readily with the fæcal mass and not leave an excess which may interfere with absorption of food or cause leakage; just enough phenolphthalein to assure the forward movement of the intestinal contents.

CONSTIPATION means stasis because of the absence of an adequate peristaltic force of the colon and rectum. Stasis can be relieved only by stimulation of the intestinal reflex. This is accomplished by the stimulating action of Agarol. But lest peristalsis find itself handicapped by a hard, unyielding mass, Agarol simultaneously furnishes moisture that softens and lubricates.

AGAROL BRAND COMPOUND has shaken off the bonds of traditional "old" ideas in the treatment of constipation. Experiment and experience have proved the principle behind it sound. It is outstanding in its effectiveness and palatability.

TO-DAY, thousands of physicians the world over use Agarol exclusively in the treatment of constipation. They know there is nothing better.

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William R. Warner & Co., Inc.
113 W. 18th St., New York City

Kindly address all enquiries to the British Distributors
Francis Newbery & Sons Ltd.
31-33 Banner St., London, E.C.1.

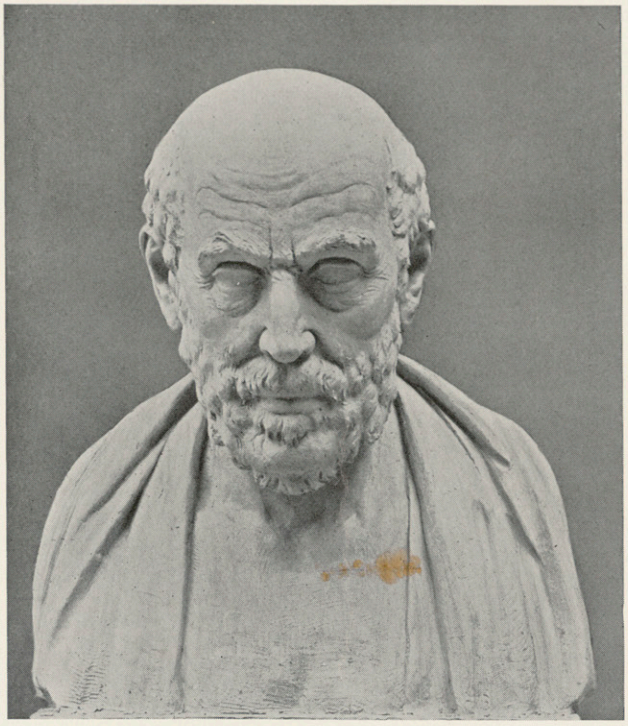
HUGH OWEN THOMAS
(1834 - 1891)

A famous surgeon and author,
inventor of the well-known surgical
contrivance,
THOMAS' SPLINT.

(*See other side.*)

Hugh Owen Thomas was born in Anglesey; apprenticed to his maternal uncle, Dr. Owen Roberts of St. Asaph's; entered University of Edinburgh, but afterwards completed his medical education in University College, London; qualified in 1857, went to Paris to study surgical appliances; returned to Liverpool where he specialised in joint lesions, inventing, amongst other contrivances, his famous splint.

THOMAS' SPLINT: As applied in a case of hip-joint disease, this consists of a flat rod of malleable iron, about an inch and a half wide, extending from the axilla to below the knee; it is shaped so as to fit the varying curves of the body, and cross pieces embrace the trunk at the level of the nipples, as also, the thigh and the calf; it is firmly bandaged to the body and limb. A patten is placed under the boot of the leg, and the patient allowed to get about on crutches.



HIPPOCRATES

Born at Cos, 460 B.C., *died between* 377–359 B.C.

EXTRACT FROM THE OATH

"I will use treatment to help the sick, according to my ability and Judgement, but will never use it to injure or wrong them."

To face p. 8]

BUSINESS

1. To Open the Lodge.

2. To Read, and if approved, confirm the Minutes of the meeting of the 5th December, 1956.

3. To Report on the Proceedings of Grand Lodge.

4. To Raise Bro. H. W. Mason and Bro. P. Ainley.

5. If present, to Initiate:—
   Mr. David John Boydell Butt, Born 11/7/1935.
   Assistant Purser,
   2, Salmon Street, Kingsbury, London, N.W.9.
   and of Messrs. Cunard Steamship Co. Ltd.,
   Cunard Buildings, Liverpool, Lancs.
   Proposed by Bro. C. L. F. B. Butt.

214

Varia

Oddments

&

Cuttings

all have some

Medical Detail

& History

John Hunter
1728. 1793

"The Greatest Physiologist that ever lived."

With his brother William the Anatomical School of London was raised to its present celebrity.

—

Both Brothers came to London with no capital except "Genius, Industry & Integrity."

—

Death sudden & Tragic at a "Board Meeting"

H

Odd Extracts from Journals re Eminent Medicos

—

Coloured Prints or Photographs from

? Medical Journals

All give some point re the celebrity

JE

Nov 2. 1958

214

Business

1. To open the Lodge of St. Lawrence the Martyr.

2. To read and, if approved, confirm the Minutes of the Regular Meeting held on 26th February, 1958.

3. To Ballot for as a Candidate for the Allied Masonic Degrees and, if approved, confer the Degree of St. Lawrence the Martyr on :
   CHARLES ERSKINE SIMES, Q.C.
   Barrister-at-Law.
   3 Hanover Square, London, W.1.
   Craft : Worcester Lodge, No. 280, Dep.Gd.Reg.
   Mark : Euston Lodge, No. 399, P.Gd.Deacon.
   R.A. : Saint Wulstan's Chapter, No. 280.
   Proposed by The M.W. Grand Master,
   C. F. Cumberledge, *C.B.E.*
   Seconded by The Grand Secretary,
   R.W.Bro. Lt.-Col. John Chitty, *M.B.E.*

   W.Bro. THOMAS FAULKNER GAMMAGE. Solicitor.
   3 Spencer Parade, Northampton.
   Craft : De la Pre Lodge, No. 1911.
   Mark : Simon de St. Liz. Lodge, No. 245.
   R.A. : Eleanor Cross Chapter, No. 1764.
   Proposed by R.W.Bro. Charles Messinger, P.G.W.
   Seconded by R.W.Bro. Percy Coleman, P.G.W.

4. To elect the Master, Treasurer and Tyler, for ensuing year.

5. To transact any other business.

6. To close the Lodge.

N.B.—The Degree of G.H.P. will be conferred in Grand Council on the following Members, if present :
C. B. H. COLQUHOUN, F. J. GRIFFIN, M. G. EDWARDS, and T. F. GAMMAGE.

214

Sir Isambard Owen

was with Bishop Lloyd of Bangor

as

The greatest Educationalist

known to Wales

Botany - Herbology £2-10.0

J. Christopher Trew F.R.S. - European Fame
Director, Roy Socy - Physician
1695-1769
Dan Van den Sniffin (Pinxit) JJ Haid Sculpt

Withering William M.D. F.R.S.
Fellow of the Linnaean Socy
Breda (pinx King of Sweden) Ridley Sculp

Hill John Sir. M.D. Kt of the Polar Star
First Superintendent of Roy Gardens at Kew
Coates pinxit Vendramini Sculpt
1757
Cotes R.A. — R Houston.

Woodville William M.D. F.R.S.
"Author of Medical Botany" Sculp
Shepherd del Woolnoth Sculp

Shaw George M.D. F.R.S.
"Author of General Zoology
Russell (pinxit) Holl (Sculpt)

Tournefort Joseph Pitton M.D.
"Author of the Institutes of Botany
Hopwood Sculpt.

Darwin Erasmus M.D. F.R.S.
"Author of the Loves of the Plants.

Grew Nathaniel M.D. Secy F.R.S.
Vegetable Physiologist
Author of Cosmologia Sacra

2

Townsend Rev Joseph M A 1739-1816
Studied Medicine at Edin
Opie (pencil) Hall (Sculpt)
Author of Physician's Vade Mecum (1781) Chemist and Naturalist

Millington Sir Thos Pres F.R.S
Savilian Prof at Oxford
Godfrey Kneller - Woolnoth Sculpt
? x Fertilization of Plants

Tournefort Joseph Pitton M.D
(the Original French picture in the possession of the Family
Hopwood Sculpt
"Author of the Institutes of Botany"
"Classification"

Smith Sir Jas Edw ~~M~~ M.D. F.R.S
Founder & Pres of Linnaean Society
Lane Lewis
Pastorini Sculpt (from Letter)

Hill Sir John MD (1800)
R A Coates Vendramini (Sculpt)
Kt of The Polar Star
First Supt of Roy Gardens at Kew

Shaw George M.D. F.R.S
Author of General Zoology

R A Russell Hall
Woodville Wm M.D. F.R.S.
Author of Medical Botany
Bond
Woolnoth
(Shepherd Woolnoth

Martin Thos - Rev B.D. F.R.S.
Regius Prof Botany Cambridge
Russell Vendramini

Botany - Herbology.

J. Christopher Trew F.R.S. - European fame.
1695-1769 Director. Roy Socy - Physician
Dan Van den Smissen (Print). J.J. Hand Sculpt

Withering William M.D. F.R.S.
Fellow of the Linnaean Socy
Breda (print King of Sweden) Ridley Sculpt

Hill John Sir. M.D. Kt of the Polar Star
First Superintendent of Roy. Gardens at Kew.
Coates print 1757 Vendramini Sculpt
Coates R.A — R. Houston. Vendramini

Woodville William M.D. F.R.S.
abbott print Bird Sculpt.
"Author of Medical Botany
Shepherd del Woolnoth Sculp

Shaw George M.D. F.R.S.
"Author of General Zoology
Russell (print) Holl (Sculpt)

Tournefort Joseph Pitton M.D.
"Author of the Institutes of Botany
Hopwood Sculpt.

Darwin Erasmus M.D. F.R.S.
"Author of the Loves of the Plants

Grew Nehemiah M.D. F.R.S. (Secy)
1628-1711
Vegetable Physiologist
author of "Cosmologia Sacra"

Townsend Rev Joseph M.A. 1739-1816
Studied Medicine at Edin
Opie (finish) Hall (Sculpt)
Author of Physician's Vade Mecum (1784) Chapt as Herbalist

Millington Sir Thos Pres F.R.S
Savilian Prof at Oxford
Sir Godfrey Kneller - Woolnoth Sculpt
1st X Fertilization of Plants

Tournefort Joseph Pitton M.D
(for Original French picture in the possession of the Family
Hopwood Sculpt
"Author of the Institutes of Botany"
"Classification"

Smith Sir Jas Ed. M.D. F.R.S.
Founder & Pres of Linnaean Society
Lane Lewis
Pastorini Sculpt (for Celt)

Hill Sir John MD (1800)
R. A. Coates Vendramini (Sculpt)
Kt of The Polar Star
First Supt of Roy Gardens at Kew

Shaw George M.D. F.R.S
Author of General Zoology
R.A. Russell Hall

Woodville Wm M.D. F.R.S.
Author of Medical Botany
Abbott Bond
(Shepherd . Woolnoth)

Martin Thos - Rev B.D. F.R.S.
Regius Prof Botany Cambridge
Russell Vendramini

Botany

Brown Robt, D.C.L. LL.D. F.R.S
(Ccm)

Pres of Linnaean Socy

Painted by Pickersgill . Chas Fox Sculpt

Member of Institute of France

(? connected with Botanical Gardens)

B Stamp

Brown Robt, D.C.L. LL.D. F.R.S
(Geog)

Pres of Linnaean Soc
Painted by Pickersgill. Chas Fox Sculpt
Member of Institute of France
(? connected with Bernard Lardner).

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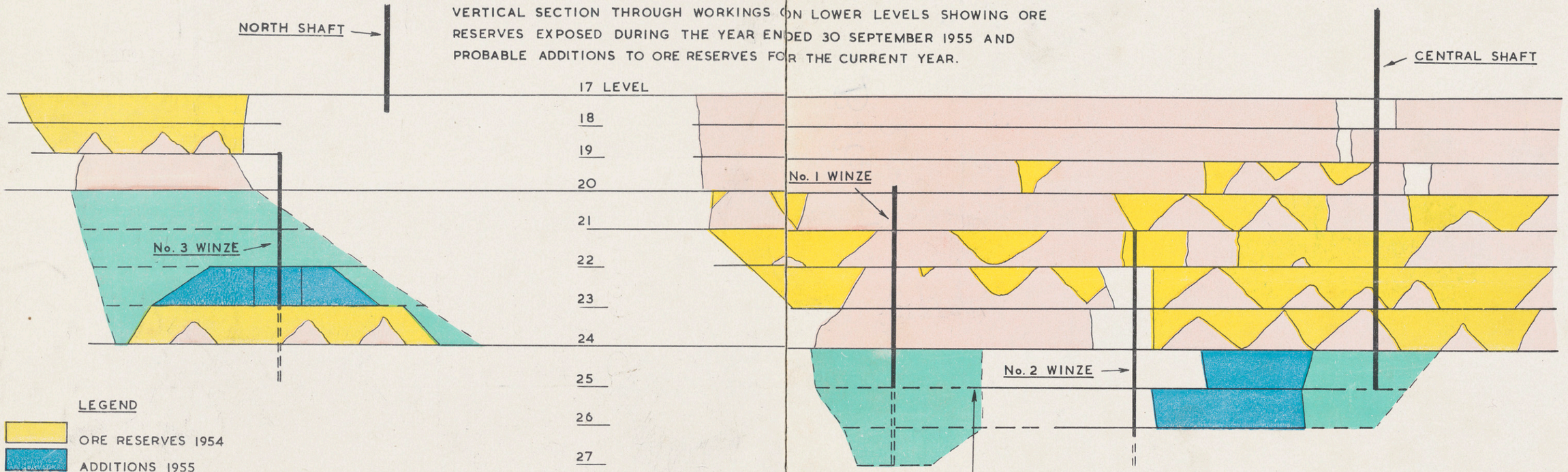

(1)

Pitcairn Archibald MD 1652-1713.
J. ~~Medina~~ Medina R Strange
J. Medina Bell (2)
Physician to St Bart's Hosp
Wm M.D. F.R.S. F.S.A. 1749-1802
Corpus Christi Coll. Cambridge
President Roy Coll of Physicians.
? Hoppner Bragg
" Sir J Reynolds J. Jones

? J. ... Parker (without letters).
Pitcairn David M.D. F.R.S. F.S.A.
M.D. Corpus Christi Cambridge 1784
to St Bart's Hosp
Phys. Hoppner R.A. J Bragg (?6)

Petit Louis Hayes. F. R. S.
G. Lewis F.C. Lewis (open letters).

Pulteney Richard M.D. F.R.S. (Lond. Edin)
F. L. S.
J. Beach 1785 P. Roberts. &
— S Paine (Open) (4)

Prowting Wm M.D.
L. Abbot. – C Townley

Partington Miles bn 1751.
1 Medical Electrician.
Geo Dance Wm Daniell (2)
Patrick Sir Jon Fitz MD Fitz Patrick
Inspector General to Health to the Forces
S Drummond W Barnard

Pennington Robt Rainy
F. R. Say W. Walker (open letters). (2)

Patch John Surgeon Exeter (2)
J Opie ~~Scarce~~ E. A. Ezekiel

Paget James SW FRCS ~~M.R.C.S~~ {Sargeant Surgeon to Queen Victoria}
Signed artist's proof Mounted
Millais T. O. Barlow ~~J. H. Williamson~~
Printed for the Paget Testimonial ~~Portion~~ Committee
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S. W Reynolds (unlettered)

Pettigrew W. Vesalius M.D. F.R.C.S
Lecturer Anat & Phys at St George's Hospital

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W. M. Bennett 1808 T. Edwards

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G. Chinnery W. Holl (open letters).

Pearson Richard M.D.
Roy Coll of Physicians

Patin Carol M.D.
Mason ?

Plempius V. F. Amsterdam
J Becker T. Matham

1 3

Pictet. M. A. 1752-1825. Physician
Professor - Geneva University
Massot a. Tardieu
7. Massot 1819 a Bouvier 2

Parr Dr
Bust by G. Clarke, T. Wyatt.

Pordage John Author.

Parkinson John - James Apothecary
Herbalist

Paracelsus - Swiss Physician & Alchemist X
P. P. Rubens Very Rare Hollar Very Rare
X

Very Rare
(? on 12
or 15-15... Palette Geo Battista. Prof of Anatomy
Surgery
V. Raggi

Paré A. Engraved V. Holl D
(Open Letts)

Placentinus J C. Anatomist.
H David fecit

Patavinus H. S. Professorship of
Phil & Medicine
" A. B. H. David fecit

4

Paris - John A
E. R. Eddis   M.D (unlettered)

Pascal J. B.
J. Saune

Pringle Sir John M.D: F.R.S.
Sir J Reynolds - W. H. Mote
(open letters)

Philip L. L. W. M.D. F.R.S. F.L.S.
Robinson   H Cook
(unlettered)

Powell R. M.D.
Lonsdale - Jenkins
(unlettered)

Pott Percival F.R.S.
Joshua Reynolds   Townley (Member of the Roy Acad. Florence)
(cf Hogarth on back of Print)

Quain Robert 5

T. Graham Barlow

Signed artist's ~~proof~~ (unlettered) X X✓

Prof. Anatomy - University Coll.
Surgeon - - -.

T. Bridgford (unlettered)

Quekett John M. D.
Conservator R. C. S. - Professor.

Zobel (unlettered)

Quekett John F. R. C. S.
(Great microscopic collection)

Reynolds Hy Revell M.D. 1745. RII
Physician to George III
L. F. Abbott - V. Green

Russell Patrick 1729 - 1805 Signed 1/10/6
L. Varlet T. Evans
Physician & Naturalist (Service of Eas. Ind. Co.) (4)
Geo Dance W. Daniell

Rainy Professor (Glasgow)
by Fold after J. Graham Gilbert (unlettered)

Revett Nicholas (Dedicated to Wm Wilkins M.A. R.A. F.S.A.) (2)
Ramsay M.C. Edwards (open)

Robertson Archibald M.D. F.R.S.
Physician
Northampton General Infirmary (55)
Boxall R.A. H. C. Magee (open)

Radcliffe Johannes M.D. 3
G. Kneller 1710 G. Vertue
Fourdrinier

Ramsay John M.D. (? Durham Univ) 3
Newcastle on Tyne
James Ramsay C. Turner (No lett.)

Richardson Robert (Harrogate Bath Hosp.
Private Plate)
Samuel Howell - C Turner (unlettered)

Roe John
Stephen Pearce - J Scott
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unlettered

D not Ret. 1626-1696
Francesco Antonio

Ramsden ? Optician to His Majesty 7 ~~X~~
R. Home John Jones "Colored" X

Robertson ? Robt. M.D. F.RS. F.A.S
Physician to Roy. Hosp. Greenwich
E Smith J Heath (spa letter)

Rosaeus J. P. Prof of Medicine

Richter George G. Dr Philosophy & Medicine
G. D. Heumann
(see also H. Culpepper)

Riverius Lazarus

Russell Alexander Geo. . . . .
M.D. F.R.S

Dance Trotter
Reece Richard : Author of Medical Guide
Rowe Dr R. Bull

Rutherford. Daniel MD F.L.S
Professor Botany. Edinburgh

Read Raeburn Sir William Holl - Oculist
Reinesius Thomas R. Grave Sculpt

Rees Abraham J. T. Hald
Opie D.D. F.R.S X
W. Holl

Smedi Ludicoplus M. D.

P. Schenck

8.

Saunders W. M.D. F.R.S. & F.S.A. 1743-1817

Physician Guy's Hosp. 1770-1802.

J. R. Smith J. R. Smith

Smith Sir James Edward M.D. F.R.S.

W. Lane F. C. Lewis

Founder & President Linnaean Soc

B. Pastorini Sculpt (2) 1796. Open letters (7)

Russell Ridley

Sims John M.D. To Warner

C. R. Leslie R.A. 1824 D. Lucas 1837 (4)

(without letts)

Simxs ? James M.D. LL.D. Pres R.C.P.

S. Medley M. Branwhite (open letts)

Sheldon John F.R.S.

Prof of Anatomy at Roy Academy

J. Keenan W. Barnard (open lett) (2)

Sloane (2) Hans. Bart P.R.C.P.

F.R.C.P. F.R.S.

J. Murray J. Faber

(Founder Sloane museum)

Shelbear Johannes M.D.

Surgeon Exeter. Bristol.

9

Sermon Dr Wm 1627 - 16.79.
Physician to Charles II.
at Bristol during "Plague" 1666-1669

Sharemo Dr

Shaw George M.D. F.R.S.
Thos Stokes a Müller
author of "General Zoology" (3)
Russell R.A. Holt.

Sharp William Surgeon of London
George Dance - Wm Daniell

Sharp Samuel

Scarborough Sir Charles MD
~~Physician~~ (Kpd) to { King Charles II / James II / William III }
~~Not ...~~
The original in the Barber Surgeons' Hall
S P Harding - J Brown
(Open lett)

Schenchzer John Jacob
Heidegger T Lamb

Sydenham Thomas MD
P Lely - J. Houbraken 1746
P Lely - Golber
engraved by G Scriven (open lett)

Salmon W. Professor of Medicine

Swanson Isaac
J. R. Smith 1803 | F. Scriven (open lett)

Sarmento J de Castro M.D. F.R.C.P. F.R.S.
Pine Houston

Sennertus Daniel M.D. (2)

Smollett Tobias M.D.
Aliamet

Southertound A. R. M.D. F.R.S.
J. Bridgford (unlettered)

Stahl George E Doctor

Sibley E. M.D. M.R.C.P. F.R.M.S.
Aberdeen

Dodd J Ross
Printed in colours

Swieten Gerardus L B Van
Dutch Physician
Leopold Haid

Schrifft P N de Heiligis D 1556-1603.
German Dr

Stukeley Wm MD. F R S (Lond)
G. Kneller J Smith

Small Alexander Surgeon (d. 1752) (11)

Birmingham & London

B. Dandridge Faber

Sp~~an~~urzheim I. G. D. Phrenologist

Yellowlees James Egan (Open Letters)

Senhertus John Jacob

J. Ross B. Kilian

Symonds M.D. Chelsea 1731 (2)

J. Vanderbank (1730) S White (unlettered)

Stebbing George - Surgeon at Ipswich -

M. Gauli C. Hullmandel

Sayers F. M.D. author of Northern Poetry.

J. Opie . W. C. Edwards

Sharp Samuel

Thompson Usher. (? Henry)
(without letters) (2)

Thompson V (unlettered)

Thompson Thomas M.D. Edin
Tate (unlettered).

Thomson A. J. M.D. F.L.S. Professor
of Materia Medica, Therapeutics, Forensic
Medicine at University College London
T. Bridgford (unlettered)

Townley John . Hatherton, Cheshire - 1796 - 18..
F. Aylmer S. W. Reynolds (3)
(open letter)

Trew Dr Christopher Jacob F.R.S.
Ja ~~Smith~~ Jacob Haid } 2 different
~~Bot~~anist

Thackeray Joseph MD. Physician Bedford
(J. Jackson RA & B. Reynolds? Ward) 2
(??) letter

Tournefort Joseph Pitton M.D.
Author of Institute of Botany (2)
Hopwood . Sculp.

Townshend Rev Joseph 1739 - 1816.
Author "A Journey through Spain (1783)
The Physicians Vade Mecum
Opie R.A. Milton
Inventor on Herbs

Templer Richard M.D. S.L.M.S.
W Owen J Young (open letts) ②

Todd R M.B.
Blakeston R Zobel M.D. F.R.S. (unlettered) ③
(open letts)

Thorpe Robert M.R.C.S. ③
A. W. Wilkins — S. W. Reynolds ③
Autograph (unlettered)

Trillarius Daniel W. Doctor Philosophy Medicine
& Lippold Hand

Thornton Robt. John M.D.

Travers Russell Benjamin — Ridley Bartolozzi (open letts
— Hunterian Orator)
(Studied under Astley Cooper
(unlettered)

Ure Andrew M. D. F.R.S: Member Geographical Soc
~~M.G.S. M. A. S. Lond~~
J Bonifigne Mem Antiquarian Soc

Vincent John P. 1776 - 1852.
E. W. Eddis Henry Cousins
President Roy Coll of Surgeons (2)
Surgeon St Barts Hosp (1807 - 47) (with autograph letters) ③

Vincent ? J Tobius P. Doctor of Philosophy Medicine
(Edam)

Vorstius Adolphus E. 1585 - 1676.
Dutch Professor of Medicine & Botany ③
G Petri C Rademaker

Vance George (- Surgeon)
Wm Gush. J. Lupton (open letters)

Venner T. M. D. born 1575.

Vesalius Andreas
J de Calcar W Holl (open letters)

de Valangin Franciscus Josephus Pahmid
M. D Roy Coll Med Londn
Abbott Collyer

455

Wells T Spencer (without letters)

Wilson Jas Arthur M.D.
W. E. Walker - W. Walker
Physician St George's Hospital
Senior Censor Roy. Coll of Physicians (open letters) (4)

Wilson Erasmus F.R.C.S. F.R.S.
Stephen Pearce - Alexander Scott (unlettered)
Prof Dermatology R. Soc. of Surgeons (open letter)
Copyright
for the departure from Barber Surgeons

Wilson James F.R.S
Prof Jackmann (unlettered)

Wilson David M.D.
J Forbes Robertson - Barlow (no letters)

Wilson Horace Hayman M.D. F.R.S 1786 - 1860.
Director of Roy Asiatic Socy. "
Boden Professor of Sanskrit Oxford
, Studied Medicine at St Thomas' Hospital.
, Surgeon to East India Coy. Bengal
, Sir J Watson Gordon - W Walker (open letters)

Wainwright J. W. M.R.C.S.
A. Rippingille - C E Wagstaff (without letters)

Woodeville W. M.D. F.R.S. author of Medical Botany (2)
Anon Perrot
Attwater Page

Waring Edward M.D. F.R.S.
Harrist Facius
"Cambridge Mathematician" greatest man 3
Professor at Cambridge - Magdalen Coll Cambridge

17

Warren Pelham M. D. F. R. S.

J Linnell J Linnell 1835 (3)

Warren Richard M. D. F. R. S. S. A (2)

W. Evans

Stewart S Bartolozzi (open letts)

Physician to His Majesty & H R H Prince of Wales

T. Gainsborough R A J Jones

Withering William M.D. F. R. S

Fellow of Linnaean Soc

Breda Ridley (3)

Born Born

West Joseph - of Wellburne Yorkshire 1778 (4)

Physician Malton Yorks

S W Reynolds S. W. Reynolds

Ward Joshua - Notorious Quack Doctor - ~~1~~ (2)

E. Loring J. Clark (unlettered)

The Reformer of Health a Father to the Poor

Winslow Forbes B M. D. F. L. L

T. P. Knight W Carlos (unlettered)

Wood W^m Richard (unlettered)

Wardlaw Dr Ralph

Wood ~~Stephens~~ George Fraud MD (unlettered)

~~Stanley Prof~~ ~~mpeg~~ C Turner ~~D~~ X

Wardrop James MD X (unlettered)

Coloured

Geddes T Thomson (unlettered)

18

Webb Sir J. 1772-1852. - Surgeon General
Surgeon Director - Ordnance Med Dept
Publishes account of Plague among Forces in Egypt (2)
W. Hunter "Artist's Proof" (unlettered) X

Willis Thomas M.D. d 1675.
G. Vertue I. P. Kneplin M.R.C.P. F.R.S

Professor of natural Philosophy Oxford
Attended King George III
T. Russell Jas Collyer (open lett)
J. Nixon E. Bartolozzi RA
R. Bowyer X (open letters) (4)
J Ritter

Warner J F.R.S 1717-1801 X
Guy's Hospital
S Smedley N. Branwhite

Wrench Sir Benjamin M.D. (unlettered)
(? Bart) (unlettered)
Norwich

Woodward MD 1665-1722
Physician & Geologist
W. Humphreys (fecit)
F.R.S

Walin James - Malvern
R. J. Lane d'ava proof (unlettered) (2)
1755

Wittbar M. S. J Kupelyky B Vogel

Wells Spencer

Young Thomas M.D. F.R.S. F.L.S.
a most wonderful man
& scientist

G. Kneller R. White (unlettered)

St Thomas Lawrence (3) G. Adcock (5)
? one coloured (unlettered) X
coloured

Young William M.D. F.L.S
By Pathie Sculp — Physician to Sheffield Gen Infirmary
Jas Moore Edward Scriven
(open letter)
" " — (No letter)

Zeisoldus J. — Professor of Physic)

J. Richter — J. Dürr

Zellet Thomas M.D. 1739
Pres Roy Coll of Physician — London
Adath J Faber

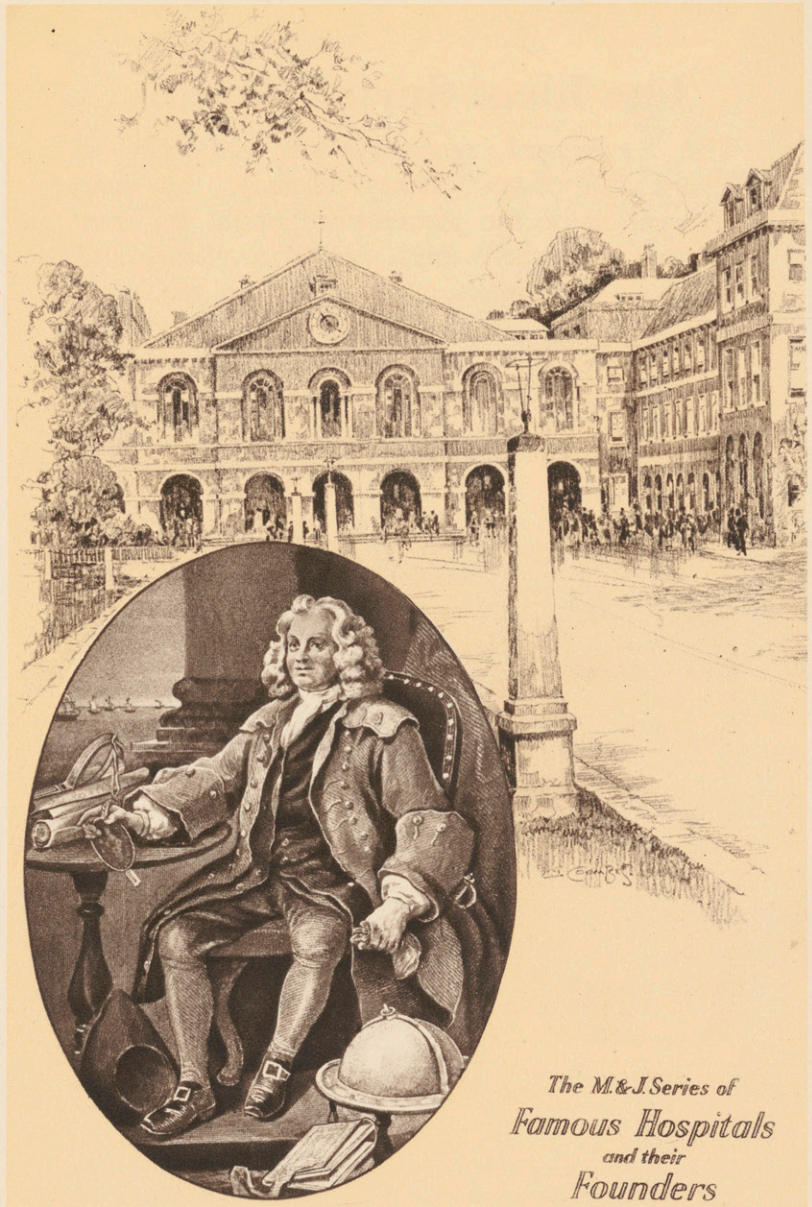
THOMAS CORAM

Capt. Thomas Coram was a man of striking personality and untiring energy. Born at Lyme Regis in 1667 or 1668, he first followed his father's occupation of seafaring. In 1694, we find him in Taunton, Massachusetts, as a shipwright, where he began to exercise that philanthropy which absorbed his later life. In the early part of the 18th century, he took to the sea again, until, after being shipwrecked, he retired to London, in 1719. Here he interested himself in the English movement for the settlement of Georgia and in planting English artisans in Nova Scotia; but he soon began his long agitation for the foundation of the world-famous Foundling Hospital, for which he obtained a Royal Charter in 1739.

Coram must have had a way with him, since he succeeded—much to the enrichment of his Hospital—in surrounding himself with artists and musicians of the highest order, to embellish the premises and attract generous almsgivers to the services in the Chapel. With many works of art—quite a number from the brush of Hogarth—and with the famous Handel at the organ, the institution flourished.

More thoughtful for others than for himself, Coram fell into poverty, from which he was relieved by an annuity of £161, provided by personal friends and admirers. He died in his 84th year and, at his own request, was interred in the Chapel of the Foundling Hospital.

Our illustration on the front page shows the original building, which has now been pulled down, but the valuable site will be preserved as a playground for London children.



CAPTAIN THOMAS CORAM, by Hogarth.
Founder of The Foundling Hospital.
From the original in the Foundling Hospital

The M.&J. Series of
Famous Hospitals
and their
Founders
No. 2

The Ideal Spring Tonic

The exceptional reconstructive properties of Neuro Phosphates (Eskay Brand), the ideal preparation of the glycerophosphates, are now recognised by the medical profession throughout the British Empire, as well as in America.

In the spring, the need of such an agent is particularly felt after the resistance-reducing conditions associated with winter time, notably in bronchial, pleural and influenzal conditions.

Neuro Phosphates is exceptionally efficacious, markedly palatable, and invariably well tolerated, even by neurasthenic patients.

NEURO PHOSPHATES

(Eskay Brand)

Indicated as a general tonic, especially in convalescence; also in neurasthenia, nerve weakness in young and old, and in debility resulting from excessive physical or mental exertion.

Issued for prescription in 8-oz. bottles, and for Hospitals and doctors' dispensaries in Winchesters of 80 fluid ozs.

A Clearer Conception!

The object of this message is not to enforce the claims of "Iodex" as the ideal form of iodine for external use, but to give the practitioner a clearer conception of its wide field of usefulness. The value of iodine in the treatment of enlarged glands and rheumatic affections is acknowledged throughout the civilized world—from New Zealand to Nova Scotia, from China to Peru—and if "Iodex" were not demonstrably and *overwhelmingly superior* to the Tincture in possibilities, its uses might be similarly restricted to a few such indications.

The *superiority* of "Iodex," however, is manifest. In the first place it is more active and penetrating than the Tincture, and secondly it is entirely bland. For these reasons, "Iodex" is employed daily, with gratifying results to the practitioner and comfort to the patient, in four groups of conditions in which Tr. Iodi, is worse than useless, *i.e.*, (1) hæmorrhoids, pruritus ani, fistula, vaginitis, etc., (2) mastitis, enlarged prostate, orchitis, ovaritis, etc., (3) burns and scalds, ulcers, boils, abscesses and open wounds, (4) parasitic skin diseases notably ringworm, psoriasis and eczematous conditions.

There can be no clear conception of *iodine* therapy, until the wide applicability of "*Iodex*" in ointment form has been carefully appraised.

A Pictorial Message of Practical Service

RAHERE

Rahere is often spoken of as jester to King Henry I, but this is probably incorrect. The little that is known of him is that he was lowly born, but had entertaining qualities which ensured his entrance into the houses of nobles and finally into the King's Court.

This gay life, however, was suddenly forsaken, and tradition has it that this was due to the King's severe admonition when he discovered that Rahere was at home planning revels for the return of that Prince who went down with the White Ship when, according to the same story, Rahere should have been accompanying the Prince. This dereliction of duty coming to light at a time when the King was in great distress, may have made His Majesty's remarks unusually pungent.

In any case, a deep religious emotion and a sense of penitence swept over Rahere, who consequently proceeded on a pilgrimage to Rome. On his journey, he was overtaken by illness—probably a fever—and it is said that he made a vow to St. Bartholomew (usually identified with Nathaniel) that if allowed to recover and return to England he would build a hospital in Smithfield for the poor. Supported by the Bishop of London, Rahere petitioned the King, and secured a grant of the very land referred to in his vow, and with his own hands helped to build the fabric of the hospital which he actually controlled from its foundation until his death twenty years later, in 1143.

RAHERE
Traditional Figure
Founder of "Barts"

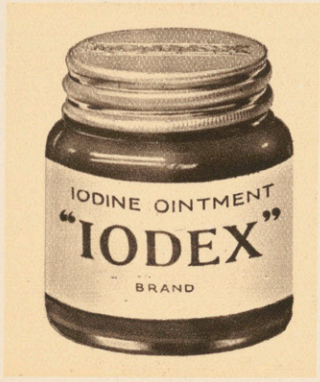
The M. & J. Series of
Famous Hospitals
and their
Founders
No. 3

"Iodex" *versus* the Tincture

" Iodex " gives incomparably superior results in cases where Tr. Iodi. was formerly used—and it can be freely employed in many cases in which Tr. Iodi. would be contra-indicated.

When the Tincture is employed, there is staining, irritation, burning, limited penetration, and *restricted iodine efficiency ;* when " Iodex " is applied, there is no staining, no irritation, no burning, no subsequent desquamation, but complete penetration and 100 *per cent. iodine efficiency*. Therefore, " Iodex " has immeasurably widened the field of iodine therapy.

" Iodex " ointment is standard treatment in the following conditions, in many of which Tr. Iodi. could not safely or advantageously be employed. Enlarged Glands (*e.g.*, Goitre), Tuberculous Joints, Synovitis, Sciatica, Neuritis, Arthritis, Parasitic Skin Diseases (*e.g.*, Ringworm), Syphilitic Rashes, Hæmorrhoids, Vaginitis, and Inflammatory conditions generally.



Method of Application. — If possible, rub in the ointment until its colour disappears. If rubbing is impossible, or inadvisable, " Iodex " may be applied under a light, loose bandage. Tight, air-excluding bandages should never be employed over " Iodex."

The First Essential !

When treating many ill-defined pathological conditions such as neurasthenia, nervous debility and excessive mental strain, one of the first aims of the physician is to instil confidence in the patient. As a natural corollary, he very properly demands a preparation that merits his own confidence—unshakable and complete.

NEURO PHOSPHATES

(Eskay Brand)

After innumerable clinical tests, this preparation has proved worthy of entire confidence from both the clinical and pharmacological viewpoints. Moreover, we have made it our ideal never to betray that confidence. Consequently Neuro Phosphates remains to-day a high-grade, trustworthy, ethical product, eminently suitable for the physician's use.

Neuro Phosphates is a potent concentrated tonic. Therefore, where long continued treatment is indicated—*e.g.*, for chronic neurasthenics—dosage may be advantageously reduced from the two teaspoonfuls usually given to adults, to, say, one teaspoonful or a little more, according to the response elicited.

Issued for prescription in 8-oz. bottles, and for Hospitals and doctors' dispensaries in Winchesters of 80 fluid ozs.

A Pictorial Message of Practical Service

JOHN ASH

Towards the end of 1765, a modest advertisement appeared in the "Birmingham Gazette," inviting county gentlemen and others to attend a meeting to discuss the founding of a hospital in that city.

The man behind the movement was Dr. John Ash, and apparently he addressed the meeting to good purpose, as he raised the sum of three thousand pounds, and received promises of some annual subscriptions.

Within four years, however, the money was exhausted, and the matter lay in complete abeyance for the next seven years; after that the financial situation improved, the hospital was finished and formally opened in September, 1779. That money had a different value in those days may be gathered from the fact that in that year four nurses were engaged at four guineas each per annum, and they were promised an extra guinea, as a Minute quaintly observes, "if they behave well." Also, a barber was to visit the hospital to shave patients for half a guinea per quarter.

Dr. Ash, who never spared himself, suffered from overwork, and it is said that his reason was only saved by resigning from the hospital and taking up the study of mathematics. Later, however, he practised medicine in London, after passing the examination of the College of Physicians at sixty-five years of age. He also became Fellow of the Royal College of Surgeons.

Ash was born in Coventry in 1723 and died in London in 1798. His portrait, painted by order of the Governors of the Birmingham General Hospital by Sir Joshua Reynolds, still hangs in the hospital committee room.

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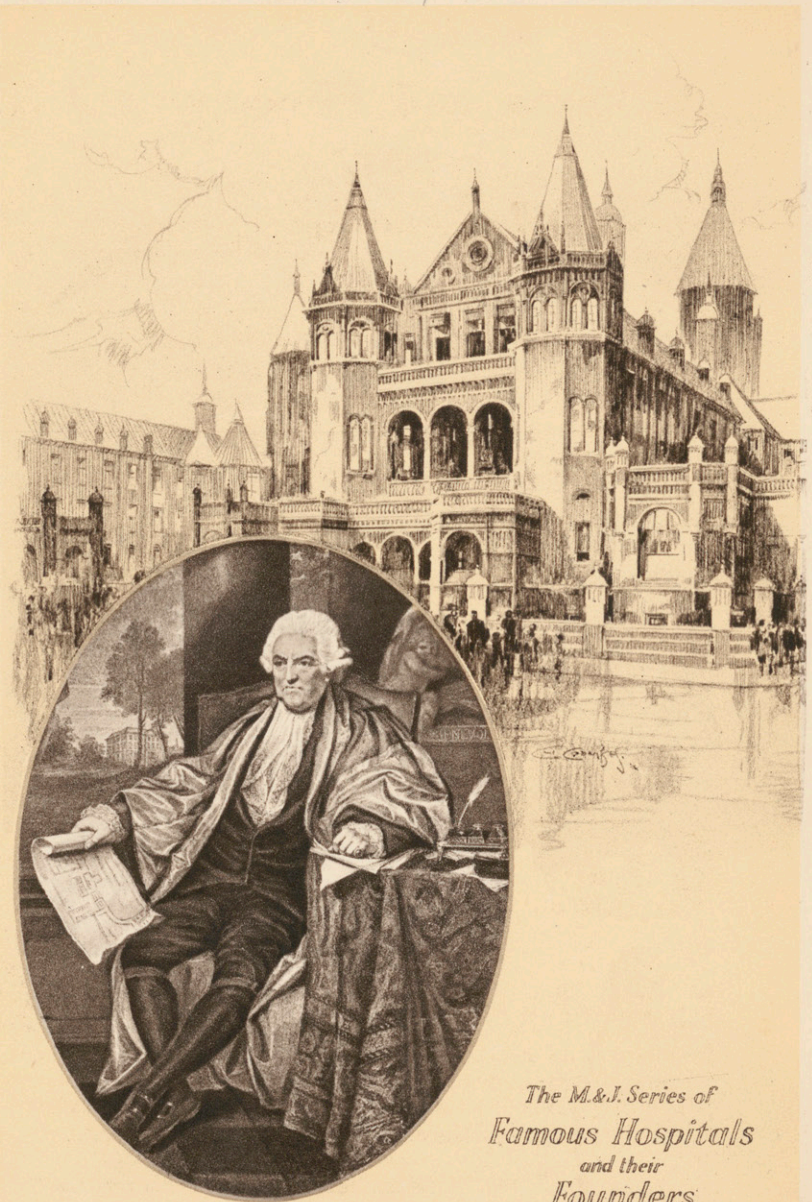

JOHN ASH After Reynolds.
From the original in the Birmingham Hospital
Founder of the Birmingham Hospital.

The M.&J. Series of
Famous Hospitals
and their
Founders
No 4

Calcium and Phosphorus Deficiency

The physiological importance of calcium and phosphorus in the treatment of neurasthenic conditions where the calcium and phosphorus reserve has been depleted, and in convalescence, is now generally recognized ; and admittedly the most advantageous method of administering calcium and phosphorus is in the form of glycerophosphates. Neuro Phosphates (Eskay Brand) contains calcium and phosphorus presented in the ideal glycerophosphate form.

NEURO PHOSPHATES

(Eskay Brand)

It is readily assimilable, and even prolonged use does not give rise to gastro-intestinal irritation — the common fault of ordinary calcium salts. This ideal tonic is indicated in neurasthenia, nerve weakness, and also in debility resulting from excessive physical or mental exertion.

In the case of easily excited, emotionally unstable, or too mentally active patients, the separate administration of a mild sedative, such as potassium bromide, in the intervals between doses of Neuro Phosphates, may be indicated.

Issued for prescription in 8-oz. bottles, and for Hospitals and doctors' dispensaries in Winchesters of 80 fluid oz.

A Few Pointers

That iodine is of value in a wide range of abnormal conditions—especially in inflammations—is universally recognized.

A few pointers, however, may be acceptable to those practitioners who meet with such conditions either occasionally, or from day to day.

1 If counter-irritation is requisite, do not use " Iodex " !—(A bland iodine ointment cannot serve.)

2 In gland work, Tr. Iodi. is not definitely contra-indicated, but its staining and hardening properties may induce you to pause and consider.

3 In rheumatic affections, where frequent applications are essential, the hardening and corrosive action of the Tincture are sufficient argument against its use.

4 Not only in glandular enlargements and rheumatic pains, but also in all external inflammations, iodine, as presented in " Iodex," is ideal.

" Iodex " does not stain, harden, burn, or corrode and its employment is not followed by desquamation. " Iodex," unlike the Tincture, preserves the vital qualities of the skin—unimpaired.

You may, therefore, apply " Iodex " even where Tr. Iodi. would be contra-indicated, *i.e.*, in hæmorrhoids, vaginitis, mastitis, orchitis, and parasitic skin diseases —ringworm, for example.

A Pictorial Message of Practical Service

THOMAS GUY

Two years after the Great Fire of London, Thomas Guy began business as a bookseller and could be seen daily, in a shabby suit, taking his frugal meal at his own counter, with an old newspaper for a tablecloth. His chief trade was in Bibles, first importing them from Holland and later printing copies in England. His real fortune, however, was derived from the sale—on a favourable market—of his original shares in South Sea Stock—before the bubble burst.

Guy had his little romance, too! The lady of his choice was his own maid-servant. Unfortunately, having told her to have a stone repaired in front of his shop, she instructed the paviors to repair not one stone, but possibly two! Visions of an extravagant wife may have decided Guy to renounce—as he did—all views of matrimony!

Among his neighbours, he was accounted selfish and avaricious, as his wide-spread benefactions were unsuspected until after his death. During his lifetime he released insolvent debtors, started men in business, relieved distressed families, built and furnished three wards of St. Thomas's Hospital, and built and endowed almshouses and a library at Tamworth. He was also a liberal benefactor of the Stationers' Company and (1722–1724) at a cost of nearly £20,000, built the hospital which bears his name.

Finally, he left generous legacies, bestowed £400 a year on Christ's Hospital, and bequeathed over £200,000 for the maintenance of Guy's. He was born in 1644 or 45 in Horselydown, Southwark, London, near where his Hospital now stands, and died December 27th, 1724, a few days before the first patients were admitted.

THOMAS GUY
Founder of Guy's Hospital

The M. & J. Series of

Famous Hospitals

and their

Founders

No. 1

"Iodex" Therapy

" Iodex " is of unparalleled service in a wide range of conditions in which Tr. Iodi. would be wholly inadmissible. The wideness of that range is striking, but ceases to be surprising to anyone who will give the matter a few moments' thought. Because of its blandness, " Iodex " can be applied *ad libitum* even to mucous or extremely sensitive surfaces.

There is no external surface of the body—except the eyes—to which " Iodex " cannot be beneficially applied ; and even the deeper orifices are treated daily with this ointment without risk of irritation. That is why " Iodex " is of such marked service in say, hæmorrhoids, vaginitis, mastitis, and parasitic skin diseases, *e.g.* ringworm.

To state the case against Tr. Iodi. in such conditions as these would be waste of time. Its inadmissibility is obvious and also complete.

N.B. With two exceptions, " Iodex " is successfully employed for every purpose which could be achieved by iodine in tincture form : (1) " Iodex " is not a counter-irritant and (2) it is unsuitable for skin-cleansing prior to operation.

Post-Influenzal Convalescence

When the original invasion has spent its force, and the temperature decreases to normal or sub-normal, a period of depressed vitality and lowered resistance usually follows, and often proves more resistant to treatment than the disease itself. To shorten the well-known danger period after influenza, Neuro Phosphates is of proved therapeutic value.

NEURO PHOSPHATES

(Eskay Brand)

This product is an agreeable combination of calcium, sodium and strychnine glycerophosphates in acid form. Its exceptional palatability ensures the full co-operation of the patient. Neuro Phosphates improves the appetite, helps the patient to build up his own resistance, and restores him to healthy activity again—swiftly and surely !

Issued for prescription in 8-oz. bottles, and for Hospitals and doctors' dispensaries in Winchesters of 80 fluid ozs.

A Pictorial Message of Practical Service

MEN—AND MICROBES

2—ANTHONY VAN LEEUWENHOEK

In the 17th century a man looked through a microscope, and for the first time in all history saw a micro-organism. Leeuwenhoek (1632-1723) was not a medical practitioner. Some people would have called him a draper, but he was a scientist of the pure breed. Not the inventor—but the improver—of the microscope, he made many examples for his own use, some of them so precious in his sight that he refused to let anyone else touch them. He supplemented Harvey's discovery of the circulation of the blood by tracing the capillaries in the frog's foot, and was the first man to look into a drop of rain water and discover—to his own astonishment and that of all doctors and philosophers of his time—that there was a microscopic world more closely filled with animate objects than the larger world of men.

To him, perhaps, as much as to anybody else, we owe that persistent search in the almost invisible world for the causes of some of the most appalling pathological conditions. In his steps, others have traced the microscopic and ultra-microscopic carriers of syphilis, tuberculosis, yellow fever, bubonic, malaria, influenza, etc. But the search, ever going forward, is unending.

Leeuwenhoek contributed many papers to medical and scientific bodies in England, and his last command when he died in 1723 was for an assistant to translate two of his final letters, and "send them to London for the Royal Society." He laboured through a long life in the ancient Dutch city of Delft, and in its fifteenth-century church lie his mortal remains.

In pace requiescat.

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ANTHONY VAN LEEUWENHOEK

Commonly regarded as the first man who ever saw a microbe. (See back page.)

The "M&J" Series

Men—and Microbes No. 2

Two Types of Convalescents

1. IN CHILDHOOD—Won't eat . . . doesn't care . . . tired . . . utterly despondent! This is a typical picture of juvenile convalescents.

The first step towards recovery is to "get them interested" . . . to restore the youthful optimism which days of sickness and confinement have impaired. The next step is to stimulate the lost appetite and help build up strength in the shortest possible time, and here Neuro Phosphates is of unquestioned value. It tones up the system, increases the appetite and supplies calcium and phosphorus in a readily assimilable form.

2. IN OLD AGE—Aged convalescents are usually less able to help themselves to recovery than those whose resistance is higher, and whose spirits are more resilient. At the same time, they are often fretful and intolerant of medication that is not light, very easily tolerated and exceptionally agreeable to the palate.

In young and old alike, Neuro Phosphates (Eskay Brand) is of especial value in shortening the period of convalescence and producing a more optimistic mental outlook. Being light, pleasant and easily tolerated, it ensures the co-operation of the convalescent, and does not weary the palate on continued use.

Issued for prescription in 8-fluid-oz. bottles, and for hospitals and doctors' dispensaries in Winchesters of 80-fluid-ozs.

In Sprains and Strains

The first line of treatment in sprains and strains either of joints, muscles or tendons, is to massage at the earliest possible moment, with "Iodex" ointment. Where there is much swelling, pain, and tenderness, the massage must essentially be gentle. Begin by rubbing the flat of one finger just within the margin of the swelling nearest to the heart, and as the swelling gets dispersed, work further into it, gradually increasing the treated area and amount of pressure until the swollen part is reduced, as far as possible, to normal dimensions.

IODINE **"IODEX"** OINTMENT

BRAND

The benefits derived from massage with "Iodex" can be very greatly augmented by first applying some form of heat to the part to be treated. The "Iodex" not only acts as a lubricant, but is also rapidly absorbed into the tissues through the skin, which enables its iodine content to exercise its well-known alterative properties, thus helping materially in dispersing the blood clot infiltrating the tissues. This is of course a point of importance. Where there is broken skin to deal with, "Iodex" forms an excellent dressing. "Iodex" does not irritate, harden or stain the skin nor lead to desquamation. It may, therefore, be applied, if the case demands it, frequently and *ad libitum*.

MEN—AND MICROBES

5—LAZARO SPALLANZANI, 1729-1799

The first microbe hunter, Leeuwenhoek, had been dead six years when, in 1729, was born in Scandiano, Northern Italy, his illustrious follower Lazaro Spallanzani. Although, in later life, a renowned traveller, moving far afield, even as far as Turkey, Spallanzani's greatest work was done at Modena and Pavia, both within a few miles of his own village.

Like Leeuwenhoek, he was determined to find out the hidden nature of things and, although destined for the law, by the aid of one of the noted scientists of his day he was enabled to resist parental preference of career, and eventually, receiving his father's blessing, went to the University at Reggio di Modena to take up a scientific, and more agreeable, profession.

Unlike Leeuwenhoek, he was forced to learn mathematics, Greek, French, logic, poetry, and he came to his microbe hunting a fully equipped scholar and scientist. Before he was thirty he was Professor at his former University, at Modena, and began his investigations on the microscopical living creatures that Leeuwenhoek had first discovered.

In Spallanzani's time, the popular side in a fierce fight asserted that life could arise spontaneously, thanks, said Needham, the English laboratory worker, and Buffon, the celebrated French naturalist, to "Vegetative Force." It was Spallanzani who demolished their edifice by demonstrating that even microbes must have parents. Whatever his private views, there is no mention in his works of any possible connection between microbes and disease—perhaps he did not suspect it.

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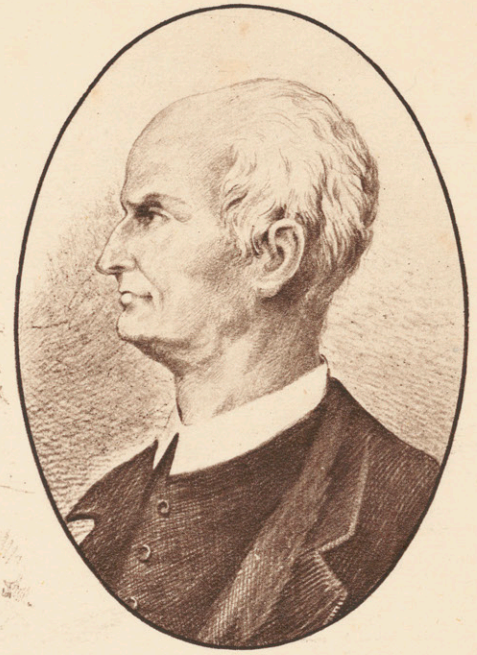


LAZARO SPALLANZANI

Spallanzani exploded the theory of spontaneous generation. "Even microbes have parents." (See back page.)

Men-and Microbes No. 5

The "M & J" Series

COMMON SKIN DISEASES

As every doctor learns, to his dismay, even common skin diseases are legion ; and no single therapeutic agent can be of service to combat them all or, in truth, a tithe of them. At the same time, however, it is admitted that any medicament which is parasiticidal, deeply penetrative, skin preserving and emollient, must be of considerable service to the dermatologist. For this reason, " Iodex " ointment is to-day an essential item in his armamentarium. It is non-irritating, non-staining, deeply penetrating ; and it does not impair the vital properties of the skin.

" Iodex " ointment stimulates mucous surfaces, is a reliable absorbent, and rapidly reduces inflammation—all without pain or irritation. It can, therefore, be freely applied where old-style preparations of Iodine—notably the Tincture—are inadmissible. No medical practitioner can appreciate the remarkable therapeutic potentialities of Iodine as an external remedial agent, or its wide range of usefulness, until he has had experience of the drug as presented in " Iodex." In suitable conditions " Iodex " may be rubbed in until its colour disappears, or, where rubbing is contra-indicated, it may be applied under a light bandage.

Important note : Tight, air excluding bandages should never be employed.

A booklet giving the technique of " Iodex " treatment in Glands and Lymphatics ; Rheumatism and Joints ; Respiratory Area, and Ear, Nose and Throat ; Minor Injuries ; Skin Diseases ; Ano-Rectal Conditions ; Genito-Urinary Conditions ; and Gynæcology, will be sent on request.

NEURO PHOSPHATES

AND

CONVALESCENCE IN MIDDLE AGE

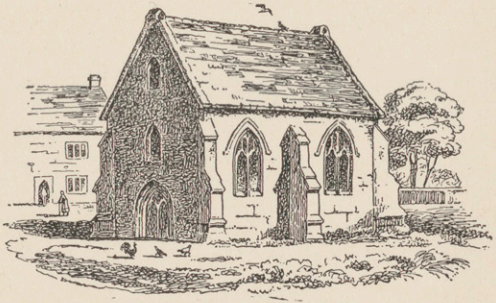
To the active patient of middle age, convalescence is often a period of disappointment and frustration. Neuro Phosphates (Eskay Brand) is of unrivalled value in shortening this trying period. It is an ideal tonic and reconstructive, and at the same time stimulates the appetite and improves digestion. Being light, pleasant and easily tolerated it ensures the co-operation of the convalescent, and moreover, does not weary the palate on continued use.

Each fluid ounce contains in acid state, calcium glycerophosphate 8 grains, sodium glycerophosphate 8 grains, and strychnine glycerophosphate $\frac{1}{16}$th grain.

Neuro Phosphates is indicated in the lowered vitality seen in neurasthenia, nerve weakness and debility resulting from excessive physical or mental strain.

Although Neuro Phosphates (Eskay Brand) is a complete preparation in itself, and is best prescribed by the original bottle, it is, nevertheless, so concentrated that, when the patient's condition and circumstances warrant, the cost may be reduced to your patient by prescribing one part of Neuro Phosphates to three parts distilled water, ordering one tablespoonful, t.i.d.

Issued for prescription in 8-oz. bottles, and for hospitals and doctors' dispensaries in Winchesters of 80 fluid-ozs.



St. Bartholomew's Hospital Chapel
from an antique illustration

In his "Brevarium Bartholomei," the first book on medicine connected with the oldest hospital in London, John Mirfield observes that a person may be preserved from plague infection by smelling and swallowing musk, aloes, wood, storax, calomint, amber and other aromatics.

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For the physician there is only one rule: Put yourself in the patient's place.—LORD LISTER

Nineteenth Century

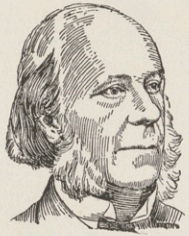
LORD LISTER

[1827-1912]

PROFESSOR of surgery at Glasgow University in 1860, where

he commenced his investigations on the use of antiseptics which later revolutionized surgical procedure. From his discoveries, the present system of aseptic surgery developed.

He who doth strive against experience is not worthy to discourse of high science.—DU BARTAS



John Braxton Hicks (1825–1897)

English gynæcologist. The intermittent contraction of the uterus after the third month of pregnancy, or as a result of uterine tumour, was first announced by him.

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Board of medical examiners established in London in 1376

GEORGE BUDD (1808-1882)

Budd's Disease

George Budd described an atypical cirrhosis of the liver (without jaundice) from auto-intoxication—known as Budd's Disease.

St. Thomas's Hospital in London was founded in 1561

THOMAS HODGKIN (1798-1866)

Hodgkin's Disease

In 1832 Thomas Hodgkin recorded a series of enlargements of the lymphatic glands and spleen. From the motley group that Hodgkin described, Wilks picked out the disease and called it *anaemia lymphatica*. Other names that have been given it are *adénie* by Trousseau, *pseudo-leukaemia* by Cohnheim.

214

William Withering (1741–1799)

Primarily honoured in medical chronicles for the part he played in bringing digitalis into proper use. Withering's versatility touched upon many subjects. He played the flute and harpsichord, was a climatologist, and a breeder of dogs and cattle. Greatly famed for his botanical studies, he was referred to as "the flower of physicians."

Observation more than books, experience rather than persons, are the prime educators. —A. B. ALCOTT

DENTISTRY

JEAN JACQUES JOSEPH SERRE (1759-1830)—He published an important work on dental operations. He wrote of toothache during pregnancy, of disease of the gums, and of oral hygiene. He proposed numerous new ideas in his profession.

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Early Smallpox Inoculations

Preparations took six weeks. They bled him to see whether his blood was fine, he was purged to a state of emaciation, and dosed with a diet and drink to sweeten the blood. Then, haltered with others, he was placed in an inoculation stable. For the sensitive eight-year-old Jenner, the experience was never forgotten.

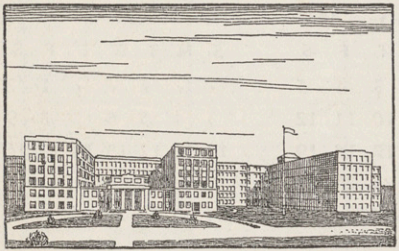
[364]

Sims—Tin Trumpet Serenade

Sims and his fellow-serenaders, satisfied with their tin trumpet serenade, decided to depart, but not before the irate head of the girls' school descended upon them. He fired a gun and hit a student. The student swung round and, levelling his gun at the headmaster, would certainly have shot him if the gun had not jammed.

214

Celsus (25-30 B.C. to 45-50 A.D.) gave the best summary of Roman and Alexandrian medicine



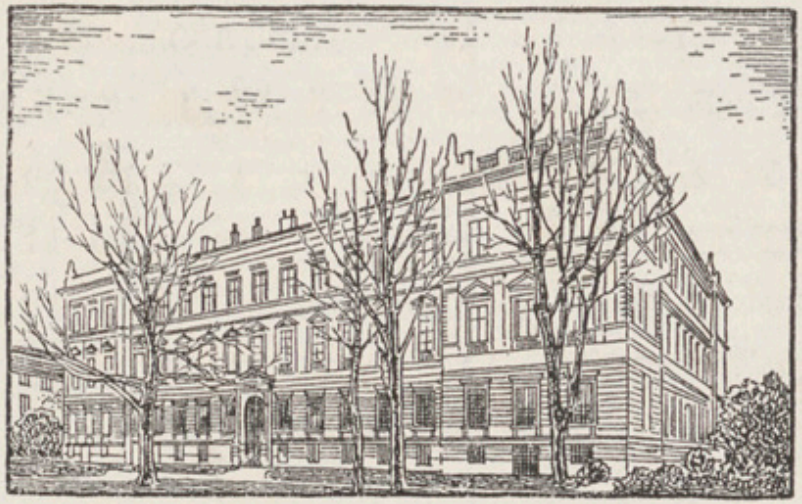
STRONG MEMORIAL AND MUNICIPAL HOSPITALS

University of Rochester

Established in 1850, the Medical School in 1925. The new School of Medicine and Dentistry is organized along modern lines and facilitates close co-operation between medical school, hospitals and other public institutions.

214

John Hunter was a great contributor to the science of comparative anatomy



INSTITUTE OF LEGAL MEDICINE

University of Gratz, Austria

Founded 1585 with a Medical Faculty Faculty of Arts. After the political difficulties of 1782, the Medical Faculty was not reorganized on modern lines to grant the doctor's degree until 1863.

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Take nothing for granted that may seem inconsistent with reason or established facts, simply because someone of acknowledged authority may have said it.—J. PROCTOR KNOTT

PAEDIATRICS

(17th Century)

STEPHEN BLANKAART in 1684 prepared the first treatise on diseases of children written in the Dutch language. Up to that time every work on paediatrics was written in Latin. This illustration is the frontispiece of Blankaart's book.

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Nobody grows old merely by living a number of years. People grow old only by deserting their ideals. Youth is not a time of life; it is a state of mind.

OBSTETRICS

(16th Century)

LYING-IN chamber, reproduced from an edition of Jacob Rueff's book for midwives. In the background appears the kitchen.

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Photographs.

Samuel Brown

Robt Liston (Duplicate)

Jn Hilton (Duplicate)

Thos Peacock (Duplicate)

George Burrows (Duplicate)

Caesar Hawkins (Duplicate)

C Williams (Duplicate)

Thos Watson (Duplicate)

W Stokes (Duplicate)

James Paget

Jonathon Hutchinson

1.15 p.m. Buffet lunch at Downing College (price 5/-)

2.15 p.m. Papers:

Dr. R.F.W.Goodwin:) "Trembling in new born pigs".
Mr. A.C.Palmer:)

Professor J.D.Boyd: "Observations on the circulatory mechanism in the human placenta".

Dr. James W.Millen: "Experimental hydrocephalus".

4.30 p.m. Tea.

If a sufficient number of Members travel by train tickets will be obtained at the reduced party rate of 13/3d. return. The Railway has not yet issued its summer timetable but it is expected that the train will leave King's Cross at 9.27 a.m. This will be confirmed later to those who wish to travel by train.

Members wishing to attend the meeting should complete the form below and return it to me, at the above address, as soon as possible, preferably by June 1st.

CYRIL KESSON.

Honorary Secretary.

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300 YEARS SINCE THE FIRST INTRAVENOUS INJECTION

Not only was Sir Christopher Wren the architect of St. Paul's Cathedral — and of 51 parish churches — he was also an outstanding mathematician, physicist, meteorologist and physiologist. As a member of the "Invisible College" at Oxford, Wren performed numerous experiments in physiology and pharmacology as well as in other sciences. In 1656 he hit upon the then novel idea of injecting various substances — opium, scammony, wine etc. — into a dog's vein to study their effects. These experiments prompted the first attempts at intravenous medication and also suggested the idea of blood transfusion. The accompanying portrait of Wren by Godfrey Kneller is reproduced by permission of the Royal Society, of which he was President in 1680.

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TRIANGLE

THE SANDOZ JOURNAL OF MEDICAL SCIENCE

VOLUME II NO. 8 DECEMBER 1956

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TRIANGLE

VOLUME III NO. 2 JUNE 1957

WILLIAM HARVEY

> "*Nature* her selfe must be our adviser; the path she chalks must be our walk; for so while we confer with our own eies, and take our rise from meaner things to higher, we shall at length be received into her Closet-secrets."
>
> *William Harvey, 1653*

At ten o'clock on a bright spring morning, 17 April 1616, an unusually large company was assembled in the New Anatomical Theatre of the (not yet Royal) College of Physicians in London. The occasion was the second Lumleian Lecture of the annual course, given that year by a newcomer, the young physician from St. Bartholomew's Hospital and professor of anatomy and surgery. The manuscript of that historic lecture has, miraculously, been preserved. Summing up, late in the afternoon, the speaker said, "It is clear from the structure of the heart that the blood is borne continuously through the lungs into the Aorta as by two clacks of a water bellows to razse water." Few in the distinguished audience appreciated the significance of the simple analogy, spoken in crisp and homely English at the end of a long dissertation in Latin. William Harvey had made the first announcement of his discovery of the circulation of the blood.

The sixteenth century had given medicine not only a new spirit but a revolution in anatomy at the hands of Vesalius, Fallopius and Fabricius in Padua. Harvey's work in England in the first years of the seventeenth century laid the foundation of the new science of physiology. The events are not unrelated: for Harvey had studied medicine at Padua and worked with Fabricius there on the anatomy of the vascular system. He always acknowledged that it was the study of the valves of the veins that led him to the discovery of the circulation. But it was "searching out nature by way of experiment" over half a lifetime that enabled him eventually to convince the blind followers of Galen that blood did not ebb and flow like the tide.

Today, the tercentenary of his death on June 3, 1657, we acknowledge our debt to the father of the experimental method, the founder of modern physiology. We pay tribute to a man whose qualities of mind shed light in the early dawn of scientific medicine, whose strength of character buttressed him — and us — from those who "laid it to me as a crime that I had dared to depart from the principles of all Anatomists".

ORIGINAL ARTICLES

THE SURGERY OF STENOTIC VALVULAR DISEASE

PROFESSOR C. CRAFOORD

Surgical Department, Sabbatsbergs Hospital, Stockholm

PROFESSOR L. WERKÖ

3rd Medical Service, S:T Eriks Hospital, Stockholm

The most spectacular development in the treatment of heart disease in the last decade has been in the surgical correction of structural deformities, both congenital and acquired. The use of new techniques like hypothermia and artificial pump-oxygenation, recent advances in anesthesiology and improved anti-inflammatory measures have made possible operations undreamed of only a few years ago. These procedures are nevertheless still in a developmental stage and their routine use for intracardiac surgery is confined to a few places.

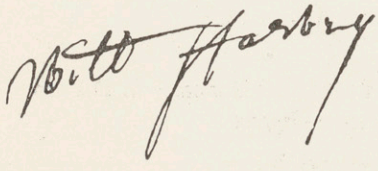
Hypothermia involves lowering the body temperature to approximately 30° C by placing the patient in a specially designed "refrigerator" or simply in a tub of iced water. At this temperature the circulation can safely be stopped for about 6–8 minutes (by clamping the aorta and the venae cavae) and the interior of the heart is accessible for surgical exploration. Several surgeons have used this technique for simple intracardiac operations. There are, however, important disadvantages. Only a short time, not more than 10 minutes, is available, making the more complicated surgical procedures impossible. It is not known to what extent the heart and other organs tolerate the combined effect of lowered temperature and arrested circulation. Much more experimental and clinical research is needed before any definite judgment can be made of the role of hypothermia in intracardiac surgery.

The use of an artificial heart-lung machine has been studied for many years, but it is only very recently that it has become possible to employ such a pump-oxygenator safely in cardiac surgery. The problem is how to achieve rapid and complete O_2 saturation and adequate CO_2 removal without too much shift in the pH of the blood. Avoidance of haemolysis and proper control of the coagulability of the blood are also important factors that need expert supervision. It is no wonder that only a few successful operations have been reported and that the mortality rate with this technique is high: too many complicating factors are added to the strain of a surgical procedure within the heart of a patient who is usually already incapacitated. It has, however, been demonstrated in several centres for cardiac surgery that operations within the heart using this technique are possible. It is our impression that the pump-oxygenator is more promising for the future than the use of hypothermia alone.

It is impossible to consider in detail all aspects of the surgical treatment of valvular disease. We will concentrate on a short discussion of the surgery of stenosis.

Pulmonary stenosis

Pulmonary stenosis used to be considered a relatively rare congenital lesion. The wide-



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TRIANGLE

THE SANDOZ JOURNAL OF MEDICAL SCIENCE

VOLUME III NO. 2 JUNE 1957

HARVEY TERCENTENARY NUMBER

Dental ulcers.—The sharp edge of a broken or carious tooth may cause ulcerat

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BICENTARY
of
John Sims, M.D., F.R.S.

THE BICENTENARY OF JOHN SIMS, M.D., F.R.S.

By LAURENCE DOPSON

It is strange that so little should have been written about John Sims, M.D., F.R.S., who was born 200 years ago, and that nothing, apparently, is to be found in medical journals, for Sims was a distinguished consultant, specializing in midwifery, as well as being a famous botanist and editor. A fairly full account of his life is given by Joseph J. Green in a paper "A Quaker Medical Trio named Sims and some account of that Family", which appeared in the *Friends' Quarterly Examiner*, 1913, p. 265. He should not be confused with John Sims (1792-1838), the pathologist, nor with James Sims (1741-1820).

The Sims's were a well-known Quaker family, who had mostly been tradespeople of some kind and who had suffered for their faith. The first of them to take up medicine was John's father, R. C. Sims, who graduated at Edinburgh in 1744, the title of his thesis being *De vomica pulmonis;* he practised for many years at Dunmow in Essex, where his surgery could be seen at least up to the 1914-18 war.

EARLY DAYS

John Sims, the only son of Dr. R. C. Sims, was born in the parish of St. Mary Bredman, Canterbury, on October 13, 1749. He was educated at home and at the famous Quaker academy at Burford, near Oxford, kept by Thomas Huntley, an ancestor of the Huntley of Huntley and Palmers, the biscuit manufacturer. In 1770, when he was twenty-one, John Sims went to his father's old university to study medicine. He remained at Edinburgh until 1773, going to Leyden for the session 1773-4. Returning to Edinburgh in the latter year, he was admitted to the degree of doctor of medicine on September 12, 1774. The title of his thesis was *De usu aquæ frigidæ interno* (Edinburgh, 1774) and he dedicated it not to one of the famous Edinburgh professors

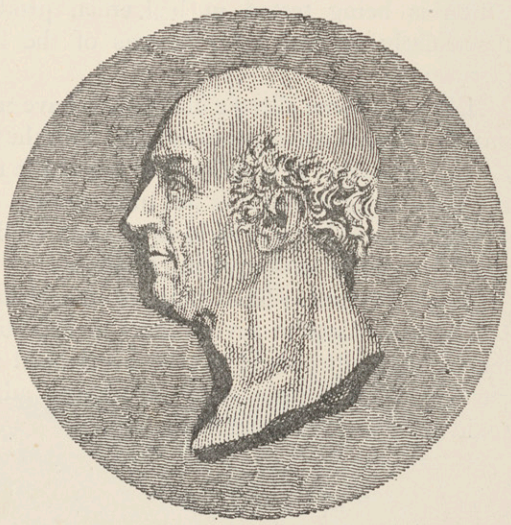


Fig. 1.—John Sims (1749-1831), M.D., F.R.S., physician and botanist. From an engraving in the Wellcome Historical Medical Museum.

(as many candidates did, from motives perhaps not always dissociated from hopes for the results), but to John Fothergill, the famous Quaker physician. Among the points which Sims made in his thesis were that a moderate drink of water, by extending the muscles of the stomach, improved their tone, and that cold water, owing to its quality of being a fluid, cleansed the digestive passages and dissolved and carried away waste materials. He discussed its use in various forms of illness.

LIFE IN LONDON

In 1779 Sims came to London and bought the practise of Thomas Cogan (1736-1818), of Paternoster Row. The fact that he acquired this particular practise indicates that he had already decided upon his specialty, for Cogan, a founder of the Royal Humane Society who had been a clergyman but took up medicine at the instigation of his prospective father-in-law, was primarily an accoucheur. Sims was admitted a Licentiate of the Royal College of Physicians of London on June 25, 1779, but although he became a leading obstetrical physician, he was not among the ten who were granted the licentiateship in midwifery by the College.

Sims was appointed physician to the Surrey Dispensary and to the Charity for Delivering Poor Married Women in their own Houses. The former was established in 1777 and was then at Southwark. Physicians holding consultations had the right of having their pupils in attendance; instruction was also given there to midwives. The Dispensary's activities were not confined to midwifery, and an early medical communication by Sims, published in 1784, is an account of a 40-year-old serjeant of the Middlesex Militia who died at the Dispensary from cancer of the stomach. The Surrey Dispensary was the earliest appointment which Sims held in London. It was some years later that he succeeded Cogan as one of the three physicians to the Charity for Delivering Poor Married Women in their own Houses. This organization had as its treasurer and dispenser Mr. Peter Sharp, chemist and druggist, of Bishopsgate Without; founded in 1760, it should not be confused with the similar Benevolent Institution for Delivering Poor Married Women in their own Habitations, started in 1779. A Fellow, one-time President, and for many years member of council, of the Medical Society of London, Sims was a member of the Society's Midwifery Committee.

Another facet of Sims' professional activities is shown by his being made the first consulting physician to the Royal Ear Dispensary, which was founded by Dr. John Harrison Curtis (1778-1856) at Carlisle Street in 1816, and was later moved to 10 Dean Street, Soho; it was under the patronage of the Prince Regent, and in 1904 was rebuilt as the Royal Ear Hospital at 42-3 Dean Street.

SOME PRIVATE PATIENTS

Dr. Sims had a number of distinguished private patients; one of them was

Mrs. Fothergill, wife of Dr. William Fothergill. He was the regular medical attendant upon John Henton Tritton, another distinguished Quaker, and his family; in 1791 Sims was paid an extra five guineas for inoculating John, one of the sons. Tritton was Sims' cousin and paid him an annual honorarium for his attendances. In her journal under date "Mildred's Court, Eleventh Month, 25th", 1802, quoted in her "Life" by Susanna Corder (London, 1853), Mrs. Elizabeth Fry wrote: "My cough has been so poorly that my husband called in Dr. Simms. I asked his advice about our one (their eldest daughter, born in August, 1801) being inoculated, he strongly recommended the cow-pox, and said he would undertake the care of her if we liked; I think highly of his judgement, and I believe it is our duty to avoid evil, both bodily and mentally".

It has been stated that Sims at first opposed vaccination, but later became convinced of its efficacy. Perhaps it would be more accurate to say that he adopted a cautious attitude towards it in the beginning. In a communication to the *Medical and Physical Journal* early in 1799, he said the facts and experiments of Jenner certainly called for careful inquiry, but he felt doctors should hesitate before recommending the introduction on a large scale of "a hitherto nearly unknown disease" and warned about "rash experiments upon our fellow creatures".

> "If such hazardous experiments be not discouraged, there is some reason to fear that to the opprobium, the profession already lies under, of not being able to cure many of the existing diseases, will be added, that of having introduced new ones".

An editorial comment recognized the importance of the issues raised by pointing out: "From the above general statement, our readers will perceive that the great question respecting the utility of the cow-pox is at issue before the public". In a subsequent letter, however, Sims clarified his position:—

> "I had no intention of declaring myself an enemy to the inoculation of this disease; my only wish was, to induce practitioners to pause a little, to obtain more experience of its utility, before it should be *generally* recommended".

Later he admitted:—

> ". . . It must be acknowledged, that the experiments already instituted seem sufficient to decide that the cow-pox matter which has been used for inoculation is effectual in preserving the patient from any further attack of the small-pox, unless it should be true, which I deem very improbable, that cow-pox enables the constitution to resist the contagion of the small-pox for a certain length of time only."

It is an interesting indication of Sims' status that an editorial note to the first of these communications said: "The signature of the following communication . . . renders any introductory observations unnecessary".

There are two other references to Sims' private patients. One is in a letter by William Miller, another Quaker: "J. Wigham Tertius is under the care of Dr. Sims, who has advised him not to sit more than one meeting daily". Another is in the *Memoirs of Samuel Hoare*, also a distinguished Quaker. In 1798 Hoare was seized by a nervous affection. "Dr. Sims, his

old friend, attended him, and Dr. Reynolds was called in". A trip to Bath was advised.

Sims was called into consultation in two celebrated obstetrical cases—those of Joanna Southcott and of the Princess Charlotte.

THE CASE OF JOANNA SOUTHCOTT

Joanna Southcott was a queer woman, born in Devonshire in 1750 who considered herself in the rôle of a latter-day prophetess. In 1792 she announced herself to be the woman referred to in Revelations, Chapter XII. In her "Third Book of Wonders" (London, 1814) Joanna again announced "the coming of Shiloh", declaring that "The Spirit" had told her: "This year, in the sixty-fifth year of thy age, thou shalt have a son by the Power of the Most High". Although she had ceased menstruating many years previously, Joanna was now convinced that she was pregnant. Her followers believed her in this as in all things, and are said to have showered upon her such gifts as "a mohair mantle, which cost £150!!! splendid silver pap spoons, and a caudle cup (one shaped like a dove)" and "a magnificent Crib" which, "with its ornaments, decorations, bedding, &c. cost upwards of £200!!!"

Not only her followers but also her medical attendant, Dr. Richard Reece, had no doubt about the cause of Miss Southcott's symptoms being other than as she claimed. Correspondence on the matter began in the public press in August, 1814, and it was said that the medical attendants were satisfied that the prophetess was with child—or more specifically, with Shiloh. In view of this, Dr. Sims, to make clear his position and opinion, wrote a letter which was published in the *Morning Chronicle* of September 5: "Several persons having expressed a wish that I should visit Joanna Southcott, that they might be satisfied what foundation there was for a report that she was pregnant, [he wrote] I consented to accompany one of her friends, a surgeon and accoucheur of experience, for that purpose, on the 18th of August". He describes in detail the examination which he made and the condition of the breasts. "I proposed to put my finger upon the navel, without any covering, which was permitted. This part I found sunk in, not at all protruded as in pregnancy". He could feel no movements of the fœtus, although Joanna declared that she felt them clearly. Dr Sims gave his opinion as follows:—

> "Considering all the above appearances, I did not hesitate to declare it to be my opinion, that Joanna Southcott was not pregnant; but was told that I was the first medical man that had seen her that was not perfectly satisfied of the contrary.
>
> "I believe that her uterine organs are diseased, and that the breasts, as is usual, sympathyzing with those parts, have an increased quantity of blood determined to them".

He ended his letter with these words:—

> ". . . Yet, before I conclude, I feel it right to say, that I am convinced that this poor woman is no imposter, but that she labours under a strong mental delusion".

Nothing was thought in those days of medical men discussing such a matter in the public press, and this letter—the only one which he wrote during the controversy—shows that Sims was sufficiently highly regarded in his profession to be looked to for an authoritative opinion in a difficult case —a regard justified by his views in this instance—that he was a thorough clinical observer, and, as is evidenced by the concluding paragraph, a kindly man.

His letter brought an instant rejoinder from Dr. Reece, which the editor of the *Morning Chronicle* refused to publish; it was, however, published in the *Sunday Monitor and Sunday Review*. In it Reece sought to argue that Sims was wrong in his conclusions. It is noteworthy that although other medical men, including Professor Assalini, Professor of Midwifery in Paris, saw Joanna Southcott, none of them, except Sims, instantly recognized and were convinced of the non-existence of the pregnancy.

Although Dr. Reece came to recognize the error of his earlier view, he could not convince his patient. Joanna Southcott, still believing that she had within her the Shiloh, died on December 18. She gave instructions that her body should not be opened before four days had elapsed, being certain that the corpse would remain fresh and that she would return to it. When the post-mortem examination was held, however, the "disciples" who attended fortified themselves by smoking strong tobacco—"a proof that they did not consider the prophetess to possess the most savoury odour". The examination was conducted by Dr. Reece, in the presence of Dr. Sims and Mr. Mathias. The result of the examination showed: "first, that there was no Shiloh; next, that there was no disease of the uterine organs, as imagined by Dr. Sims; thirdly, that the uterus, instead of being enlarged, was remarkably reduced". The omentum was extremely large and appeared to be one lump of fat. "Dr. Sims having expressed a wish to examine the state of the breasts, to satisfy himself on this point [wrote Dr. Reece] I dissected one of them, which shewed the fullness to proceed from an enlargement of the mammary gland as I had stated, and not from accumulation of fat, according to his opinion". This remark of Dr. Reece's would reflect more to his credit and professional acumen had he not been so stubborn in denying for a long while Sims' opinion on the vital issue, whether there was or was not a pregnancy. The necropsy failed to establish any organic cause for Joanna's death.

The case naturally aroused great interest, but at least Dr. Sims emerged with dignity and without loss of respect. One account says:—

> "Dr. Sims did not fawn on her when living, and vilify her when dead . . . Had the whole college of physicians been in attendance on her, a better understanding of her case, we take on us to say, from our professional knowledge, could not have been given. In the opinion Dr. Sims gave of herself and her state of body, he shewed the goodness of his heart as a man and a Christian. And, had all her attendants had the same penetration and integrity, she would have, in all probability, been delivered long before her death; not of a child, but of the delusion".

The danger of applying logic to medical matters is shown by the opinion expressed to Joanna by a lady who saw her after Dr. Sims had called, and assured her he was wrong: "I have had eleven children, and the objection he mentioned happened to me with every one of them", she told the prophetess hopefully.

DEATH OF THE PRINCESS CHARLOTTE

It is unfortunate that the other famous case in which Sims was called as a consultant also ended tragically. It was that of the Princess Charlotte. The Princess seems almost to have had a foreboding of what was to come, for a month before her confinement, she wrote a letter to her mother which contained such phrases as "I fear less to die than to live".

Sir Richard Croft, a colleague of Sims at the Surrey Dispensary, was in charge of her confinement, and three weeks before it was due to begin, he went down to Claremont to be with the Princess. What followed is detailed in the following memorandum (Royal Archives, Georgian Papers 50067), which His Majesty the King has been graciously pleased to allow me to reproduce for the first time:—

"The Labour of Her Royal Highness Princess Charlotte began at Seven oClock on Monday Evening the 3d of November 1817, and terminated at Nine oClock on Wednesday Evening the 5th of Novr, in the birth of a Still-born Male child—The Labour therefore continued during fifty hours—The exertions of the uterus were feeble throughout the greater part of the Labour, but during the last few hours were stronger, and more satisfactory—As the Labour was very tedious, Dr. Sims was sent for by Sir Richd Croft on Tuesday Evening, and arrived at Claremont about Two oClock on Wednesday morning—He concurr'd entirely in opinion with Sir Richd Croft respecting the situation of Her Royal Highness, and that as long as the Labour was making progress, altho' slowly, the conduct of it should be left to Nature—Instruments were at hand to assist the Uterus, if it were thought adviseable to employ them—During the whole of this tedious Labour, Her Royal Highness was cheerful, look'd well, and Her pulse was good—She often walked about the Rooms, and was very little on Her bed—

"The Child was born, as before mentioned, at Nine in the Evening, and as upon examination, an hour-Glass contraction of the Uterus was discover'd, Sir Richd Croft took away, with the concurrence of Dr. Sims, the afterbirth about twenty minutes before Ten—Her Royal Highness appear'd quite as well as women commonly do after so tedious a labour, and much better than they often do under such circumstances, till about a quarter before Twelve at night—Her Royal Highness then complained of some sickness and singing in Her Ears—Soon after this Her Royal Highness threw up from Her Stomach a little fluid, which seem'd chiefly some camphor mixture, which She had swallowed—She then became a little irritable, and began to talk somewhat too much—About a quarter before One Her Royal Highness complained of great uneasiness in Her Chest, and breathed with great difficulty: Her pulse was very feeble and irregular, and She became extremely restless, not being able to remain a single moment in the same posture—This very alarming state continued and kept increasing till half past Two in the morning, when Her Royal Highness expired—Her mind was entire throughout the whole of this dreadful attack—

The Child had been born dead, but appeared not to have been dead long—The most strenuous efforts were made to reanimate it by means which had been previously provided, but they were unavailing—Some circumstances had render'd it

probably that the Child would be still-born, and therefore every means of recovery were in readiness".

Novr 9—1817

M. Baillie
Richard Croft
Jn° Sims"

Such were the terrible sufferings of this girl of twenty-one. It was Sims who made the "most strenuous efforts" to revive the child. Sims added the following postscript to the memorandum:—

"As some of the above circumstances could not come under my immediate observation, not having seen her Royal Highness till symptoms of danger occurred, I beg leave to add, that on my arrival at Claremont, Sr. Richard Croft proposed to mention it to her Royal Highness and to introduce me; but as the state of the labour, at that time, precluded all thoughts of having recourse to any artificial assistance, both Dr. Baillie and myself thought that this was not only unnecessary but unadvisable. And as the labour continued from that time to the end progressive, there was no period of it, at which a question about the propriety of using instruments could have been entertained.—I was in the adjoining room the greater part of the day, and was continually informed of the state of the labour, and could have seen her Royal Highness, whenever it had been thought advisable. When it was found that the afterbirth did not come away favourably, I was perfectly satisfied with Sr Richard Croft's representation and quite agreed with him in the propriety of removing it. I was at that time still engaged in fruitless efforts to reanimate the child; and the introduction of a stranger, at that moment, to the royal patient, as it appears to me, was particularly objectionable.

Jn° Sims"

In the collection of manuscript letters and other material relating to Mathew Baillie, in the Library of the Royal College of Surgeons of England, the first part of the memorandum above, which is stated to have been "written for the satisfaction of the Royal Family", has been copied out by Mrs. Baillie. In this copy some parts of the original have been omitted and there are some textual variations, but the additional information is given that the child was perfectly formed and weighed nine pounds, whilst attached to the memorandum (on which only Baillie's signature is given) is the following note, stated to have been found in Baillie's own handwriting:—

"In looking back very often upon this most distressing event I am convinced that Sir Richard Croft did all that the melancholy case admitted of, and that the Princess Charlotte's life would not have been saved by any different treatment".

The controversy aroused by the death of the Princess was considerable. Although the Prince Regent assured Sir Richard that he was perfectly satisfied with his conduct, most blamed him for allowing the Princess to remain in labour for so long without attempting to terminate the birth. On February 13, 1818, Sir Richard Croft was found dead. He had shot himself.

Again it shows the regard in which Sims was held as an obstetrician that he should have been called in when complication arose and that he should so clearly have been appealed to by Sir Richard and Dr. Baillie as the superior authority. One account says of the summoning of Dr. Sims:—

"This, as a precautionary step, is honorable to Dr. Croft, and will ever shield him against a successful imputation of timerity".

Criticism has been raised against Sims because he did not go in to see the Princess, yet signed bulletins saying she was progressing favourably. "How this gentleman", declared Lady Anne Hamilton, "could allow his name to be thus affixed to a declaration, of the truth of which he was totally ignorant, we do not know, but the time-serving press said 'That Dr. Sims being unknown to the Princess, his appearance in her chamber might have alarmed her' ". As has been seen, it was Sims himself who took this view, which was thus not an invention of the newspapers—and she also rather destroys her case by being too violent and accuses Croft of having poisoned the Princess on instructions.

Sims, with Baillie and Croft, followed the remains of the Princess to her grave at St. George's Chapel, Windsor. One wonders whether the outcome of the whole affair might have been happier had Sims been summoned earlier. As it was, this tragedy brought about the reign of Queen Victoria.

LITERARY WORK

At the same time as he was involved in these two important midwifery cases, which show that he was actively engaged in practice, Sims was editing the celebrated *Botanical Magazine*. He became editor soon after the death in 1799 of William Curtis, the founder editor, although his name first appeared on the title page in 1801. That the editorship of a leading scientific journal of this kind, the circulation of which exceeded 3000, was no sinecure can well be imagined, and is shown in the correspondence in connexion with it preserved at the Library at Kew Gardens, and in letters by Sims in the manuscript collections at the Botanical Library of the Natural History Museum and the Linnæan Society of London. It is interesting to note from these letters that Sims in no way rose above the failings, or perhaps one should say had to contend with the same difficulties, as other editors of recent times, for one finds queries about what has happened to material sent for publication and when such-and-such note will appear. An editor, particularly of a scientific magazine, has to be tactful. In a letter dated November 26, 1806, and quoted by courtesy of the Director of Botany, British Museum, Sims told Mr. Robert Brown, an eminent botanist, that people who sent new flowers to be drawn were apt to be offended if these did not appear fairly soon and would at another time send them to a rival journal: "In order not to give offence in this way I am often in some degree obliged to publish drawings, which I otherwise wish to delay". In another letter (to Dr. William Swainson, dated May 8, 1820, now in the possession of the Linnæan Society) Sims points out that as he is personally responsible for the nomenclature and the accuracy of the drawings, he may wish to see actual specimens, as well as drawings. As editor, Sims had his troubles also in respect of the circulation of his magazine. From the 172nd issue he increased the number of plates in each part to four, and later he increased the number to eight and the price to 3s. 6d. The rise in price and the

appearance of rival journals led to an immediate drop in circulation, sales falling by a half and later by more still. It was a grim prospect, but ultimately the *Botanical Magazine* weathered the storm, and its publication continues to-day, having been uninterrupted since 1799.

Sims undertook the editorship under the will of William Curtis, whose friend he had been for many years—probably they were schoolfellows together. Mr. W. Hugh Curtis, in his book "William Curtis, 1746-1799" (Winchester, 1941), explains that Curtis made Sims one of his executors; as such Sims's name appears in an agreement of January 16, 1815, by which George Graves became part owner of William Curtis's *Flora Londinensis*. In addition to the *Botanical Magazine*, Sims also edited, with Charles König, the *Annals of Botany*, of which two volumes only were published (London, 1805 and 1806); it is an interesting publication which includes historical articles. The combination of an expert interest in botanical matters with a medical practice was quite common at this time: John Coakley Lettsom, founder of the Medical Society of London, had a botanical garden at his country house at Camberwell. and it was he who introduced the mangel wurzel; whilst John Fothergill formed a large botanical garden at Upton. Sims probably inherited his interest in botany from his father, who was passionately fond of gardening.

No source that I have discovered has any details of Sims' medical publications; the *Surgeon General's Catalogue* only gives his degree thesis. He did, however, communicate a number of papers on medical matters, and a list of the ones which I have been able to find is given in an appendix to this article. In addition, Sims probably wrote the biography of William Curtis in the *Gentleman's Magazine*, 1799; it is said that Curtis left Sims the memoirs of his life. Sims delivered the Oration to the Medical Society of London during his year as President (1783), but this does not seem to have been published. A list of his botanical papers appears in J. Britten and G. S. Boulger's *Biographical Index*.

PERSONAL LIFE

Not a great deal is known about Sims' personal life. He married about 1790, and because his wife was not a member of the Society of Friends, he was compelled, under the rule then existing, to leave the Society. The same choice between love and creed had to be made by Lord Lister, when he had to leave the Quakers on marrying Agnes Syme, who was an Episcopalian. Sims, however, continued to move in Quaker circles and, as we have seen, many distinguished members of this sect were his patients. William Miller's letter of 1821 refers to Sims having "lately laid aside his cockt hat"; this may mean that he had been rather more ostentatious in his dress than strict members of the Society could altogether approve and that he was now adopting or reverting to the more severe style of dress. That he was a "clubbable" man is shown by his membership of societies of medical men,

whose meetings were more convivial affairs in those pre-Bevan, pre-Strachey days. The Society of Physicians, for example, of which select group he was a member, met "once a fortnight, on Wednesdays in the evening, at Old Slaughter's Coffee-house, for the purpose of conversing on the prevailing diseases, &c. and once a quarter they dined together at the Crown and Anchor Tavern in the Strand"; Old Slaughter's Coffee House seems to have been a favourite place for medical gatherings, for the Society for the Improvement of Medical Knowledge, founded in 1782, "for the purpose of collecting useful essays and observations for publication", also met there once a fortnight, with Sims among the company, and this Society, too, had its quarterly dinners.

John Sims was a founder member of the Linnæan Society of London, and in 1816 he presented to the Library of this Society a particularly fine edition of Leonhard Fuchs' *De historica stirpium commentarii isignes* (Basle, 1542). He was admitted a Fellow of the Royal Society in 1814.

Sims was very early interested in the idea of forming a Society for Relief of Widows and Orphans of Medical Men, taking part in the early meetings in 1788 in connexion with it; his name appeared in the first advertisement as one of the four treasurers. In September, 1807, the Society had been experiencing difficulty in getting together a sufficient number of directors to transact business. Mr. James Ware, one of the Vice-Presidents, conceived that they might be more likely to come at the appointed hour if their fares were guaranteed, and he gave £100 of Navy 5 per cent. stock for this purpose; the Society doubled the amount, and Dr. Sims gave £10 also.

There is a rather quaint glimpse of the domestic life of John Sims in a reference in his paper on the use of pure ammonia in pregnancy (1799):—

> "I was first led by accident to the discovery of the extraordinary power of the pure ammonia in correcting acidity in the stomach, over other alkaline substances. My wife being seized one night with a severe heart-burn, I arose with a view of getting her some magnesia; but not being able to find any, and being desirous of procuring her some immediate relief, I expected to obtain this by any alkaline substance, and not meeting with any but the water of pure ammonia, which I happened to have by me, I administered twenty drops in a glass of water; the relief was instant and more complete than she had ever experienced from taking magnesia".

Ann Sims was seven years younger than her husband. She bore him six children, four girls and two boys. One of the boys died in infancy; the other graduated M.B. at Cambridge in 1810 and became M.D. of that University in 1823. It is significant that Sims, the fashionable London physician, sent his son to one of the old universities in England and not to his *alma mater;* and further, that when this son, having qualified as a doctor, forsook medicine for religion, he should become a priest in the established Church of England. In a letter dated Dorking, September 3, 1828, John Sims writes of this son:—

> "Courthope goes on preaching &c at two parishes every Sunday and goes through the duties of his profession *con amore.* It seems to suit him much better than the one he has deserted".

The letter adds that Courthope would soon be going to Fittleworth, "for which parish he was originally ordained". Green states that he became Rector of Petworth, also in Sussex, and died at Undercliffe, Isle of Wight. The present Rector of Petworth, Rev. Harold Godwin, informs me, however, that Courthope Sims' name does not appear in the official list of rectors. Courthope was, however, curate at Fittleworth between 1829-32; the first funeral he took there was on December 19, 1829, and the last on April 4, 1832. His own burial entry gives his age as thirty-eight, and his abode at the time of death as Ventnor.

Incomplete lists of Sims' London addresses have been given, but the following, supplemented by reference to original letters, is the full number: Paternoster Row; 31 New Bridge Street, Blackfriars; 67 Upper Guilford Street, Bloomsbury; 37 Wimpole Street.

One of the Kew letters must have caused Sims a little misgiving as he read it, for the writer, Thomas Guest of Sierra Leone, announces his intention of sending to England "a monstrous great Pelican".

> "The Fellow is quite tame, and I hope to preserve him during the rains: He eats Fish, Flesh, Fowl, or any thing that comes in his Way; he devours a great Deal, and I am sometimes very much puzzled to get victuals for him. I suffer him to stroll about, and he is become the Terror of all the Women & Children in the Colony; if any of them are going by with Meat or Fish, and he sees them, he is after them immediately, and ten to one but he gets it".

However, Guest hastens to add:—

> "I am aware you cannot keep him in Bridge Street, but I think among your Friends, there are some who would be glad to have such a Bird. Sr Joseph Banks probably".

These letters to John Sims show that in connexion with the *Botanical Magazine* he carried on a correspondence with people in all parts of the world. They also show that he could write shorthand. Several letters contain endorsements by Sims in shorthand, and one of the letters, from William Grover (21 February, 1825), states:—

> "My dear friend,
> Enclosed I hope thee wilt receive safe the System of Shorthand, as proposed".

I have submitted some copied examples of John Sims' shorthand to Mr. William J. Carlton, an expert on the history of shorthand, but unfortunately they were too fragmentary for him to identify. It was, however, definitely not Byrom's or Taylor's (two of the most popular pre-Pitman systems). It is also impossible to identify the "System of Shorthand" referred to by Grover, but if it was a different system from the one that Sims was using, it cannot have impressed him, for apparently he continued with the same outlines. It does appear that the shorthand which John Sims wrote was the same as that used by William Curtis, of which an example is illustrated in W. Hugh Curtis's book, but Mr. Carlton warns me that the

shorthand systems of this period often bear a superficial resemblance to each other.

CLOSING YEARS

The letters at Kew concern the *Botanical Magazine*, and when they are from medical men, make no mention of purely medical matters. The letters from William Fothergill, however, give some interesting glimpses of the life in retirement of this physician and of his interests:—

Carr End, Yorkshire. February 26, 1819.

"My dear Wife has for several months, been nearly quite confined to her room, yet on the whole she is something better, and I hope will again be restored to her usual share of health when that season arrives, inspiring 'Vernal delight & Joy'.

"We have had the finest autumn and winter hitherto, I ever remember. Our little garden has never been without a variety of flowers, & we are at this moment quite gay with a profusion of crocus's, winter aconites &c . . . During the time you were enveloped in cold gloomy fogs, we were enjoying bright sunny days, and the frost quite moderate".

A letter of October 30, 1826, tells of the arrival of a number of issues of the *Botanical Magazine*:—

"which indeed is to me & my wife and daughters a high treat; lock'd up as we now are in all the rigour of winter, we are enjoying the beauties of Flora, while sitting at our Fire-side. . . . My own health as well as that of my wife (thy old patient) continue much as when I wrote last, but the hand of time is upon us, and we must expect to feel the effects of increased years. I have recently entered upon my 78 year, & I hope I am endeavouring to be thankful that my infirmities are not more and greater".

In 1826, at the age of 77, John Sims resigned the editorship of the *Botanical Magazine*. He retired to Dorking, in Surrey. In a letter which he wrote from there to König on March 4, 1829, and which is now at the Natural History Museum, it appears that there was a question of his herbarium and library going to the new London University.

"What occurs to me as the best plan of disposing of my library and herbarium would be to submit it to a valuation and if the London University will agree to be the purchaser I will consent to deduct a fourth part of the price at which it may be valued.

"My library consists of most of the old botanical authors but not many of the expensive coloured works in a perfect state . . . "

The offer evidently fell through, for the library and herbarium were sold by auction by Mr. Thomas "at his Great Room, 38 King Street, Covent Garden, on Tuesday, May 26th, 1829, and following day, at Twelve for One o'Clock very punctually". The catalogue of the sale, a copy of which is at the Natural History Museum, lists 722 lots and states that in addition to the "choice Botanical Library" the collection included "a small misscellaneous Library, in which will be found Fowler's mosaic pavements, and a variety of Works of the best modern Authors". The herbarium is now at Kew.

In a letter to Alexander McLeay, on the latter's departure in 1825 to be colonial secretary in New South Wales, it is evident that Sims had become rather aware of the declining years, for he writes:—

"I am very sorry we are like to lose you soon and at my time of life I can hardly expect to live to see you on your return".

When he went to Dorking, the effect of the three score years and ten was upon him, as is rather pathetically borne out by two passages in letters to his friend Charles König. The first is dated Dorking, September 3, 1828:—

" . . . It would give me particular pleasure to see you, but I grow so feeble that I am able to go but a very little way from home and much question if I shall ever be again equal to undertake a journey to London, though I hardly like to think so, as I much wish to get another sight of some old friends, of which you stand among the foremost. I thank God my eyesight continues pretty good and I find amusement in reading; but writing has become difficult . . . "

Despite the difficulty in writing, of which he complains, this letter is in his own hand and the words are firm and clear. A few months later, however, he had evidently got past writing altogether, for the next letter, dated Cotmandene, Wednesday, March 4, 1829, has been dictated and is written out by another. In it, Sims says:—

"Mrs. Sims and my family are all in pretty good health and as to myself I have little to complain of but an increasing debility which is now so great it is not at all probable I shall be able to go to London again so that I shall feel the more gratified by any occasional visits from my friends".

It is probable that Sims chose his place of retirement to benefit his failing health. Of the situation of Cotmandene, a guide book of 1865 says:—

"This emminence overlooks the Town and embraces views of Denbies, Box Hill, Norbury Park House, and Camilla Lacey. This elevation has long been proverbial for the superiority of its situation, and the air is fresh, breezy and healthful".

Another guide book also describes it as "one of the healthiest parts of the town".

It was in this pleasant spot that John Sims, M.D., F.R.S., died, in his 82nd year, on February 26, 1831.

Surprisingly, very little attention seems to have been paid to his passing, and only brief notices appeared in the *Gentleman's Magazine* and *Annual Register*, and none in *The Times* or the *Lancet*. Previously the place of burial of John Sims has been a mystery. Green stated he could find no indication of where either John Sims or Mrs. Sims was buried. The Vicar of Dorking, Rev. K. D. Evans, kindly searched the Register at Dorking for me without result.

In fact, John Sims was buried on March 5, 1831, at Fittleworth in Sussex, where his son Courthope was curate. The service was conducted by the Rev. Robert Tredcroft, the incumbent, who was at this date styled vicar. It was in the same churchyard that Courthope Sims was buried on November 8, 1833. Green states that Courthope's widowed mother died at

the Rectory House, Petworth, shortly after her son's death, on April 19, 1835, and there is a record of the burial at Fittleworth of Ann Sims "from Petworth" on April 28, 1835. She was aged 79 and the burial was conducted by Rev. C. Dyson, curate. I am indebted to Rev. J. E. Dieterlé, Rector of Fittleworth, for this information.

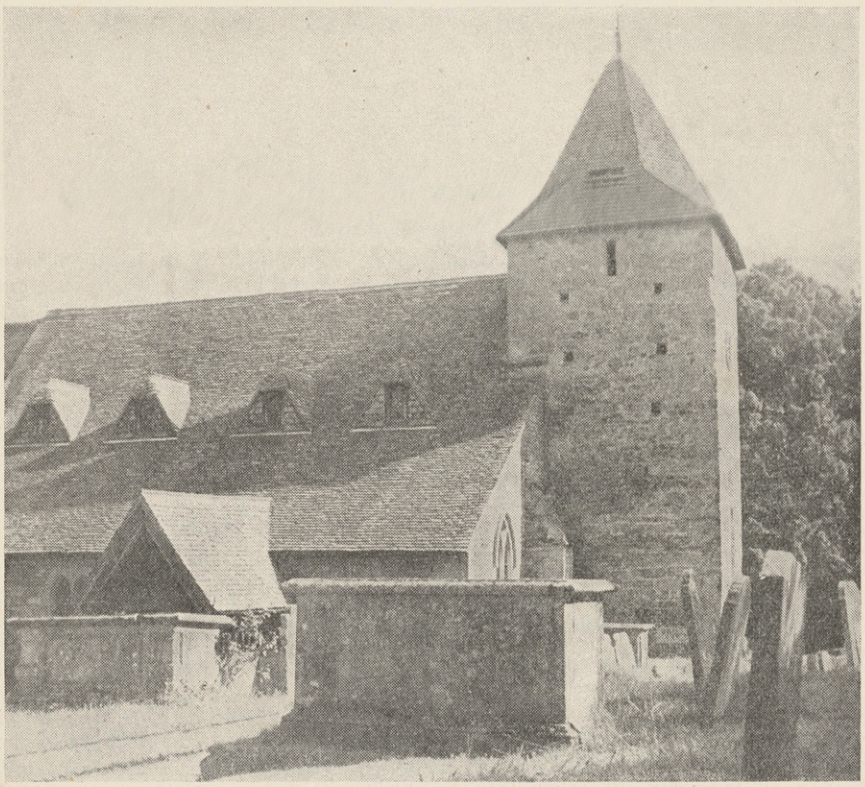


FIG. 2.—The church of St. Mary the Virgin, Fittleworth. In this Sussex church, where his son, Rev. Courthope Sims, M.D., was curate, the burial service of John Sims, M.D., F.R.S., was held. Under an old yew tree in the churchyard are buried John Sims, his wife Ann, and his son Courthope.

John Sims was at least not unremembered by his botanical friends. Robert Brown commemorated his name in the Mexican genus of compositæ *Simsia;* he is also commemorated by the plant *Simsia amplexicaulis.*

The only memorial to the Sims family is a small stone surmounted by a Maltese cross. It stands under the old yew tree in Fittleworth churchyard, and on it can be read just this:—

J.S. M.D. 1831
C.S. M.D. 1833
A.S. 1835

On either side of this headstone are two others, small, overgrown, and nearly buried in the earth until the Rev. J. E. Dieterlé had them dug out. One proved to be the headstone of Courthope Sims and is broken, which may indicate that the stones were shifted when the nave was taken down in 1871. The other is inscribed:—

I S

Born 10th Novr
1749

Died 26th Feby
1831

APPENDIX I

Medical Papers by John Sims

The following are the signed medical papers or communications by John Sims the publication of which I have been able to trace; the general index to the first volumes of the *Medical and Physical Journal* wrongly lists his contributions under the name of James Sims, whilst the paper read to the Medical Society of London in 1788 on "A passage from the Ancient Greek authors on Hydrophobia" by a "Dr. Sims", which Green thought might be by James or John Sims, was read by the former.

"An account of a cancerous affection of the stomach". *Medical Communications* 1782-4 (1784), **1**, p. 421.

"Letter on the Cow-Pox". *Medical and Physical Journal* (1799), **1**, p. 11.

Further letter on the same subject. *Ibid.*, p. 230.

"On the use of pure ammonia in pregnancy". *Medical and Physical Journal* (1799), **2**, p. 205.

"On the Cæsarean operation". *Ibid.*, p. 433.

"An account of a ruptured uterus". *Medical Facts and Observations* (1800), **8**, p. 150. Report and extracts of this paper are given in *London Medical Review* (1800), **3**, p. 372.

"On delivery in certain difficult cases of arm presentation". *Medical and Physical Journal* (1802), **8**, p. 481.

In addition, Sims communicated to the Society of Physicians "An account of expoliation of the internal surface of the tibia, removed by the application of the trephine" by Mr. Thomas Whateley, *Medical Communications* (1790), **2**, p. 386, whilst a paper by Mr. Whateley ("Cases of prolapsus uteri") contains an account of a support for a case of prolapsus uteri, designed by Dr. Sims (*Medical Facts and Observations* (1800), **8**, p. 172).

Sims' botanical papers are listed in J. Britten and G. S. Boulger's *Biographical index of deceased British and Irish botanists* (2nd edition, London, 1931).

APPENDIX II

Manuscripts of John Sims

The following list is given to supplement the incomplete reference in Britten and Boulger:—

Natural History Museum, British Museum. The Botanical Library possesses four letters, three by Sims and one to him.

Linnæan Society of London possesses two letters by Sims.

Kew Gardens library has a collection of letters to Sims, but not by him, and also notes of a botanical paper.

Permission to quote from these letters is gratefully acknowledged.

The London Barbers.

Under the spreading tree of Time
The Guild of **Barbers** stand;
A "grand old" Company are they,
As any in the land;
And their ancient right and privileges
Are from the King's own hand.
Their record's honest, true and long,
Six hundred years they span;
Their charities are kind and large,
They give where'er they can,
And they look the whole world in the face
For they owe not any man.

Year in, year out, by ancient right
The Masters come and go,
And many keep their names alive
By the bounties they bestow;
Like Ferbras, Banckes and Atkinson
Whose deeds the records show.
And the Livery coming here to dine
Pass in at the open door,
They love to see the old Court Room
And pledge the toasts once more,
Being sure that whilst they feast themselves,
They've not forgot the poor.

For centuries their rights they've held,
The **Barber-Surgeons** old;
And centuries yet to come may they
Those rights intact uphold;
Keeping up their ancient Hall,
And as **Barbers** brave and bold,
To save their birthright for their sons,
And leave it none the worse,
They needs must think on those who'd spoil
The funds which they disburse,
But with their strong right hands they'll guard
Their property and purse.

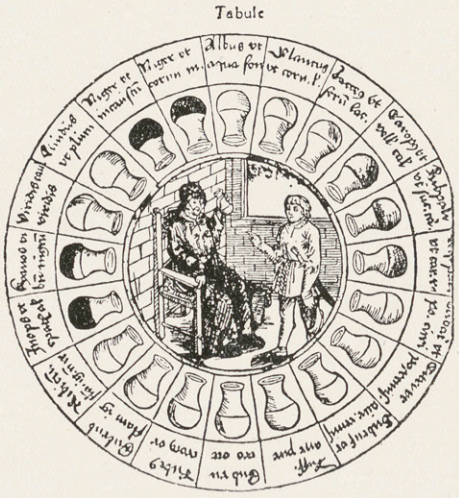
Aiding—befriending—welcoming,
Onward the **Barber** goes:
Each month will see some poor relieved,
Each year some good work shows;
Something attempted, something done,
Thus **Barbers** earn repose.

SIDNEY YOUNG.

(*With many apologies to the shade of H.W.L.*)

November, 1884.

The Urinary Antiseptic



Mediæval Diagnostic Table for the Interpretation of the Urine.

HELMITOL

liberates formaldehyde
in an acid or alkaline medium
agreeable of administration
well tolerated

'Helmitol' is issued in tablets of 5 and 7½ grains,
and in powder form (bottles of 1 oz)

De Sieckgens zyn seer verblijt : Als sy sien de Capper tijt : om te maken de kanne : swan
De Trommel sy dan reppen : met de clappen sy cleppen : en spelen oock met laime : man

Visscher. Inventor.
Fecit. et excudebat

Lepers on the March

[*Vischer*, 1608

can differentiate between various sounds, and it was seen that, in general, an octave difference in tone could easily be distinguished. The best animals (and even fishes show strong individual characteristics) learned to differentiate between a fifth, a third, and even the small third doh-fah with certainty. It was possible to get a fish to respond correctly to three different feeding sounds, and also to warning sounds interposed between them. Further, the investigator reports, it was astonishing to notice how a fish was able to pick out the feeding note from a conglomeration of several notes. This reaction may be looked upon as genuine hearing, but from the physiological standpoint the keystone of the arch regarding the function of the cochlea is missing in that it is impossible to say whether this perception is brought about by the inner ear, although it contains no cochlea, or whether it depends upon an excessively delicate sensitiveness in the skin of the body.

THE UNCLEAN—A SURVEY OF LEPROSY

THE history of leprosy would appear to be as old as the history of the human race. The Bible has made us familiar with the term leper, and at an early period of Jewish story different forms of the disease were recognised, while Moses realised the necessity of segregating those infected. In Greece also the affliction seems to have been universally familiar; it is referred to by Hippocrates and Aristotle, and the place-name of Lepreos or Lepreon in Elis may be taken to indicate the establishment of a leper colony in this neighbourhood. A similar example nearer home, and of a later date, may be found in the pleasant suburb of Edinburgh—Liberton, a contracted and embellished form of the sinister "Leper Town."

Nun Bathing a Leper

[*Burgmair*

Reports on the first appearance of leprosy in Italy must be interpreted with caution. Pliny holds that the disease was introduced by Pompey's legionaries, but this is contested by Plutarch, who holds that a form of elephantiasis endemic in Italy long before that date was connected with leprosy. Little information on the subject has survived from

later periods of antiquity, and it is known that several scientific works concerning leprosy have been lost.

The physicians of Imperial Rome had apparently a somewhat hazy conception of the leprosy as a clinical entity. Among the more careful descriptions of the condition is that of Rufus, who differentiated "lepra mutilans," and compared its hopeless prognosis to that of cancer. Equally excellent are the descriptions by Philumenus, about A.D. 50. Aretæus records the drugs used against leprosy by the Celts, and, Eleuthereus, the Bishop of Doornik, who died in 523, is reputed to have cured a leper. At the time of Gregory of Tours, the middle of the sixth century, leper houses are said to have been in existence in France,

Leprosy in the Triumphal March of Death

[*Andreas di Cione*, † 1376

and among the Langobardi the disease was certainly of no rare occurrence. In the seventh century King Rothar issued an edict for the isolation of lepers. Among the Franks during the rule of Pépin (the middle of the eighth century), leprosy in a husband was considered a ground for divorce, although not recognised by the Church. The increase of leprosy in Spain was attributed by the Spaniards to the Arab inroads in the eighth century.

During the following centuries references to leprosy become less frequent, but Professor H. Haeser, in his textbook of the *History of Medicine*, does not think that this silence may be interpreted as meaning or lessening of the incidence of infection.

In the eleventh century, however, there was a great increase in the

spread of the disease, probably owing to the Crusades. Leprosy became such a common affliction among the Crusaders that special lazar houses had to be established, and then arose the Order of the Knights of Lazarus, whose duty was to care for their leprous comrades. The scourge reached its zenith about the year 1300, and thereafter declined gradually, until towards the end of the sixteenth century leprosy had practically lost its character of an endemic disease in Europe.

Every case that was diagnosed as leprosy in the Middle Ages cannot, of course, be accepted as being actually that disease, and doubtless many cases of tuberculosis, perhaps also syphilis, received the general label.

The high infectivity of leprosy has been recognised since the earliest times, hence the building of the leper asylums. In Spain these houses were first established by the Cid in 1067, and were called leprosorias, maladrerias, malanterias, ladrorias, and messellerias; in Italy the lazar house was a lazaretto, and in Germany a Siechenhaus.

At the time of Louis VIII, France, then only half her present size, possessed some 2,000 leper houses, the total in Europe being about 20,000.

In Germany, in addition to these large leper colonies, many villages also possessed so-called "isolation huts." The diagnosis of leprosy was confirmed by a "jury" of sworn-in citizens, and that many conflicts of opinion and general disagreement arose, as must have been inevitable. Opposing views often led to stubborn and protracted litigation, as is shown in the following case, fought between the town of Recklinghausen and the medical faculty of the University of Cologne. The town of Recklinghausen in 1527 sent a leprosy suspect, named Moseler, to the guardians of the Cologne leper house, but Moseler, instead of going to hospital as he was ordered, went first to consult the Medical Faculty of Cologne. This body considered the diagnosis of leprosy to be incorrect, and gave Moseler a certificate to that effect. The town of Recklinghausen, however, contested the authority of the Faculty, and a wearisome fight ensued. The towns of Wesel, Dortmund, and Essen joined issue, as they, too, sent their leper suspects for diagnosis to the Cologne leper house, but finally the town of Cologne took sides with the professors, and forbade the leper house guardians to assume diagnostic powers in disease, powers which were vested solely in the Medical Faculty.

The lepers wore a special clothing, usually a black cloak, bearing the town arms on two white bands on the breast or on the hood. Each carried a bell—later a clapper—to give warning of his presence, and a staff with which to point to any object he wished to have.

In France the segregation of a leper was accompanied by the solemnisation of the burial service by the Church. The priest adjured the afflicted one to avoid churches, mills, bakeries, springs, and wells. Finally, as at a burial, earth was thrown on the feet of the leper, who thereafter was considered as belonging to the dead.

Examination of a Leper

Despair drove many of the lepers to form conspiracies, in which the Jews are said to have had a hand. In any case, in the time of Philippe le Bel large numbers of them were burned alive. But not everywhere was the lot of the leper an entirely unhappy one; they were authorised to beg, and many did so well at it that healthy individuals often masqueraded as outcasts to earn an easy livelihood. In fact, the town of Haarlem did quite a trade in hiring out lepers' uniforms, which were tantamount to so many begging licences.

Leprosy first died out in Italy, then in France, and lastly in Holland and Northern Germany. By the year 1490 leprosy was so rare in Italy that the Order of the Knights of Lazarus was disbanded and absorbed in that of St. John. The disease seems to have persisted longest in Switzerland.

To-day in Europe leprosy is seen in a few isolated regions only: in Iceland, Norway and Sweden, parts of Russia, in the Baltic lands, particularly about Dorpat and Riga, and in certain provinces of Spain and Portugal. In Great Britain, Osler states, the cases are all imported.

AVERTIN COMBINED WITH LOCAL ANÆSTHETICS

IN an article on recent progress in anæsthesia considered from the surgeon's standpoint, published in a current issue of the *British Medical Journal*,[1] Mr. Basil Hughes, Surgeon to the Bradford Municipal General Hospital, discusses the use of avertin as a basal anæsthetic in conjunction with other anæsthetising substances. Avertin is tri-brom-ethanol, and as "avertin fluid" is combined with amylene hydrate to form a stable solution capable of being dissolved in a 3 per cent. strength in distilled water. The dosage of avertin is calculated

[1] "Progress in Anæsthesia from the Surgeon's Standpoint," by Basil Hughes, D.S.O., M.A., M.B., B.Ch. (Camb.), B.Sc. (Lond.), F.R.C.S., *Brit. Med. Journ.*, May 18, 1929, p. 897.

'BETAXAN' IN DELIRIUM TREMENS

Specific treatment for acute alcoholism.

FROM time to time reports on the value of vitamin B_1 have appeared and Kiene and his colleagues (*J. Amer. med. Ass.*, June 1st, 1940, p. 2191) have recorded an interesting series of controlled cases treated with this vitamin. Each patient included in the series complained of vivid hallucinations on admission, and gave a history of periodic over-indulgence in alcohol, while the consumption of alcohol had been maintained up to the time of admission. Five patients were given 4 oz. of whisky every four hours, 50 mg. or more of Betaxan intravenously every twenty-four hours, and a diet rich in vitamin B_1, while the five controls were kept on the same diet but given neither Betaxan nor whisky. Although the five treated cases were still drinking large amounts of whisky, they improved much more rapidly than the controls, who recovered in an average of 4·2 days as against 2·4 days for the former. In the treated cases, the hallucinations, restlessness, and motor activity diminished more rapidly, and continuous baths or chemical restraint were rarely required. The first two patients had albumin and hyaline casts in the urine, but these disappeared within seventy-two hours of the commencement of treatment, and it was thought that vitamin B_1 had a direct therapeutic action on the kidneys. A typical case was as follows :

A male patient aged thirty-one was admitted to hospital because of hallucinations. Physical examination disclosed no abnormalities, but he complained of seeing rats chewing paper and of strange animals walking in and out of the window. He also gave an account of seeing the World War re-enacted; telling how women were fighting and 50,000 had been shot down, and was confused and disorientated. Four oz. of whisky were administered every four hours and 25 mg. of vitamin B_1 given intravenously twice daily. On the second day in hospital he had recovered from the "horrors" and after a few hours on the third day during which he appeared intoxicated he recovered completely. Next day he was discharged from hospital.

From the results obtained, it appears that vitamin B_1 plays an important part in the ætiology of delirium tremens and the authors contended that vitamin B_1 deficiency was the actual cause of this condition. The deficiency was thought to arise from inadequacy and irregularities in the diet of the alcoholic leading to disturbances in the carbohydrate and vitamin B_1 relationship and an irritative cerebral state. Another fact pointing to the ætiological significance of vitamin B_1 was the anorexia of alcoholism—a common symptom in vitamin B_1 deficiency. Alcoholic anorexia has been known to disappear within twenty-four hours of a single intravenous injection of 400 mg. of vitamin B_1 and, in the authors' series, the appetite returned much sooner in the treated than in the control cases. A further interesting point was that cure resulted from vitamin B_1 treatment even if the consumption of alcohol was continued. The conclusion was that alcohol in the presence of large amounts of vitamin B_1 injected intravenously did not cause a continuation of the symptoms of delirium tremens.

WITCHES

THE belief that the witch trials of the Middle Ages can only be excused by the foolishness of the judges and their contemporaries is losing ground more and more. Hate and lust for revenge, sadism, evil sexual crimes, and avarice were as powerful in their effect as the fear, foolishness, and mental disease of those who brought the charges.

Witches' Sabbath

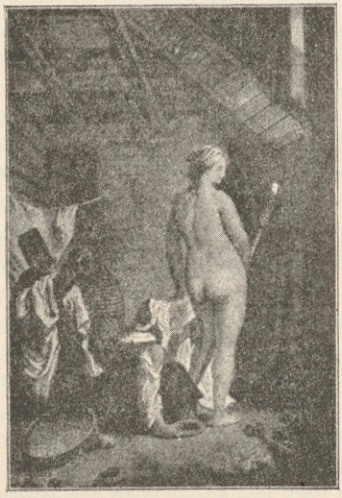
The first details of witches are found in the eleventh century and the first persecution seems to have taken place in 1330 in the region of the Pyrenees, while witches were charged in the Alps at about 1400. The crimes were promoted to an enormous extent by the Hexenhammer Malleus Maleficarum, a book in which the Witches' Sabbath, communion with the Devil, and all other misdeeds attributed to witches were described. Earlier than this the Bull of Innocent VIII of 1484, in which the heretical nature of wizardry is particularly stressed, had been published; the Bull was inserted at the beginning of the Malleus and doubt of the reality of witches was described as heresy in this book. Even at that time there were free spirits amongst the theologians, who (Hanzkranna, 1484) described the belief in the journeyings of witches as nonsense, and, in contrast to Luther and even Paracelsus, Erasmus of Rotterdam expressed his disbelief in witches.

The main charges against witches were that they blasphemed God and prayed to Satan, with whom they made a contract signed with their own blood; that they murdered children before baptism, and used their fat for preparing magic ointments; and that they poisoned and bewitched people whom they wanted to destroy. They were also accused of bewitching animals, releasing hail-storms on the harvest, sending plagues of caterpillars, frogs, and snakes, and raising tempests and storms.

According to the beliefs of the Middle Ages, the Sabbath was a festival which occurred at regular intervals. The witches attended in groups, riding on various monsters or on a broomstick, some in their natural shape, others transformed into animals. They came from the farthest districts, travelling along with the speed of lightning by virtue of their mysterious ointment. Under the protection of darkness or by moonlight the cult of the Devil unfolded its blasphemous pomp—a praise of Satan, presentation of new members, carousing, song and dance and, to crown the whole magic, the sexual relationships amongst the members. The pact with the Devil gave the witch the right to take part in the Sabbath. For this purpose the Devil gave her a white stick with a black end and a tin of Devil's ointment, which was never exhausted and with which she had to anoint the staff. Then she had to sit astride the stick and in a second she was at the meeting place.

Witches' Flight *Goya*

There can be little doubt that many women believed themselves to be witches, and were convinced that their traffic with the Devil and his satellites was real. Many of these unfortunate individuals suffered from hysteria and other mental diseases, but in most instances mixtures containing belladonna and other narcotic drugs were employed to heighten the delusions ; the ointment, which contained similar ingredients, was rubbed over the body and sometimes administered per vaginam with the handle of the witches' broom. In some cases it was suspected that women were led to practise taking poison by small cliques of informers who profited by their denunciation and condemnation.



Preparing for the Sabbath

Women charged with witchcraft were examined in a special way. The doctor made pricks of various depths with a needle in different parts of the body until he came to an insensitive part. When this spot was detected, especially when it did not bleed, it was thought that the seal of the Devil—the sigillum diaboli—had been found, and it was considered definite evidence of witchcraft. If this fatal spot could not be found quickly, the surgeon simulated one by applying various manipulations. In many cases the individual was suffering from hysteria, and anæsthetic areas were easily discovered or created by suggestion. If the signs were not sufficiently plain new tortures were undertaken. One of these was the trial by water, which consisted in throwing the victim into a large hole containing water; either the unfortunate person sank and was drowned because she could not swim—then she was innocent—or she swam on the surface and then she was a witch.

A Witch Returning

Johann Weyer (1515–1588)

Until the eighteenth century almost everybody believed in witches. Even well-known scholars like Felix Platter, Professor of Medicine at Basle, believed in possession by the Devil, and Daniel Sennert, Professor of Medicine at Wittenburg, who described a sort of ecstasy caused by the hand of the Devil, did not doubt that people possessed by the Devil could fly through the air. Ambroise Paré wrote of those possessed that their tongues hung out of their mouths while speaking, that they spoke various unknown languages, made the earth tremble, produced thunder, lightning, storms, tore trees out by their roots, and moved mountains and castles. During the sixteenth and seventeenth centuries very few spoke with the voice

of reason; the father of Pantagruel, always cautious, satisfied himself with a smile, while Montaigne, as ever, spoke his doubts quite openly. Pigray, the personal doctor of Henry III and Henry IV, protested against the Witch Trials in France. In his book "Surgery," he reports how he was entrusted with the examination of fourteen people—men and women—charged with witchcraft: "We found nothing of what had been set against them, in particular that various parts of the body were entirely anæsthetised. We examined them very carefully without forgetting any regulation and had them stripped naked. They were pricked at various spots where they showed very plain feeling. We asked them about the most varied things as is done with melancholics, and we saw in them only poor, stupid people who were in some cases not afraid of death, while others wished for it. We would rather have given them an aperient to purge them than another remedy to punish them. The court released them, in accordance with our report."

A Witch-burning

In the sixteenth century Dr. Johann Weyer courageously went to the help of the condemned people whom no one dared to protect. He pointed out that many people were the victims and not the accomplices of the Devil and that they were an easy prey to the great tempter, who filled their weak minds with hallucinations and dreams and persuaded them that they had committed crimes with which they had nothing to do. That was a complete revolution, since instead of the idea of active witchcraft, of a crime calling for punishment, the notion of passive witchcraft, of possession, had appeared and thus released the plaintiff from responsibility.

The most strenuous opponents of the cult of the Devil came from amongst the Jesuits. Adam Tanner and Paul Laymann defended the unfortunate persons with the polemic treatise—"Cautio criminalis, Liber de processu contra sagas," but it was a long fight before reason won the victory. But the terrible crimes brought the informer so much profit that, in order not to lose it, he again and again found opportunities to wake in the people the belief in witches. It was only in 1775 in Kempton in Allgau that the last witch was beheaded by the sword and the last witch in Switzerland, Anna Göldlin, was killed in 1783. According to particulars in Meyer's Lexicon, a Witch Trial took place on the Hela peninsula in 1836 and as the test showed guilt, the witch was drowned.

LOCAL CHEMOTHERAPY WITH 'PRONTOSIL'

A survey of the indications for 'Prontosil' ointment and solution.

THE value of chemotherapy in acute infections like erysipelas and cellulitis has been fully demonstrated, but the results of oral and parenteral treatment in long-established conditions such as infected sinuses and ulcers have been disappointing. This is, no doubt, partly due to the non-susceptibility of certain organisms to chemotherapy, but it also appears probable that, owing to a poor blood supply and the inaccessibility of organisms in such lesions, a drug circulating in the blood stream does not attain a sufficient concentration in the area affected. For this reason the prophylactic and therapeutic properties of local chemotherapy deserve further attention, especially in view of the low toxicity of this method of treatment.

Becker (*Dtsch. med. Wschr.*, 1937, 7, 221) first used Prontosil Rubrum as an external application and claimed good results in traumatic ulcerations, carbuncles, axillary abscesses, and infected skin diseases; improvement was also observed in some cases of psoriasis, and, in addition to the antibacterial action of Prontosil, a stimulating effect attributed to the azo-dye was noted. Later, Merz (*Schweiz. med. Wschr.*, 1937, 16, 342) successfully used a Prontosil Album ointment in furunculosis and impetigo, and Prontosil Soluble was injected by other workers into the theca in meningitis and into the pleura in empyema, in an attempt to influence the condition locally; in the case of meningitis, treatment by mouth and injection was also employed but in some cases of empyema rapid improvement followed local treatment alone. Bosse and Bosse, and Schirp, whose experiences were abstracted on p. 99 of CLINICAL EXCERPTS, 1939, employed Prontosil Rubrum and Soluble in lotion, powder, and ointment in a wide variety of conditions, including boils, carbuncles, cellulitis, infected wounds, abscess cavities, varicose ulcers, burns, and tonsillitis. It is interesting to note that in some instances staphylococcal infections, which respond poorly to oral treatment, were successfully treated by local application.

Satisfactory results from the irrigation of infected sinuses with Prontosil Soluble were mentioned on p. 39 of CLINICAL EXCERPTS, March, 1940, and another report from Green's Eye Hospital (*Bull. Pract. Ophthal.*, January, 1939, p. 13) deals with the same procedure. After irrigation of the sinus cavity through the inferior meatus, the antrum was dried and then filled with Prontosil Soluble. As the local effect persisted for from 36–48 hours, the instillation was repeated thrice weekly and cure followed in many cases of sinusitis both acute and chronic. Glover (*Amer. J. Ophthal.*, February,

1939, p. 180) also used the 2·5 per cent. solution of Prontosil Soluble as eye-drops for the treatment of ophthalmia neonatorum, conjunctivitis, iritis, and corneal ulceration, and Paton (*Arch. Ophthal.*, September, 1939, p. 377) injected 0·3 and 0·5 c.c. Prontosil Soluble into the upper or lower conjunctival sac, after anæsthetising the eye with 0·5 per cent. Decicain. A good effect was noted in cases of iritis, scleritis, and interstitial keratitis. Lane and Vinson (*Virginia med. Month.*, September, 1939, p. 528) treated aphthous stomatitis with local applications of sulphanilamide. Chemotherapeutic drugs have also been used in cases of apical dental infection and for the treatment of infected sockets after extraction for pyorrhœa.

Jensen and his co-workers (*Surgery*, July, 1939, p. 1) employed sulphanilamide powder in cases of compound fracture. After débridement and hæmostasis, 5–15 g. of the powdered substance was introduced into the wound and the fracture immobilised. Primary wound infection was avoided in all thirty-nine cases. The publication of Smith's results, which were abstracted on p. 67 of CLINICAL EXCERPTS, June, 1940, was followed by a report on ionisation with Prontosil Soluble by Stewart (*Brit. med. J.*, July 6th, 1940, p. 30). This author pointed out that local treatment in lesions such as abscesses and fistulæ, which were not accessible to blood-borne drugs, appeared rational, although conclusions could not be based on the small number of cases treated. Three instances of this procedure were given.

CASE 1.—In December, 1939, a female patient had a finger-nail removed for paronychia. As the new nail developed, pus collected underneath it and several methods of treatment were employed without improvement. Ionisation with a 3 per cent. solution of Prontosil was carried out for three minutes and, after a second treatment four days later, the finger healed completely.

CASE 2.—A female patient had suffered from an infected elbow for four or five years. According to X-ray examination there was no bony involvement, but a slightly inflamed area with three sinuses was present below the elbow over the radius. The cavities were cleaned out and ionisation with a 3 per cent. Prontosil solution given for ten minutes. After five treatments the tissues were firm and the sinuses showed healthy granulation. Later one sinus healed completely, while the other two were skin deep.

CASE 3.—Ionisation with Prontosil was tried in a case of chronic otorrhœa, but no improvement followed.

A consideration of the results reported above suggests that local chemotherapy deserves wider investigation, the results of which may explain the failures noted in the past with oral or parenteral treatment. At present it would appear that direct application to the lesions may offer a partial solution to the difficulties hitherto encountered in attempting to prevent or cure certain types of infection. The most favourable indications appear to be infected and resistant conditions such as varicose ulcers, callous ulcers situated elsewhere, infected wounds and sinuses, abscess cavities (e.g., breast abscesses), unhealed and infected burns, and X-ray and radium ulcers. In such

lesions a further advantage is the stimulating and deodorant effect of Prontosil ointment and solution. Further indications such as infected skin diseases, ophthalmic infections, and sinusitis should not be overlooked. In addition, the possibilities of local prophylaxis in wounds and burns have not been determined and little information is available on the question of combining local and oral therapy. Any measure which would tend to diminish the toxicity of chemotherapeutic compounds and permit of prolonged treatment without the risk of serious after-effects would be of great value.

THE PATCH TEST

A useful diagnostic measure in skin diseases.

SENSITIVITY to chemical substances, natural or synthetic, is a fairly common cause of dermatitis. A list of possible excitants would fill several pages, as it would include drugs, dyes, flowers and leaves, fruit, timber, varnishes, and organic compounds of all kinds. Owing to the rapid developments of war-time industry new chemical compounds are apt to be used and the practitioner should, therefore, keep the possibility of contact dermatitis in mind. It must be remembered that only a small minority of individuals is sensitive to these substances and that the rash may appear on parts not in contact with the excitant. Thus a patient whose burned hand is dressed with picric acid may develop a severe dermatitis of the hands, fore-arms, face, thighs, and legs.

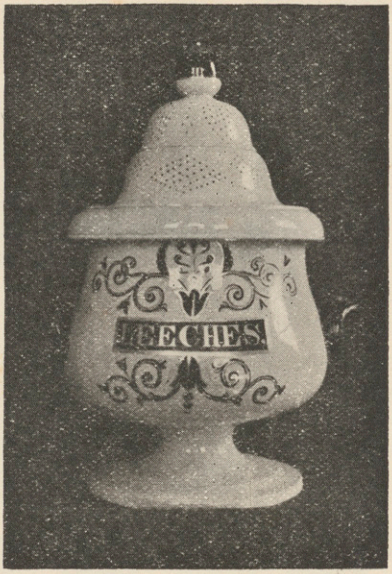
The patch test is a simple and useful method of discovering the exciting substance, and even where a case appears to be obvious—as in hair-dye dermatitis—the test is useful as an additional proof of the patient's sensitivity. First of all small amounts of possible excitants must be collected; this can often be done most easily by the patient himself. Pieces of gauze about $\frac{1}{2}$ in. square are then wrung out of the suspected substances if they are in solution; if dry, they are applied to the skin on gauze moistened with saline. The gauze is then covered with a 1 in. square of Cellophane or X-ray film and the whole fastened to the skin with a square piece of zinc oxide plaster. A control patch consisting of moist gauze, cellophane, and plaster is also applied.

The patches are observed in twenty-four, forty-eight, and seventy-two hours; a positive reaction consists in the development of a reddened area of skin studded with tiny vesicles. If these are present underneath one or more patches the patient is sensitive to the substance or substances employed. The only method of cure is the complete avoidance of the offending chemical, as no satisfactory method of desensitisation has yet been discovered.

LEECHES

THE medicinal use of the leech, which is to-day almost in a state of eclipse, reaches far back into ancient history. Within living memory doctors' apprentices used to race leeches along the bench, or suffer chastisement for having neglected to replace the cover on the jar in which they were kept. Although, according to early writers, their beneficent powers were almost overwhelming, their use was not entirely without danger.

According to one legend a foal, having fallen in a ditch, was beset by a number of the terraqueous animals, and succumbed to their onslaught. But those were horse-leeches, to which a special horror was long attributed, as they were believed to attach themselves to human beings and to gorge themselves with great greediness. Greed cannot be considered peculiar to leeches, but they were credited with advantages, not shared by other animals, since it was alleged that they were able to discharge the ingested blood by the anus and begin again with renewed avidity.

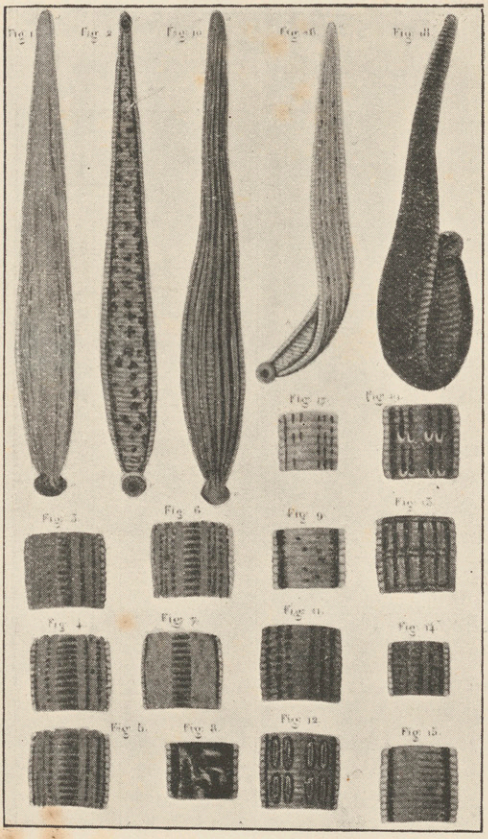


An Old Leech Jar *By permission of Geoffrey Howard, Esq.*

It is little wonder then that the ancients dreaded swallowing a leech, and their terror might be suspected from a consideration of the remedies for such a misfortune — vinegar and garlic; salt water and assafœtida; shoemakers' blacking. Moreover, if a burning sensation were felt in the throat the sternutatory hellebore was not to be despised, and Avicenna recommended garlic and wormwood. The scrutiny of science dispelled these horrors. A poor Hussar who gained a miserable livelihood by swallowing stones for the amusement of common people was so expert that he could ingurgitate several at a time. Animated by scientific curiosity an enterprising physician enclosed a live leech in a silver sphere perforated with small holes and persuaded the warrior to swallow it. Would the gastric fluid destroy the leech? The Hussar voided the sphere after about twenty-four hours. Nothing was found but a black, viscid miasma, the remains of the digested leech. Against this there is the opinion of the great John Hunter who said that, as the stomach, on account of its vital principle, is

never acted upon by its own gastric fluid, so, in the same way, no other substance similarly endowed can be affected. Obviously the vital principle of the Hussar's leech was extinct before the gastric fluid reached it.

It must be remembered that the subject of this experiment was a medicinal leech, a delicate creature alongside the horse-leech. The latter will swallow the former whole, and it is recorded that one horse-leech was observed to swallow two common rivulet leeches. In three days one of these was disgorged, still living, but after the lapse of a few hours it was swallowed once more.



Leeches

From "Des Herunduees," by A. Mougnin-Tandon, British Museum

The ferocity of leeches is occasionally allayed by laziness, and many a physician has encountered in them a reluctance to bite. They may have to be cosseted, or they may take a dislike to the patient; thus they have a lively objection to the odour of sulphur. If difficulties arise they may be placed in weak sherry and water, or lukewarm milk and water, for a few minutes, although beer and stout appears to be just as satisfactory; and it is advisable to clean the area of skin to which the leech is to be attached. When the leech is actually at work it can be encouraged by snipping off its tail with a particularly sharp pair of scissors, hanging the extremities over a glass. Leeches have been known to regenerate and survive such an operation.

Modern physicians have the feeblest notions as to the dosage of leeches. Zacutus Lusitanus reported the case of a woman who, "whilst labouring under a retention of the menses, was attacked with phrenitis. Four leeches were attached by their extremities to a

thread, which gave the person who applied them the power of insinuating themselves beyond the part selected ; and they were placed within the vagina, very near to the uterus." In his Treatise on the Utility of Sanguisuction, Rees-Price says that in a similar case he directed three dozen to be applied to the neck. Some authorities prefer their application to the hæmorrhoidal veins, in consequence of the close connexion which exists between these veins and other parts of the body. Many writers agree with Rees-Price as to the use of leeches

Leech-finders *From " Costumes of Yorkshire," British Museum*

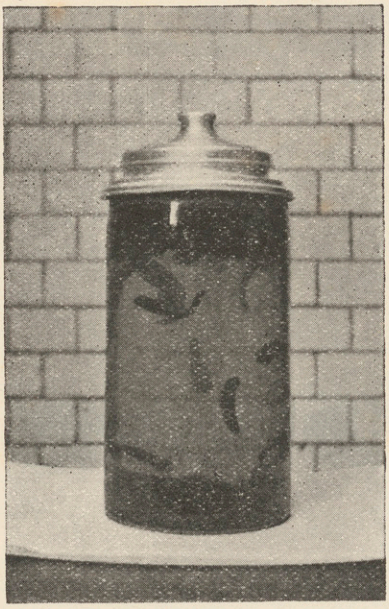
on a liberal scale. They speak of " a swarm of leeches," a cordon, a cluster, cohorts of leeches—fifteen to the pudendum, and the like number to the neck, forty-eight to the spine, and a couple of dozen behind the ear.

The following case-report of the treatment of gout from Zacutus Lusitanus will clearly illustrate the necessity for numbers :—

CASE I.—" After trying the *wonderful* ointment of Ebulus, described by Lacuna, in Diascoridem, lib. IV. cap. 175, and great cupping-glasses, with scarifications and caustics without effect, at length by the advice of Paulus, lib. III. cap. 77 ; and Caelius, lib. V. cap. 1, I tried leeches : I set eight great horse-leeches upon the hip : after the sucking of the leeches, so great an evacuation followed, that, after ten hours, the pain went away. This remedy I have happily experimented in many times in gouts of the hands, feet and knees, after the body had been well purged."

Its work done, the leech drops off, fully gorged. To make it disgorge the common practice is to sprinkle it with salt. Like human beings who have over-indulged it loses activity and vigour for four or five days. " I would ask inconsiderate persons," says Horn in his Entirely New Treatise on Leeches, " how they themselves would feel, if, imme-

diately after eating a hearty dinner, any person was to give them a violent emetic?" In the best circles vinegar is judged to be as effective as salt and far less damaging, for the leech is a delicate creature with a high mortality-rate. They are susceptible to change in the weather and subject to a number of diseases, and it is estimated that a third of all the leeches caught yearly die. This fact was regarded as being so important that a French physician willed 20,000 francs to any person who should discover a cure.



Leeches *By permission of Messrs. John Bell, Croydon, Ltd.*

At the beginning of last century London used to import about sixty million leeches annually. A member of the firm of Negus and Co., of Melbourne, New York, and Boston, left an essay on the subject. This firm called themselves commission merchants, importers, and leech merchants; but they were agents for Havana cigars, kerosene, and all American patent medicines. In view of the decay of the use of leeches it is as well that they did not put all their eggs in one basket.

H. G. S.

'EVIPAN' SODIUM IN ANÆSTHETIC CONVULSIONS

ALTHOUGH the incidence of convulsions due to local anæsthetics has markedly diminished since cocaine was abandoned for regional or infiltration anæsthesia, cases still occur with the cocaine substitutes in the presence of over-dosage or an individual lack of tolerability on the part of the patient. Hunt (*Yale Jour. Biol. Med.*, December, 1938) has recently discussed the treatment of such reactions and recommends quick-acting barbiturates, such as Evipan Sodium. In the author's case an infant aged three months developed convulsions following the injection of 170 c.c. of 0.5 per cent. Novocain solution. Treatment with Luminal produced no improvement, but an injection of Evipan Sodium into a scalp vein was followed by cessation of the convulsions and thirty minutes later the infant was sleeping quietly. Eight days later the operation was performed without difficulty using a much smaller quantity of Novocain.

THE SUNDAY TIMES, JUNE 2, 1957

WILLIAM HARVEY

(Pioneer of Heart Research)

By BARBARA EVANS

HIPPOCRATES—400 B.C.—first recognised that the heart was a muscle, and that the pulse was due to a movement of the blood vessels. Fifty years later Aristotle likened the movement of blood in the body to the ebb and flow of the tide but while he recognised that the heart was the centre of the vascular system, for him it was also the seat of the intelligence and the source of the body's heat.

Galen in A.D. 180 carried knowledge a little farther and was the first experimental physiologist to divide an artery and show that it contained blood and not air. Unfortunately, he also thought that blood flowed through invisible channels from one side of the heart to the other, and that the liver was the body's vital centre.

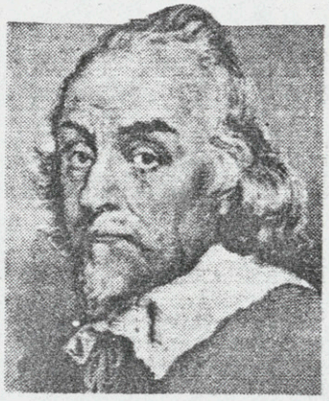
Surprisingly these doctrines remained undisputed for over 1,400 years. Leonardo da Vinci's beautiful detailed drawings show that about 1500 the artist recognised four chambers in the heart and knew about the two valves at the roots of the main arteries; but his drawings were not published for many years, and to William Harvey belongs the signal honour of first discovering the circulation.

* * *

HE described it as "Motion as it were in a circle," and proved that the heart is a muscular pump which forces blood in two separate streams — one through the lungs, where it is purified and carried on thence into the second stream, round the body into the small veins back to the heart by the two main venous trunks.

He did not comprehend that the movements of the chest wall in breathing are an aid to circulation, but the facts he demonstrated have remained unchallenged by anatomists and physiologists for over three centuries.

Harvey arrived at his conclusions by detailed dissections of 80 different animal species, and we are told that these included serpents, oysters, frogs, fishes, slugs and dogs, even transparent shrimps, and finally the chick embryo in the shell.



This in itself was evidence of his original and independent mind—since the dissection of animals was considered reprehensible in an age which held human life relatively cheap. Public dissection of executed criminals was allowed at certain times each year. In 1635 Harvey recorded his findings on the examination of the body of "Old Parr"—said to be 152 years and nine months old.

William Harvey—that endearing, dark-skinned, choleric little man (he suffered from gout and sciatica)—was born in Folkestone on April 1, 1578, the eldest of a "weeke of sons," and he died 300 years ago tomorrow. Educated at King's School, Canterbury, he held a medical scholarship at Gonville and Caius College, Cambridge. He later studied under Fabricius at Padua and returned to London in 1602. He became physician to St. Bartholomew's Hospital, Fellow of the Royal College of Physicians, and at the age of 37 was elected Lumleian lecturer to the College.

His lecture notes—now in the British Museum—were made in an "atrocious crabbed hand" on both sides of about a hundred small pieces of paper, and include advice to "search and study out the secrets of nature by experiment." About this time he became physician extraordinary to James I, and later physician to Charles I, with whom he was on warm terms and to whom in 1628 he dedicated his main life's work, "De Motu Cordis et Sanguinis in Animalibus," likening the King as centre of the body politic to the heart of man.

During the Civil War his affection for the King carried him with the latter to the Battle of Edgehill, where he was in charge of the two little princes. He finally accompanied the King in exile to Oxford, and became Warden of Merton College.

* * *

HIS writings show that he had discovered the circulation ten or twelve years before the publication of "De Motu Cordis," and that he had spent the intervening years in detailed confirmation and elaboration of his findings. Possibly no single man has contributed more to medicine. At his death he left considerable bequests to the College of Physicians, and on St. Luke's Day each year an oration is given in honour of William Harvey who, in the words inscribed on his tomb in Hempstead Church, "was the first after many thousand years to discover the circulation of the blood, and so brought health to the world and immortality to himself."

This week scientists from all over the world will gather in London for a congress to commemorate the tercentenary of his death; and celebrations next week-end will be held in Folkestone and Canterbury. Our own surgeons and physicians, as well as representatives from America and overseas, will take part.

Surgery plays an increasingly important part in the treatment of heart disease today and a large section of the congress will be devoted to this subject. We shall have access to the widest knowledge available for dealing with high blood-pressure, valvular and congenital disease of the heart and other aspects of heart disease which still present many problems to Harvey's successors.

* * *

[A new translation of "De Motu Cordis" by Kenneth Franklin is published this week by Blackwell Scientific Publications, Oxford (17s 6d.) for the Royal College of Physicians.]

Darwin's Autobiography

THE SUPPRESSED PASSAGES RESTORED

THE AUTOBIOGRAPHY OF CHARLES DARWIN 1809-1882. Edited by Nora Barlow. (Collins. 16s.)

By RAYMOND MORTIMER

OF all Darwin's endowments I think that goodness was perhaps the most remarkable: he seems to have grown it, as he grew his beard, without effort. But then life was marvellously kind to him, and one cannot tell how he would have stood up to the embittering ordeals endured by Tennyson, let alone Newman. It is true that he had to face even wider and fouler abuse than they, but only from persons who could not thwart his career or command his deference. A comfortable income and an ideal marriage enabled him to live just as he wished, devoting himself absolutely to his vocation.

This new edition of his delightful Autobiography includes all the passages that have hitherto been suppressed; and the gravest fault that these unveil is a boyhood habit of stealing fruit. Lady Barlow has allowed her printers to foist upon Darwin an absurd mistake in Greek: otherwise her editing, her notes and appendices are exemplary. Like his other grandchildren, Mrs. Cornford, Mrs. Raverat and Mr. Bernard Darwin, she inherits his gift for writing.

The Autobiography first appeared in the official "Life and Letters" produced by his son Frank in 1887. The suppressed passages include a touching tribute to his wife (which presumably she thought too personal), and a number of comments (most of them mild enough) upon men then still alive or recently dead, such as Owen, Hooker, Herbert Spencer and Huxley.

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THERE is a paragraph about "the almost insane virulence" with which he had been attacked by Samuel Butler. Lady Barlow goes into this incident thoroughly, reprinting Festing-Jones's pamphlet, and giving us for the first time letters on the subject from Huxley and Leslie Stephen. They grossly underestimated Butler's abilities, and unwisely persuaded Darwin not to clear up the misunderstanding. In consequence poor Darwin was pursued for the rest of his life by poor Butler with obsessional hatred.

The most important cuts, however, were made in Darwin's account of his religious opinions—and now something must be said about his wife. Lady Barlow gives us the fascinating notes in which he weighed the pros and cons of marriage. Here is the conclusion:

> Then how should I manage all my business if I were obliged to go every day walking with my wife. Eheu!! I never should know French—or see the Continent,—or go to America, or go up in a Balloon, or take a solitary trip to Wales—poor slave, you will be worse than a negro—And then horrid poverty (without one's wife was better than an angel and had money)—Never mind my boy—Cheer up—One cannot live this solitary life, with groggy old age, friendless and cold and childless staring one in one's face, already beginning to wrinkle. Never mind, trust to chance—keep a sharp look out.—There is many a happy slave——

Why marriage should prevent his going to the Continent, for instance, remains obscure. But he never went, and he did marry. His wife, like his mother a Wedgwood, was a delightfully humorous and unconventional woman. (I commend Mrs. Litchfield's book about her.) In forty-three years she hardly spent a night away from him. No marriage could have been happier.

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ABOUT religion she and her husband agreed to differ, and she remained an Anglican communicant. We now learn that Frank Darwin started a frightful family rumpus by wishing to print what the Autobiography said about religion. His brothers agreed with him; but his sister Mrs. Litchfield (the glorious "Aunt Etty" of Mrs. Raverat's Memoirs) thought Darwin's religious views crude and only half thought-out. His account of them must be kept dark, she insisted; and she spoke of legal proceedings if her wishes were not obeyed. Her mother gave her some support, begging Frank to omit certain passages that would give pain to his father's religious friends, including old servants.

Mrs. Darwin objected particularly to the attack upon Christianity for teaching eternal punishment (in which she did not believe); and to the suggestion that belief in God may be inherited from parents who have acquired it, and can be compared with the monkey's instinctive fear of snakes (a suggestion that has no scientific basis). Frank felt obliged to suppress these passages, together with a description of the Old Testament God as a revengeful tyrant. He braved his sister, however, by printing most of Darwin's views upon this ticklish subject.

Here is a more interesting omission:

> Whilst I was young and strong, I was capable of very warm attachments, but of late years, though I still have very friendly feelings towards many people, I have lost the power of becoming deeply attached to anyone, not even so deeply to my good and dear friends Hooker and Huxley, as I should formerly have been.

He explains this by the distressing exhaustion caused by talking for an hour to anyone except his wife and children. But it surely can be associated with the loss of his youthful delight in poetry and music, which he described in a well-known passage. Though he could never tell one tune from another, he used as an undergraduate to hire a choirboy to sing to him in his rooms. He had been also a passionate admirer of Wordsworth, Milton and Shakespeare—whom he now found nauseatingly dull. "The loss of these tastes," he declares with characteristic candour, "is a loss of happiness and may possibly be injurious to the intellect, and more probably to the moral character by enfeebling the emotional part of our nature."

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HE attributed these losses partly to his chronic ill-health. He led the life of an invalid; and it has been suggested, notably by Dr. Douglas Hubble, that this illness was neurotic, caused partly by suppressed guilt about his feelings towards his father, partly by the wish to evade public and social activities that would distract him from his work. In the Autobiography (we now learn) he gave the date of his father's death as 1847 instead of 1848, which may be thought significant; and certainly he made his health a reason for escaping almost everything that he disliked. But it also kept his working day to 2½ hours at the most, which cannot have been convenient, unless one suspects him of a relish for indolence—which I find impossible. Several of his family were comically valetudinarian, and one may assume a heredity of neurosis as well as of outstanding ability.

Charles Darwin, aged 72, on the verandah of his house at Downe, Kent, dressed for his habitual walk.

* *
*

DARWIN did not know Mendel's findings about heredity, or the part played by mutations. Also he continued to suspect that acquired characteristics could be inherited. (Why this notion remains so popular with the uninformed I cannot understand, since every child one knows is negative evidence.) But Darwin was the first to offer convincing proof of evolution; and he thus enlarged the human mind as effectively as Galileo or Newton. The hubbub of fury he provoked now seems ludicrous: two of the greatest modern experts upon Ancient Man have been priests, the Abbé Breuil and the Jesuit, Teilhard de Chardin. Can the Biblical accounts of the Creation and Noah's Ark be taken literally even by those undergraduates who boldly call themselves fundamentalists?

It is pleasing to remember that this innovator of genius, so wonderfully pertinacious, attentive and imaginative, was no less exceptional in his gentleness, modesty and candour.

Franciscus Sylvius (1614-1672)

SYLVIUS established at Leyden the first chemical laboratory in Europe. He attributed much to the effect of acids and alkalies in explaining the phenomena of health and disease. Sylvius is regarded as the founder of the iatrochemical school of medicine.

WHAT FRANCISCUS SYLVIUS, at a time when chemistry was in its infancy, established by surmise, modern medicine has established as a fact. Acidosis takes an important part in determining the course of disease. Even in health, acidosis gives rise to vague symptoms, such as headache, lassitude, sleeplessness, loss of appetite, and others.

ALKA-ZANE has established itself as an important aid in the treatment of all conditions where systemic acidosis requires attention. Sodium, potassium, calcium, magnesium in the effervescent form of carbonates, phosphates, and citrates provide an exceptionally efficient and palatable alkalizer. Alka-Zane contains no lactates, sulphates or tartrates; and no sodium chloride.

If you will return the attached card, we will be glad to send you two bottles of Alka-Zane for use under your own supervision. That will soon prove its therapeutic merit to you.

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All English Century

Almost Impossible to Procure

Also Old notes of Medicine

27
12
25

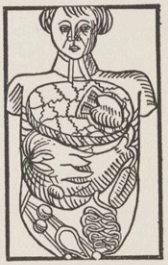
THE GREATEST PILL TAKER

The greatest pill taker on record, according to C. J. S. Thompson, appears to have been one Jessup, a grazier of Hickington, who died in Lincoln in 1814, at the age of 65. For twenty-one years he took 29 pills a day, which number he increased to 78 toward the latter part of his life. In 21 years he is stated to have swallowed 226,934 pills and drank 40,000 bottles of mixture.

HERE is a true example of the pill habit in constipation. More and more are needed for accomplishing the same effect.

AGAROL offers a welcome relief from this situation. As the pioneer mineral oil and agar-agar emulsion with phenolphthalein, Agarol has introduced these two important principles in the resultful treatment of constipation:

1. Thorough mixing with and softening of the intestinal contents so as to make evacuation easy and painless.
2. Gentle stimulation of peristalsis to make the result certain and re-establishment of normal function practicable.



Early Drawing of Intestinal Tract

As improvement takes place, the administration of Agarol can be decreased in quantity and frequency, and finally discontinued entirely.

How well Agarol accomplishes its double function, you can judge by sending the coupon for two bottles of Agarol and using it under your supervision. There is no cost or obligation involved. Return the coupon before you turn the page.

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THE ORIGIN OF "ACIDOSIS"

Bernard Naunyn
(1839–1925)

As professor of clinical medicine at the University of Strassburg, his discovery of beta-oxybutyric acid led to the introduction of the term "acidosis" in 1906, to define the metabolic condition of excess acid formation in diabetes.

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WITH the increased knowledge of excess acid formation and retention in the body following in the wake of infectious diseases, nephritis, cardiac disorders and during pregnancy, the term *acidosis* has taken on a broader meaning to include all these hyperacid conditions.

While the treatment is directed toward removing the cause of the disease, special measures must be employed to relieve the aggravating factor of acidosis. In such instances *ALKA-ZANE* provides a safe, efficient and convenient method for neutralization of excess systemic acidity and replenishing the alkali reserve.

Carbonates, phosphates and citrates of sodium, potassium, calcium and magnesium provide *all* the important alkaline salts needed by the organism. No tartrates, lactates, sulphates to make the result doubtful; no sodium chloride to interfere with diuresis.

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NATURE'S DEMANDS IN 450 B. C. ARE THE SAME IN 1931 A. D.

Hippocrates
A 16th Century
Illustration

The medical treatment of Hippocrates was simple and he relied much on the inherent curative power of nature. He assisted nature by providing fresh air, suitable diet and by water baths and purgation.

THESE are still prime requisites for giving the body a chance, in illness or health, to maintain itself in good condition and meet the demands placed upon it. Intestinal toxaemia resulting from constipation needs attention today as it did in the days of Hippocrates. But instead of the drastic drugs of ancient times *AGAROL*, the original mineral oil and agar-agar emulsion with phenolphthalein, takes its rightful place as the modern intestinal evacuant.

The right amount of mineral oil to soften the intestinal contents without causing leakage, makes evacuation easy and painless.

Gentle stimulation of peristalsis makes the result certain and the re-establishment of normal, unaided function possible.

Please return the coupon for two bottles Agarol. You may be acquainted with Agarol—but it will be worth your while to renew acquaintance with it

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Puncture for ascites from an early anatomical work

FRIEDRICH WALTER, in 1877, fed rabbits varying amounts of acids, eventually producing collapse, which he overcame by the administration of alkalies. This work has been pronounced the experimental foundation of our knowledge of acid intoxication.

IN 1877 ◆

NOT until comparatively recent times were the findings of Walter translated into general clinical use, even though von Jaksch found in 1888 that the alkalinity of the blood is diminished in numerous disease conditions.

Today, alkaline treatment constitutes an important adjunct to specific treatment of febrile and infectious diseases, uraemia, toxaemias of pregnancy, and other conditions in which acidosis occurs.

ALKA-ZANE is the preferred systemic alkalizer because it accomplishes with *small doses* what no single alkali can accomplish satisfactorily. It supplies sodium, potassium, calcium and magnesium in easily assimilable carbonates, phosphates and citrates for replenishing and maintaining the alkali reserve in acidosis.

Alka-Zane contains no tartrates, lactates or sulphates; no sodium chloride. It is an unusually palatable effervescent preparation.

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AS GILLRAY SAW IT

Taking Physik

JAMES GILLRAY was a prominent English social caricaturist, but science has not escaped his darts of wit. The expression on the face of the man taking the "physic" is not one of pleasure. There is a good reason for it in the taste.

BESIDES therapeutic efficiency, modern pharmacy has brought one other important property to the "physic" up-to-date —and that is palatability.

AGAROL, the original mineral oil and agar-agar emulsion with phenolphthalein, is as palatable as it is efficient. Even children take it readily. No oily taste or artificial flavoring to give concern. Those who prefer, may take Agarol in milk or any liquid or semi-solid food.

Just the right amount of mineral oil to afford softening effect to the intestinal contents without possible excess to cause leakage; just enough phenolphthalein to impart *gentle stimulating action* upon the peristaltic function, aiding in the re-establishment of regular habit-formation.

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CELSUS CONFUSED CAUSE WITH EFFECT

Celsus, in his "Sentences" expresses the belief that "the haemorrhoids happening to melancholick and nephritick persons, are good." . . . "By the haemorrhoids the superabundant blood is evacuated, but if they are suppressed, they cause melancholy, pains in the back and loins, stone and gravel."

◆

IT IS INTERESTING to observe with Osler that here again "to a very definite but entirely erroneous pathology was added a treatment rational in every respect, had the pathology been correct." For in Celsus' time astringent suppositories were used in the treatment of haemorrhoids, and no doubt frequently with good results.

ANUSOL SUPPOSITORIES have brought the treatment, probably dating back to Hippocrates, within the realm of present day medicine.

Prompt alleviation of pain, early control of haemorrhage, and undelayed relief from inflammation—commend the use of Anusol Suppositories as a sound and efficient measure in haemorrhoids and other rectal inflammatory conditions.

A trial supply is at the disposal of physicians who return the coupon

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have been missed. The data of Hitchcock and Wardwell (*J. Nutrition*, **2** : 203, 1929) suggest the presence of a metabolic cycle, although Du Bois (Basal Metabolism in Health and Disease, 3rd ed., p. 383, Lea & Febiger, Philadelphia, 1936) summarizes the literature as yielding no conclusive evidence." . . .

"In conclusion, attention is drawn to the cyclic fluctuation in B. M. R. It is suggested that for clinical purposes, the B. M. R. be taken at a known phase of the cycle, and interpreted in the light of such knowledge. The cycle of body temperatures is again stressed with particular emphasis upon the fact that temperatures between 99° F and 100° F may be perfectly normal during the premenstrual week. Finally, it is suggested that the body temperature, after its pattern is known, provides an excellent index of ovarian activity. It is easy to measure, widely applicable, and offers a tool in the study of the 'safe period' or 'rhythm' method of contraception, as well as in sterility and other gynecological endocrine disorders." (3)

The technique required, determination of individual patterns, and the common conditions invalidating the results make the vaginal smear method difficult of application to practice. Further investigation of the highly interesting relationship between basal metabolic rate, body temperature and ovarian activity may develop a more satisfactory clinical method for determining ovarian function than is now available.

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1. Wertenberger, G. E., Collett, M. E., and Smith, J. T., *Proc. Am. Physiol. Soc.*, *Am. J. Physiol.*, **116** : 159, June, 1936.
2. Papanicolaou, G. N., and Shorr, E., *Am. J. Obstet. and Gynecol.*, **31** : 806, May, 1936.
3. Rubenstein, B. B., *Endocrinology*, **22** : 41, Jan., 1938.

The Doctor's Page

1743-1793

The biography of Jean Paul Marat falls into two sharply differentiated periods: in the first portion, up until he was about 45 years of age, his activities were devoted to scientific study and research and philosophical writings. Thereafter, until his unnatural end, he became a fanatical journalist, a pamphleteer and demagogue. The first portion brought him prestige and social position, the second brought him untimely extinction and thereby precluded any possibility of reconciliation with his fellow men.

Marat was born in Boudry, Neufchatel, May 24, 1743. He was the first child of a designer, a native of Sardinia who had abandoned country and religion to marry a Swiss Protestant. Marat, himself, described his education: "By an exceptional good fortune I have had the advantages of receiving a careful education in my father's house, of escaping all the vicious habits of childhood that enervate and degrade a man, of avoiding all the excesses of youth and of arriving at manhood without having abandoned myself to the whirlwind of the passions . . . . The only passion that devoured my mind was the love of fame . . ."

This excerpt from his memoirs contains a clew to the interpretation of the personality of this strange figure of the French Revolution. At the age of sixteen Marat went to Bordeaux to study medicine for two years, thence to Paris where he applied his favorite sciences, optics and electricity, and evolved a remedy for "an obstinate disease of the eyes." His Paris experiments greatly interested Benjamin Franklin who was a frequent visitor at his laboratory demonstrations. After a few years in Paris Marat went to Holland and then to London where he set up practice in Church Street.

In 1773 there appeared his philosophical essay on man which offered his opinion that the solution to the problem of the relation of soul and body could be found in physiology, and he proposed the existence of a nervous fluid as the true solution. In 1774, in London, he wrote "Chains of Slavery," a patriotic treatise and in the next year he published a short essay on "Gleets," written in English, offering no new therapy but rather a report of cases he had successfully treated. In 1775 he visited Edinburgh, and, in accordance with the requirements, was recommended by two Edinburgh physicians, Dr. Hugh James and Dr. William Buchan, for the degree of Doctor of Medicine at St. Andrews. There is no known record of Marat having taken examinations for the degree, and it is generally believed that he did not even go to St. Andrews for the ceremony.

Back in London he published his "Inquiry into the Nature, Cause and Cure of a Singular Disease of the Eyes," dedicated to the Royal Society and written in English. In this paper he described the eye symptoms following promiscuous therapy with mercury preparations, especially stressing the condition of presbyopia or long-sightedness. He advocated electricity in the therapy of this condition. The description of his methods of treatment show him to have been a careful observer and a diligent worker. The success of his treatment could not be denied.

His reputation as a physician spread and in the summer of 1777 he returned to Paris where the Comte d'Artois, afterwards Charles X of France, made him brevet physician to his bodyguard with a remuneration of 2000 livres a year and allowances. He became the physician most sought after by the aristocracy of France. He continued experiments on heat, light and electricity and presented memoirs of his studies to the Academy of Sciences in Paris, in which he startled the venerable gentlemen by holding an opinion differing from Newton's. The Academicians recommended him for industry but refused to accept him into their circle. Goethe, who also knew him and appreciated his work regarded his rejection by the Academy as another instance of scientific despotism. This action seems to have been the turning point in the constructive career of Marat, for thereafter bitter phrases came more readily from his pen and he went into open combat with all those in power whether literary, scientific or political. In 1786 he resigned his court appointment and continued scientific experiments. He published a translation into French of Newton's "Optics" (1787) and in the next year his memoirs on his new discoveries in light. In 1791 he openly attacked the Academicians with his "Les Charlatans modernes, ou lettres sur le charlatanisme academique" (Modern Charlatans, or Letters on Academic Charlatanism).

In political activities Marat was a lone-wolf. He never affiliated with any party, he suspected and attacked all those in power with both pamphlets and his newspaper called *Ami du peuple*, (Friend of the People), a phrase which became his epithet. On account of his destructive attacks on the government he was continually in flight. In 1790 after a violent campaign against Lafayette Marat fled to London, a haven for the oppressed, and wrote his denunciation of Necker. A few months later he returned to Paris, and managed, by hiding in cellars and sewers, to continue the publication of his newspaper. It was at this time that he con-

(*Continued on page 60*)

Medical Subjects by Famous Masters

"ALMS," BY JAN HAVICKSZOON STEEN (1616-1679)
There is an obvious hemiplegia to the beggar's right side.

suspicious, that as a result of the proposed amendments there will be any tendency to deprive any persons of the liberty they should enjoy.

CANCER STATISTICS.

STATISTICS are made use of almost universally as an adjunct to medical investigation and research by experiment; there is no question of their utility in this connexion. When, however, they are made to replace experiment as a mode of investigation they are apt to acquire discredit if the principles governing their use are not strictly observed. In the solution of simple problems, such as the death rate per thousand of the total population, there is not much danger of going astray; but where complex problems are concerned, such as the influence of heredity in cancer, the alleged increase in its occurrence in recent years, and the influence of civilization as an etiological factor, more is often demanded of statistics than they can reasonably be expected to perform. It is not always realized that the conditions in a statistical problem need to be as carefully thought out as in an experimental problem.

The degree of reliance to be placed on statistics as at present employed forms the subject of an interesting paper in the *Journal of the American Medical Association* by Dr. Gideon Wells, entitled "Cancer statistics as they appear to a pathologist." He shows, in the first place, that statistics often give different answers to a plain question—for example, What is the commonest site of carcinoma in women? The statistics of the Middlesex Hospital give the breast as the commonest site; the Huntingdon Hospital, Boston, gives the skin; and the author's autopsy records from the Cook County Hospital give the stomach. It is by no means infrequent to find statistics applied in this manner, the data employed consisting neither of totals nor of fair samples of totals, and the deductions being made with a fine disregard of logic. Such misapplications as these are to be referred to an ignorance of statistical science rather than to any defect in the science itself. The ordinary methods of applying the general vital statistics to the solution of cancer problems are unreliable. Here the question of diagnosis comes into prominence, and this, added to the fact that the data employed cannot possibly be homogeneous, is a fruitful source of false deductions. In many cases no *post-mortem* examination has been made, and where this is so a considerable margin of error needs to be allowed for. Dr. Wells cites figures which give some idea of the possible extent of error that may arise from this cause. In his own hospital, out of 545 malignant growths, 367 were correctly and 178 wrongly diagnosed; Bashford's statistics from a number of London hospitals showed an error amounting to 112 in 396 cases; Reichelmann reported 156 errors in 711 cases in a Berlin hospital, and similar results have been reported from Budapest, Poland, Jena, and elsewhere. In addition many cases were diagnosed as cancer where it did not exist. Although Dr. Wells goes fully into the matter, it hardly seems necessary to inquire whether there is likely to be any considerable error in connexion with statistics based on death certificates instead of *post-mortem* examinations; if these things are done in the green tree, what shall be done in the dry?

Turning to the influence of heredity in cancer, the author states that existing statistics are worthless. The information obtainable from patients varies greatly with the circumstances. If a patient seeks advice for what he knows to be cancer, it is probable that he will have made full inquiries as to the occurrence of the disease in his family; whereas if he is suffering from some other disease, such as peritonitis, the family history will not have interested him. Another inherent source of error is the fact that a certain proportion of the patients will develop cancer at some later date, and yet they are used as non-cancer material. Further, if we attempt to work out the heredity of cancer with statistical material, using Mendelian principles, we find that this is impossible, for a single error of diagnosis might invalidate an entire family record, and there are probably no existing families with complete necropsy records of all deceased members for any considerable periods.

On the whole, statistics agree in indicating that cancer has been increasing in frequency in recent years, but the significance of the fact is not yet agreed on. As the average duration of life increases and infant mortality decreases, and as diseases such as typhoid fever and diphtheria become eliminated, it would seem safe to assume that the number of candidates for cancer must increase. A high crude cancer death rate may therefore be evidence of a good state of public health. Again, with an increasing accuracy of diagnosis many more cases of internal cancer should find their way into the records than heretofore. Reasons such as these may seem sufficient to account for an increased frequency of the disease. Yet the problem is not so simple as at first appears. No tendency to increased frequency has been reported by observers who have selected for consideration only the external cancers, which are unlikely to be incorrectly diagnosed. Willcox found that the cancer increase in Frankfort for the period 1860-1913 was limited to inaccessible growths, and similar reports come from Stuttgart, Berlin, Hamburg, and Great Britain.

Dr. Wells is no less sceptical of the value of statistics in reference to the influence of civilization and the supposed increase of cancer in primitive peoples when they come in contact with modern civilization; and he sums up his reflections on the whole subject in the following terms: "After thinking about what the figures may mean, and what they really mean, and what others think they mean, I find myself unable to accept anything about cancer as finally established by statistics." One conclusion to be drawn from his investigations is that there must be a sad ignorance of the science of statistics and of its proper mode of application.

LISTER CENTENARY IN LONDON

IN our issue of March 5th (p. 437) we announced the arrangements made for celebrating in London the centenary of the birth of Lord Lister, which falls on Tuesday, April 5th next. At the reception of delegates by the Prime Minister, which will take place at 11.30 a.m. that day in the Great Hall of the British Medical Association House, there will be a considerable number of seats available for members of the medical profession and for the general public. Members desiring tickets for themselves and friends are requested to make immediate application by letter to the Financial Secretary, B.M.A. House, Tavistock Square, W.C.1. Tickets are available also for reserved seats at the ceremony in Westminster Abbey on the morning of April 6th. The arrangements made for the celebrations by the London committee are summarized in a time-table printed in the SUPPLEMENT at page 104, where information about academic dress will be found.

FRENCH EXPERIMENTAL WORK ON TUBERCULOSIS.

IT would appear that more experimental work in tuberculosis is being done in France than in England, and the results of several such researches have been reported to recent meetings of the Académie de Médecine of Paris. Perhaps the apparent difference between the two countries is due to tuberculosis being a more serious disease in France; or perhaps the enthusiasm of Calmette stimulates other workers. Dr. Vaudremer recently presented a report on some further researches undertaken by himself and Drs. Puthomme and Paulin on the development of the tubercle bacillus. The experiments consisted in cultivating on gelatin tubercle bacilli which had been submitted previously to the action of substances elaborated by the *Aspergillus fumigatus*. They claim to have proved as long ago as 1910 that the growth of this fungus will destroy the greater part of a culture of tubercle bacilli in glycerinated broth, and with it the tuberculin. The recent experiments showed that in cultures of tubercle bacilli exposed for a few days to the products of the growth of the aspergillus there appeared, among masses of acid-resisting organisms, a number of granules, and of bacilli with a terminal granule, which had lost the resistance to acid and were colourable by methylene blue. The granules resembled in appearance Gram-staining meningococci. Ultimately the typical bacilli in the culture completely disappeared, and were replaced by zoogloeal masses of cyanophile granules. Shortly after the appearance of these masses the culture medium became cloudy; and at this point it was possible to make fresh cultures of the granules on a gelatin medium. With successive cultures the granules assumed the form of a cyanophile, granuliferous matting similar to that described by Bezançon and Philibert. The cultures on gelatin appeared to die quickly; but if kept for some months resuscitation occurred, and amidst cyanophile granules and acid-resisting granules typical bacilli were found. In the same preparation it was possible to follow the passage from the ordinary granule to the classic bacillus of Koch. None of the elements grown in aspergillus fluid or on gelatin produced tuberculosis in guinea-pigs. To render them virulent it was necessary to grow them in a medium of animal origin, such as glycerinated ox serum. They would then kill guinea-pigs in eight days. If, however, the gelatin cultures were killed by heat, they conferred, when subcutaneously injected into guinea-pigs, a marked resistance to tuberculosis, lasting at least fifteen months. As a result of these experiments tubercle cultures simply modified by aspergillus fluids were at first used therapeutically on patients at the surgical clinic of the Salpêtrière under Professor Gosset. The treatment was applied in 128 cases of surgical tuberculosis, and 85 were followed up. The best results were obtained in osteitis of small bones, in adenitis, epididymitis, and peritonitis. The treatment was less effective in hip disease and in aged persons. Subsequently cultures on gelatin from the aspergillus fluid were used, and 260 patients were treated by this method, which gave better results, over 75 per cent. being cured, as compared with 48 per cent. under the first method.

HISTORY OF MEDICINE.

THE Section of the History of Medicine of the Royal Society of Medicine held its last ordinary meeting of the session on March 16th, when four communications on widely different subjects were made. The first was a paper by Sir D'Arcy Power on the place of Tudor surgeons in English literature, which Dr. Kenneth Hay read for him in his absence. This showed by examples how faithfully the English surgical writers of the sixteenth century reflected the changing character of the nation during the renascence in England, which began with the introduction of printing into this country. The love of nature and of the open air characteristic of the period revealed itself in the opening passages of Thomas Gale's *Institution of a Surgeon*, and in extracts from William Bullen's *Dialogue Against the Fever Pestilence*. Another good example of contemporary literary style was that of William Clowes, writing on the subject of syphilis. That Master Clowes could speak his mind very plainly when the occasion called for it was shown in a paragraph of invective against the deplorable state into which English surgery had fallen in his day. This generation of surgeons—Hall, Gale, Clowes, and Read—tried an experiment which began and ended with them, and happily failed; they essayed to write in verse, and the lines quoted by Sir D'Arcy Power proclaimed them pretty bad versifiers. But the prose passages went far to substantiate his claim that the Elizabethan surgeons had a definite place in English literature at a time when our written language was being moulded ready for the hand of Shakespeare and the translators of the Authorized Version. Dr. Charles Singer next introduced to the Section a record, compiled with great pains by Professor E. Morpurgo of Padua, of the many English physicians who studied in the Collegio Veneto Artista of the University of Padua between 1617 and 1771. Greater than any of these names, however, is that of William Harvey, who received his doctorate at Padua in 1602; the illuminated diploma is one of the treasures of the Royal College of Physicians of London. Dr. Singer then showed some photographs of a recently discovered example of the Egyptian god Bes, giving in detail his reasons for thinking that the original of this grotesque image suffered from spina bifida. Lastly, Dr. Herbert Spencer showed the very rare book, Wolveridge's *Speculum Matricis*, printed in 1671, together with two manuscript copies in the society's library—one of them beautifully written and illustrated with loving care. Dr. Spencer traced this book to a much earlier work, and told how Wolveridge's manual for midwives was itself plagiarized later under another name.

WILD RODENTS AND PLAGUE.

AMONG the communications submitted to the Standing Committee of the Office International d'Hygiène Publique at its recent meeting in Paris is one which treats of the increasing activities of wild rodents as agents in the transmission of plague. There are places in Asia, Africa, and America where rat plague, originally brought to the coast on shipboard, has made its way inland, infected indigenous wild rodents, and so established itself as a settled enzoötic in tracts previously immune. In each locality a few species only are the constant reservoirs of infection. Among them are the marmot, *Arctomys bobac*, in the north-east of Asia, the gerbille, *Tateroma lobengulae*, in South Africa, the sousliks in South-West Russia, and the ground squirrels in California. As a class they are trapped or shot with a view to the protection of crops or for their own intrinsic value, and those who pick up or handle their carcasses may contract plague from the fleas. Field-mice, such as *Rattus coucha* and *Arvicanthis pumilio*, serve as intermediary channels of infection, bringing the disease with them from the open country into the dwellings of man. Among the fleas implicated are *Ceratophyllus silantievi* and *Neopsylla setosa*. In these areas the common rat, for once, seems comparatively blameless. It is true that he started the enzoötic at first, but having done this he does not himself, under these conditions, pass plague on to man. Plague in wild rodents shows a tendency to visceral, and especially pulmonary, involvement. It is remarked that in hibernating rodents infection may remain localized during hibernation, awakening to activity at the close of the winter sleep. Plague in man contracted from wild rodents is rather apt to assume the pneumonic form;

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Conservative Club,
St. James's Street,
S.W.1.

Cleanliness

In the years before Antiseptics in Surgery the patient who was clean suffered less interest - & the Wound where medico was clean would have a lesser sickness absence after injury & accident

The patient who bathed according to the nature of his work was less affected

IMHOTEP

SIR,—Sir D'Arcy Power, in his review of Professor Sigerist's book on *Great Doctors,* says he begins "with Imhotep, who is claimed as an architect of the Great Pyramid." I venture to suggest that the beginning was an unfortunate one, for, although many "wonders" have been attributed to Imhotep, it is the first time that this picturesque legendary figure has been associated with the Great Pyramid. As alleged architect to Zoser, his name, to be sure, is connected with the Step Pyramid, but as Manetto says that Zoser and Imhotep were identical—and that cultured Greek generally knew what he was writing about—it is not easy to separate the truth from fiction. One thing, however, is certain (and I think I have made it perfectly clear in my work *Egypt: the Home of the Occult Sciences*), and that is, that there is no contemporary evidence concerning Imhotep as a physician, and he only first appears in that character some 2,000 years after his death, shortly before his deification —by foreigners.—I am, etc.,

T. GERALD GARRY, M.D.

Cairo, Jan. 13th.

214 [was attached to Cons. Club note]

THE PRACTITIONER

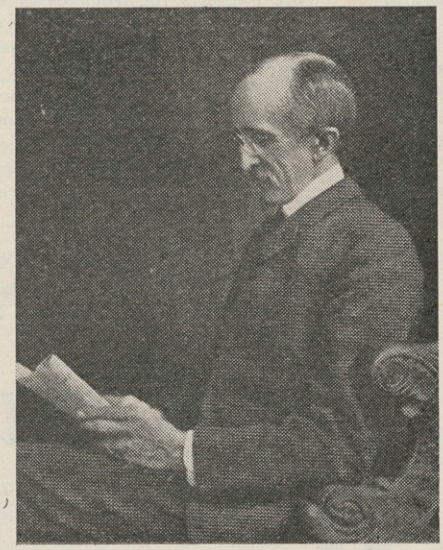
Fifty Years Ago

Education, organization, co-operation—these are the weapons of our warfare.—Sir William Osler: *The Evolution of Modern Medicine.*

JUNE, 1898

THIS number of *The Practitioner* is devoted in its entirety to tuberculosis "with the object of doing something to arouse a keener interest in the abatement of this terrible scourge, and stirring not only the profession but the public to effective action". "The Month" opens on a strongly worded note: "Of all the diseases to which man is liable there is none that, in point of destructiveness, can be compared with tuberculosis . . . Taking all forms of tuberculosis together, it has been computed that in France one out of every six deaths is caused by tuberculosis, and this proportion may safely be assumed to hold good for this country . . . No pestilence which visits mankind makes anything like the havoc that is wrought by tuberculosis". We are reminded that many eminent men were consumptive in early life, and yet attained advanced age. When Sir Andrew Clark applied for the post of assistant physician to the London Hospital, he was run very close by another candidate, but the scale was turned in his favour by an influential member of the governing board who said: "Oh! let us give it to this poor Scotch devil; he will be dead in six months!" Goethe, reputedly on the brink of the grave at the age of nineteen, lived to be eighty-one. When this tuberculosis number was published the tubercle bacillus had been discovered by Robert Koch sixteen years previously, but it was left to Theobald Smith to differentiate between the human and the bovine tubercle bacillus that very year. Eight years before, Koch had introduced his tuberculin treatment which startled the world, and his new tuberculin in 1897. Nine years had to elapse before Calmette and Pirquet described the tuberculin tests known by their names. The first international congress for tuberculosis was held in Paris in 1881, and the first international association was founded in 1901. As long ago as 1876, Peter Dettweiler had founded a sanatorium at Falkenstein and had introduced a portable receptacle for sputum. One of the first sanatoria in this country was opened in 1885, at Bowden in Cheshire.

This issue of *The Practitioner* consists entirely of "Original Communications", the first of which, entitled "The Treatment of Consumption", is from the pen of the President of the Royal College of Physicians of London, Sir Samuel Wilks, who has seen many cures for the disease, "arising and departing one after another; living vigorously for a short time and then dying a natural death". He concludes by expressing his belief that the only remedies for consumption are "air and sunshine—AIR, AIR, FRESH AIR". Let us skip a few pages and turn to a paper on "The Medicinal Treatment of Tuberculosis", by Hector Mackenzie, M.D., F.R.C.P., Assistant Physician to St. Thomas's Hospital and to the Brompton



E. L. Trudeau, M.D.

Hospital, which contains a bewildering catalogue of remedies, such as cod-liver oil, creosote, guaiacol, arsenic, iron, sulphur and its compounds, quinine, strychnine, nuclein, oil of cloves, oil of cinnamon, oil of peppermint, garlic, ichthyol, cinnamic acid. "Tuberculosis is a disease that must be strenuously fought by preventive measures", writes Allan Macfadyen, "and for this organized effort is necessary. An adequate inspection of cattle by veterinary surgeons and the removal of suspected animals from the dairy sheds is required in the first instance. The use of tuberculin as a diagnostic

FIFTY YEARS AGO—*continued*

agent is of the greatest value in this respect, and the neglect of its aid is inexcusable".

Some distinguished writers contribute to this symposium: Sims Woodhead, Director of the Laboratories of the Royal Colleges of Physicians and Surgeons ("The Bacteriology of Tuberculosis"); Arthur Ransome, F.R.S. ("The Susceptibility to Tuberculosis under Different Conditions"); Hermann Weber ("The Sanatorium Open-Air Treatment in Pulmonary Tuberculosis"); F. Parkes Weber ("Ocean Voyages in Phthisis"); Michael G. Foster ("The Mediterranean Littoral as a Health Resort for Phthisis"); Hermann M. Biggs, Director of the Bacteriological Laboratories of the New York City Department of Health ("The Prevention and Restriction of Pulmonary Tuberculosis in the City of New York"). To those who were stationed in Egypt during the last war or were privileged to winter in that country in the pre-war days, the article by F. M. Sandwith, M.D., M.R.C.P., Physician to Kasr-el-Aini Hospital, Cairo, on "Desert Climate for Lung Tuberculosis", will carry a nostalgic flavour. His reference to Mena House at the foot of the Pyramids, seven miles from Cairo, will evoke many pleasant memories: "The popularity of the hotel seems to increase every year in consequence of the extreme purity of the air, the calm repose of the desert, the sport in the neighbourhood, and the unique interest of the spot . . . The hotel management does everything it can to attract English visitors". How reminiscent of a guide-book this sounds! An eloquent rival claim is put forward by A. P. Hillier for the climate of South Africa: "If, then, in conclusion, abundant sunshine, a dry, rarefied, and exhilarating air, and a pleasant, sub-tropical temperature be, as all modern physicians are agreed, conditions highly favourable to the phthisical subject, it must be freely admitted that there is no country in any of the five continents that offers these features in greater perfection than South Africa".

It is singularly fitting to be presented with an historical retrospect of tuberculosis fifty years ago, for in October this year the English speaking world will commemorate the centenary of the birth of a great and beneficient pioneer in tuberculosis—Edward Livingston Trudeau, a man who, in Sir William Osler's words "had the good fortune to be made of the stuff that attracts to himself only the best, as a magnet picks out iron. Of an unselfish, sympathetic disposition, he secured the devotion of his patients, to whom he was at once a tower of strength and a splendid example". W.R.B.

LACARNOL IN CARDIAC DISEASE

Lacarnol is most satisfactory where blood pressure is normal. It is best given on an empty stomach.

THE result of lacarnol administration by mouth in 114 cardiac cases is described by Dr. G. Hubert, of Bad Nauheim, in *Fortschritte der Therapie*, 1931, No. 14. Lacarnol is a nucleoside tissue extract, with a selective dilator action on the coronary arteries.

The series was composed as follows :—

83 with angina pectoris ;
16 with angina pectoris associated with aortic lues ;
13 with myocarditis and disturbance of rhythm ;
2 with myasthenia associated with pressure sensations.

Of the total number of patients, 68 (58 per cent.) showed definite improvement. The remaining 42 per cent. were uninfluenced, but a closer examination of the cases offers some explanation for this fairly low percentage of successes. Out of the 83 sclerotic angina pectoris cases, 61 responded to lacarnol by a reduction or complete cessation of the attacks, while in 19 there was no improvement. Thus the percentage of successes in this group was 76. On differentiating the patients into those with high and those with normal blood pressure, the result is even more satisfactory. In 60 angina pectoris cases, where the systolic pressure did not exceed 165 mm. Hg, the author obtained the desired result with lacarnol in 54, that is, in 86 per cent. ; only 14 per cent. therefore remained uninfluenced.

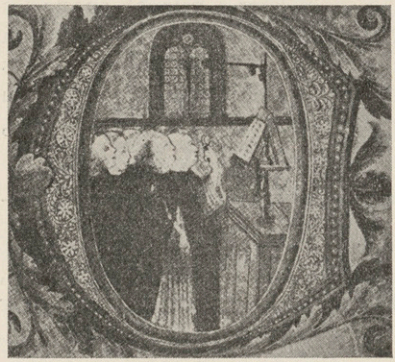
High Blood Pressure Cases.

Out of 9 cases where lacarnol was ineffective, there were very grave complications in 3, and of 23 patients with angina associated with permanent high blood pressure, only 7 (i.e., 35 per cent.) responded to lacarnol.

The preparation was completely ineffective in 16 cases of syphilitic angina pectoris. In his 13 cases of myocarditis, the author was unable to verify any influence on the cardiac rhythm, though Fahrenkamp, Buchholz, and Veil claimed [1] that lacarnol had this effect. There was, however, in 2 cases an immediate cessation of extrasystoles which had previously persisted for years.

Many patients are equally unresponsive to nitroglycerin, the purin bodies, and glucose ; on the other hand, the author had one patient who for years had been treated on these lines without success, and who was completely cured of angina pectoris (no relapse during a period of 18 months) by the prolonged administration of lacarnol alone.

[1] See CLINICAL EXCERPTS, July-August, 1931, p. 135.



FROM THE PSALTER OF THE MONASTERY OF ST. MARK, FLORENCE.

Showing a mounted double eye-glass in the 14th century.

Nero's emerald, recorded by Pliny (23–79 B.C.)—*Nero princeps gladiatorium pugnas spectabat smaragdo*—is often cited as proof that the eye-glass belongs to antiquity, but Prof. Greef considers it was used merely as an eye-shade, for its green " anti-dazzle " property.

The first steps towards the discovery of the lens as such were made by the Greek astronomer and mathematician Ptolemy in Alexandria, in the second century A.D. He recognised that light was distorted by curved transparent surfaces. Eight centuries later, the Arabian Alhazan (966–1036) described, in his " Optice Thesaurus," how a segment of a sphere might be used to magnify an object. But another couple of centuries passed before that rare spirit, Roger Bacon (1214–1294), saw the possibility of adapting this knowledge of segmented globes for the aid of weak sight in the aged.

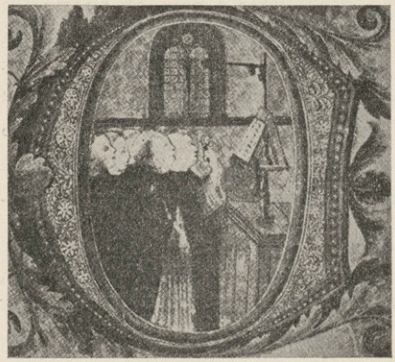
Thus about 1300 convex spectacles were invented; at least, it is chronicled in the archives of the St. Catherine monastery in Pisa that about this time A. de Spira was manufacturing eye-glasses, although it is not claimed that he was the first to make them.

Thereafter the use of magnifying glasses, so-called " reading stones " (lapides ad legendum), spread gradually throughout Europe. It was a difficult matter to obtain colourless glass in those days, so the " reading stones " had to be made of quartz, rock crystal, or beryl. (The modern German word for spectacles — " Brille " — is evidence of the beryl.)

Spectacles, as well as " reading stones," are mentioned in a decree of the Privy Council of Venice

ITINERANT SPECTACLE-SELLER.

By A. von Ostade (1610–1685.)



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dating from the year 1300, and 52 years later a pair of spectacles makes its first appearance in portraiture in a painting by Thomaso di Modena of the cardinal Hugo de Provence. Thereafter many types of spectacles appear in paintings. Our first illustration, from a fourteenth century psalter of the Convent of St. Mark in Florence, shows the use of a double glass.

Writing in 1363, Guy de Chauliac, in his Chirurgia Magna, recommends spectacles for weak sight.

Towards the end of the century jointed glasses were in use, that is, two glasses mounted on rods, which were riveted together at their distal ends. This type persisted until about the end of the sixteenth century. Meanwhile, towards the close of the fifteenth century, the first pair of leather spectacles was constructed, to be followed by various modifications of the framework, such as headpieces or bands. In 1517 Leo X was portrayed wearing concave lenses, by Raphael, and from 1540 Hollerius regularly recommended spectacles for short sight.

JÖNG SYRLIN LUCAS, ABOUT 1480.

Kepler, in 1604, propounded a complete theory on the use of spectacles.

With the seventeenth century the " pince-nez " or spring spectacles became more common, and a little later, originating apparently in England, we find the prototype of the modern form with earpieces, with many variations occasioned by different modes of peruke worn.

The evolution of the lorgnette was an obvious step from the single glass. But not only did the style of the framework change throughout the centuries ; the optical powers of the lenses were continuously improved and adapted to various forms of weak sight. In 1792 Wells wrote " an Essay upon single vision with two eyes," in which he advised the use of prisms for presbyopia, and in 1804 Wollaston recommended menisci as glasses for the same purpose. We owe the perfection of the cylindrical and prismatic glasses to Donders in 1860, and the most modern improvements begin with Gullstrand in 1899.

advantageous for growth in height. Perhaps this factor is important for a certain racial difference between coastal and inland peoples. The coexisting asthenic and arthritic habitus types in our people, however, must be attributed to other causes.

(*To be continued*)

Practical Therapeutics

Parathyroid Hormone and Dyspepsia

THE function of the parathyroid glands in exerting an effect on the calcium metabolism is now generally recog-ized. Active preparations of the para-hyroids have been produced by Hanson 1924) and by Collip (1925). On injection hese extracts raise the calcium level of the lood. The effect seems to be due to an lteration of the chemical characteristics of he calcium compounds found in the tissues. ines in England described an effect on the ization of these compounds, and in patho-ical conditions in which the normal ization ratio was disturbed administration parathyroid restored the equilibrium to rmal. The determination of the state in ich the calcium compounds exist in the od is difficult, and the usual methods are from accurate. Estimates of the degree onization (of the several compounds) — probably not more than 2.5 mg. per (Morgulis and Perley).

he relationship of calcium metabolism to ous affections of the stomach and duo-l mucosa is far from clear. Vines has reported successful results with parathyroid substance in the treatment of gastric and duodenal ulcers. Durand and Zana (abstract below) report good effects in dyspeptic disorders.

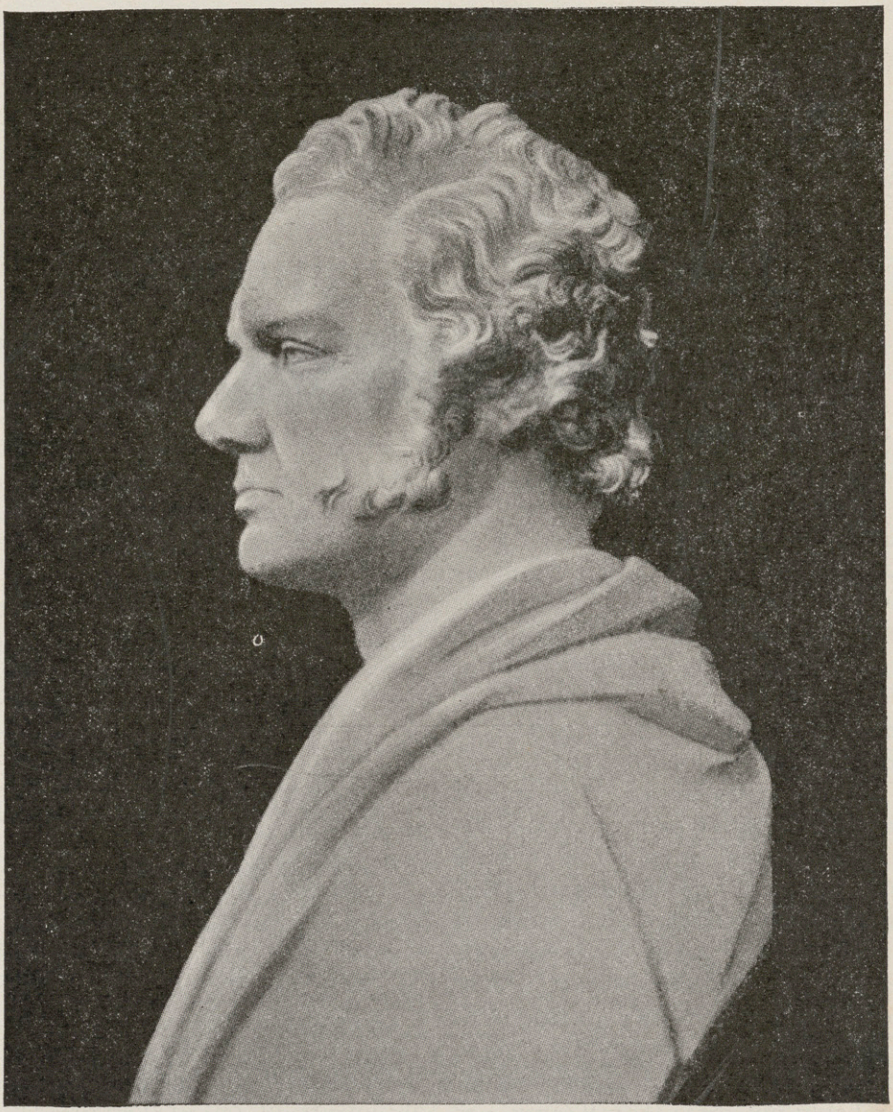
The marked and constant effect of parathyroid hormone on blood calcium suggests therapeutic possibilities that so far have not been realized by reason of limited clinical experience with this potent substance.

Parathyroid Extract for Gastric Therapy. — G. Durand and Zana. (Abstracted in *Bull. gén. therap.*, **182** : 303, 1931.)

The authors derived very satisfactory results in cases of dyspeptic disorders of long standing with the exclusive use of subcutaneous injections of parathyroid extract. The cases involved were not ulcerous and had dominant sensations of epigastric or gastro-esophageal pyrosis.

Without desiring to draw too extensive conclusions from the results of treatment the authors point out, nevertheless, that there occurred a rapid disappearance of the symptoms of disorder after commencement of parathyroid treatment and that all methods of treatment previous to this had been entirely ineffective.

The Doctor's Page



THOMAS ADDISON

(1793-1860)

The fame of Thomas Addison is supported by a small volume of work, for his name is associated only with two disease processes, pernicious anemia and suprarenal disease, and of these the latter is best known. It is occasionally that pernicious anemia is refe to as Addison's anemia. He is, how also distinguished for the example h

strated beyond all question the presence of these active sex hormones, both male and female.

They may be extracted and produce constant effects. In the case of the ovarian follicular hormone, it has been prepared in crystalline form and shows a potency that is truly astonishing. Both male and female hormones may be given hypodermically or by mouth, and the literature contains sufficient evidence of the clinical value to warrant a much wider use. Novak has outlined a method of treatment using both ovarian hormones that is in accord with the recent research showing the interaction of the follicular and luteal hormone. Whole ovarian substance would now appear to be more promising as a therapeutic agent than purified preparations of either follicular or luteal hormone. Hofbauer (abstract below) outlines the uses of whole ovarian substance. It is worthy of note that Hofbauer, as Graves of Boston has done, emphasizes the use in the menopause. This seems to be a field in which whole ovarian substance is particularly effective. Note Hofbauer states that the preparation should be used "when it contains all the active constituents of the ovary."

The Action of the Sex Gland Hormone on Total Metabolism. — R. Hofbauer. (*Zeitschr. ärztl. Fortb.*, **25** : 110, 1928.)

The indications for the use of whole ovarian substance when it contains all the active constituents are:

(1) The treatment of complaints of the menopause. A disappearance of all symptoms is observed: palpitation of the heart, perspiration, dizziness. The women again become vigorous and able to work. The effect of ovarian substance is partly an inhibiting one on the sympathetic.

(2) Treatment of obesity as it may exist in the menopause as well as in young women with lowered sex gland function. Through intensive use of ovarian substance with any diet, a considerable loss in weight may be attained in many cases.

(3) Treatment of Basedow's disease. Here, the lipoid content of the ovary probably acts in so far as it appeases the two strongly acting thyroid hormone and in some measure detoxicates.

(4) Genuine epilepsy, which is of angiospastic nature, is also considerably improved by sex gland preparations.

Therapeutically, tablets as well as injections are recommended.

The authors carried on experiments to determine whether the metabolism and blood pressure are to be influenced by sex gland hormones. He made the observation that all patients felt unusually well following treatment with sex gland extracts. With a food intake of 1700 to 1800 calories daily weight decreases of 12 to 14 pounds were attained on the average within 9 weeks, without any disturbances whatever of the general state of health appearing. In men, the loss of weight in 10 weeks was on the average about 20 pounds, while appetite generally increased. In men as well as in women, a definite fall in blood pressure was obtained. In all probability an antagonism between suprarenals and sex glands plays a rôle here. In any case, a fall in blood pressure of 20 to 30 mm. may be obtained.

THE FAMILY PHYSICIAN

"It has been my good fortune to have intimate knowledge of physicians from childhood—personalities who went by the old and fortunate name of the family physician, the man who was elder brother and counsellor, who was almost as much nurse as doctor, who cared mightily for every patient, who stopped at nothing, whose tenderness matched his skill, and whose devotion went parallel with his service. To have those contacts, to have those memories, to have those relationships is itself a liberal education. That is why I prefer, speaking as a layman and for the patient, to dwell not on the technical aspects of medicine, not any of the new scientific discoveries and methods and possibilities, but upon that larger view which sees the modern physician as the trained man of science and public service, rich in personality, serene and secure in the feeling that others depend upon him, and holding himself for one of the highest and most satisfying services to his kind. The very verb 'to heal' sounds like a benediction."—Nicholas Murray Butler, in Clinical Excerpts.

The Doctor's Page

GREGOR JOHANN MENDEL

(1822-1884)

Monastery walls have been quite effective not only in secluding the inmates from the whirl of the outside world but also in excluding the prying interest of outsiders as to what is being done within the confines. How much these walls have withheld concerning the life and work of the Augustinian monk and abbot, Gregor Johann Mendel, and how much they are responsible for the concealment of the results of his researches until the re-

discovery almost twenty years after his death can not be determined definitely. Some service they did render him, however, namely made possible the success of his experimentation and afforded him a position of distinction to augment the value of his work.

Not much is known of Mendel as a man for his intimate letters to the family were few. Women, to whom he might have confided his secret thoughts and ideals were automatically barred by his choice of life. Letters to friends and fellow-workers were all mainly concerned with the work in which he was intensely interested. The letters of the closing years of his life, particularly to his nephews of whom he was very fond, are those of a kindly, peaceful, fatherly advocate; they are attractive bits of composition especially for the wit which formed an element in Mendel's make-up. A short autobiography gives little more than his letters. However, to a resident of Brünn, Hugo Iltis, we are indebted for a splendid accumulation of facts concerning the life and work of Mendel.

Johann Mendel was born in Heinzendorf, in northeastern Moravia, near the union of the German, Polish and Czechoslovakian borders, into a peasant family. From his father he acquired an intense appreciation for the growing things of the earth. His mother instilled in him an aim to a higher social standing. From her he seems to have derived a fine artistic sense. At her instigation he was sent to the gymnasium at Troppau where he showed himself to be a fine student. The cost of enlightenment, however, eventually drained the family resources, and since there were other children in the family to be considered, Mendel was left to seek his own support. His greatest desire was education and therefore, in 1841 he entered the college at Olmnetz; but the efforts expended in acquiring sufficient funds for the undertaking began to exact their toll with the result that Mendel's studies were continually interrupted by breakdowns. After two such years of intermittent study and illness he decided to enter the Augustinian order and as a novice he was given the name Gregor.

He was particularly fortunate in the choice of abbey, for the abbot of Brünn recognized his bent for natural science and encouraged his scientific work and liberal ideas rather than cared for his soul, though, as a result of a series of *faux pas* and too liberal expression Gregor was properly chastised, specifically for having remarked that a "visiting bishop was more distinguished by his fat than by his learning."

Gregor was assigned to assist in the instruction of physics at the Technical High School. His tranquil nature and sly wit made him popular so that eventually the abbot sent him to Vienna to try for a Teacher's Certificate. Gregor failed the examination, it is said mainly because of the antagonism of the board of examiners. The abbot, of course, was displeased, but his faith did not waver. He sent Gregor to the University at Vienna for further preparation. Here the monk seemed to fare well and with the exception of having purchased, so he says, a lottery ticket, he apparently devoted himself solely and diligently to the pursuit of studies. Some time later he again essayed the examination for the certificate, but rumor has it that he returned to Brünn with head wrapped in bandages, a hazy recollection of having been in Vienna, but no teacher's certificate. In fact, he never obtained it.

At the convent Mendel spent much time in the laboratory in which he kept birds, mice, a fox, and a porcupine. In the garden he kept bees, grew flowers and shrubs in profusion and in a hot house, such unusual fruit as the pineapple. These growing things he referred to as his children, indeed he cared for and nourished them beyond imagination. Besides his experiments and instructive occupation, reading occupied much of Mendel's time. Darwin's books, of course, were forbidden to good catholics, but this free-thinker, in some way, managed to procure them and read them with profound consideration. He was also attracted to the study of astrology and for years, even up to the close of his life, he kept a meteorological record.

In 1868 Mendel was elected abbot of Brünn. He then gave full sway to his experimental bent. Things grew in profusion all over the laboratory. The garden was greatly increased and became a veritable paradise of sweet-smelling and rare blooms. He also indulged in a life of ease and good eating, entertaining guests much after the fashion of the abbots of former days, for he was a lavish host.

The experiments of this unusual cleric scientist were always shrouded in mystery, which was the source of comment and discontent among both associate monks and laity. As time went on there occurred several

(*Continued on page 307*)

Medical Subjects by Famous Masters

"A BARBER SURGEON REMOVING A PLASTER FROM A MAN'S FOOT," by David Teniers (1610-1690)

By permission of J. Philip Kruseman, Publisher, The Hague, Holland

FROM THE HEAD MASTER,
HARROW SCHOOL,
HARROW ON THE HILL.

BYRON 2184.

8th June 1956

Rep 9-VI-56 JE

Dear Inspector General,

Many thanks for your letter. I was so sorry not to be able to come to the meeting, but am most glad to hear that you had such a happy one and that you managed to fill the offices.

No, I am not able to get down to the Old Breconian Dinner on the 16th June. I had an invitation some time ago but had already told my brother that I could not get away on that day. The chief reason in fact is that I have a meeting of the Old Harrovian Lodge at the School on the Saturday evening and it is plainly essential for me to be here for that, quite apart from the fact that I am I.P.M.

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Lady Freund

Lady Caroline (Guinness)
(dau. Marchioness of Dufferin & Ava
: No return to England

~~Oil~~ Olga Deterding

Aga Khan
Versoix
Geneva

 214

Aug 2nd 56

(Wedding a Mississippi)

a Board Memphis Tenn "

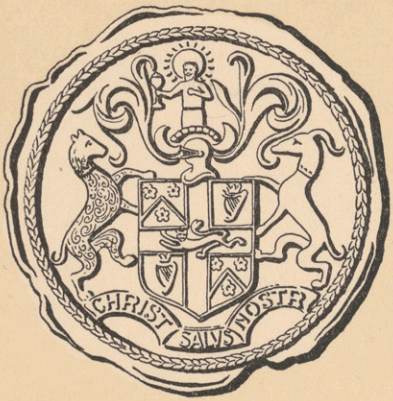
(Monmouth shipbuilders son

Christopher Boulan

marrying daughter of

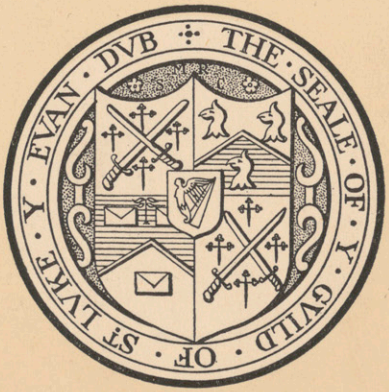
Slazenger Chairman

Sarah MacMaster



Guild of Saint Mary Magdalen.

The Seal of The Barber-Surgeons from the original Seal preserved in the Library of Trinity College, Dublin dating from 1557.



Apothecaries, or Guild of St. Luke, Evangelist, 1747. From a replica of the old silver Seal made some years ago from the original.

See, where the proud Apothecaries drive,
Who most by fraud and impositions thrive,
Whose monstrous bills immoderate wealth procure,
For drugs that kill as many as they cure,
Well are they placed the last of all the rout,
For they're the men we best can live without.

[Extract from *The Guilds of Dublin*
by John J. Webb, M.A., LL.D.]

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TOBACCO IN MEDICINE*

One of the strange sights which met the astonished eyes of Christopher Columbus when he landed on the island of Guanahami on October 12th, 1492, was a group of red-skinned men who puffed thick clouds of smoke out of their mouths and noses. With this begins the amazing story of tobacco, but it is only intended in this article to describe the connexion this herb has had with medicine.

Early Medicinal Uses.

A monk, Fray Romano Pane, whom Columbus took back with him on his second journey to America in 1496, described in detail the use of tobacco by the Indians of Hispaniola. He wrote that they breathed in the smoke of burning tobacco through a forked tube, and "at their feasts they become intoxicated through inhaling the smoke." He

From Americae Partes.
Smoke as a Cure for Illness

also observed that smoking has a narcotic effect, being associated with dreams "which seem to give glimpses of another world." Francisco Hernandez of Toledo, Physician to King Phillip II, was sent to Mexico four years later, and he also wrote of the effects of tobacco smoking: "It encourages sleep, banishes lassitude, relieves pain, especially headache, promotes the secretion of phlegm, cures asthma, and strengthens the digestion. In excess it is harmful, causing inflammation of the liver. Cachexia and other incurable complaints result from its misuse."

The Carmelite monk, André Theyet, observed in 1554 that when Indians were on the warpath they smoked continuously in order to

*Historical Sketch by Dr. H. V. Bühler: *Münch. med. Wschr.* 1937, 33, 1297.

take the edge off their hunger and thirst. The native witch-doctors used tobacco to cure illness, especially to promote sweating. Their patients were made to smoke continuously, and tobacco smoke was also blown into the rectum, and into the noses and ears of the unfortunate sufferers. According to the views of the day, tobacco smoke purified the humors of the body, opened the sweat ducts, and assisted other bodily functions.

Lescarbot† mentioned that the Indians of Arcadia and New Scotland used tobacco smoke for alcoholic stupor. The bladder of some animal was filled with smoke, and by means of a tube leading into the rectum smoke could be expressed from the bladder into the rectum of the drunkard. The Spaniards began to copy the natives' use of tobacco, and the fresh leaves soaked in water were commonly used as a local application for ulcers and abscesses. Tobacco leaves soaked in beer, on the other hand, were found to disperse swellings and warts. Fresh leaves laid on the abdomen served as vermifuges.

Tobacco's World Tour Begins.

Tobacco seeds were first brought from America into Spain by Gonzalo Hernandez of Oviedo, but for some years the plants were only used for decorative purposes. Nicolo Monardes, teacher of medicine in Seville, was the first to praise the medicinal value of the herb. " The application of the warmed green leaves is good for headache, colic, gout, and the pangs of childbirth. Juice expressed from fresh leaves relieves toothache." An infusion of the leaves was said to cure asthma, persistent cough, and " other conditions arising from an excess of the cold humor." In small doses the juice was praised as a vermifuge. In obstinate cases of constipation a bowel wash-out with a decoction of tobacco was recommended. Fresh leaves were excellent for hæmorrhage and promoted healing. Ointments containing tobacco cured indolent ulcers, and when taken internally in pill form hunger and thirst were assuaged.

The fame of tobacco quickly spread to France. The name of Jean Nicot, who was French ambassador at the Portuguese Court from 1559 to 1561, is for ever associated with tobacco. While in Portugal, Nicot was supposed to pave the way for the betrothal of the 5-year-old Portuguese heir with the Princess Marguerite de Valois, whose first teeth had not even appeared when the subject of the union was broached. It was the enforced leisure which this project provided that led to the discovery which made Nicot's name world famous. Nicot was fond of rare flowers, and one day while walking in the gardens of the Portuguese Royal Household he came across tobacco plants in flower. These pleased him so much he transplanted a few into his own garden. The plants flourished, and he began

† Histoire de la Nouvelle France, Paris 1609.

to use the leaves medicinally. Incidentally he cured a stubborn ulcer on the nose of his own chef. Soon his fame rang throughout the country, and many were the requests made to him for the wonder-working leaves. Catherine de Medici herself asked him for seeds, and Nicot sent them to Paris for her. Later he personally brought more seeds to that city.

After H. Goltzius.
Jean Nicot

Soon tobacco found general use in France as a curative agent. Smoking for its own sake was not yet the vogue ; the nearest to it was the drawing into the mouth by means of a horn funnel the smoke of leaves burning on a small charcoal brazier. This was done to increase the flow of saliva. The custom of snuffing tobacco powder, however, soon became general. It gained impetus from the fact that the king, Francis II, often suffered from unbearable headache, and his mother, Catherine, ordered from her physician powdered tobacco leaves to relieve his distress. The treatment was markedly successful, and forthwith the whole Court began to indulge in " the healthy habit of snuff-taking."

The Habit Takes Root.

At the end of the sixteenth century the smoking of tobacco was already common in England. In spite of regal and parliamentary edicts against the habit, it increased more and more, and soon England had the leading share of the tobacco trade of the world. The herb was marketed in forms suitable for smoking, chewing, and snuff-taking. In medicinal circles in this country tobacco gained a reputation as a prophylactic against scurvy. Smoking was also recommended by doctors as a protection against the plague during the great epidemic in London in 1665.

The fame of the wonderful new herb came to Germany in 1549 through Adolf Occo, a philosopher as well as a physician. He brought the seed of the plant back from Italy after he had learnt there of its medicinal uses. Its use soon became widespread, and many learned dissertations dealing with its wonderful properties appeared during the last years of the sixteenth century. Tobacco smoking was first seen in Germany during the Thirty Years War, when English auxiliaries

smoked on their march through Saxony to the aid of King Frederick of Bohemia. English and Dutch soldiers were also responsible for the introduction of tobacco smoking into the districts of the Rhine and Maine.

Dutch Smoking Scene *David Teniers*

Objections are Overruled.

In 1642 the contemporary German author Hoscherosch wrote that " the hellish habit of smoking " had a hold on those of high and low station. It appears that women also smoked at this time. Soon both temporal and spiritual authorities were inveighing against the custom, and ordering the punishment of offenders. In Switzerland, where the custom had been introduced from Germany, smoking was strictly prohibited by an order of 1661. The crime of smoking was ranked with that of adultery. In Austria and Hungary, similar regulations were issued, also in vain.

Spanish priests introduced into Roman society the habit of snuff-taking, and because so many Italian ecclesiastics became addicts, Pope Urban VIII issued a decree threatening to expel from the Church any priest who took snuff. Later Pope Benedict XIII, himself an addict, annulled this ban.

The writings of several Dutch and German physicians in praise of tobacco helped considerably to spread the custom of smoking throughout Europe. With no mean exuberance they recommended tobacco not only for all the diseases under the sun, but also for the " Get Fit " movement of the day. Beintema, a physician in Palma, wrote of the value of tobacco for the mental worker : " A man who studies must of necessity smoke much tobacco, so that the mind will not wander and so that when the activity of the mind begins to lessen,

it can be stimulated to renewed activity. To smoke twenty pipes a day is not too much." Cornelius Bontekoe, Physician to the Court of Brandenburg, wrote several papers in praise of tobacco. " Nothing is so necessary for life and health as the smoke of this royal herb, tobacco, which man can enjoy in solitude, and with the help of which he can face his troubles and overcome them. Tobacco cannot be praised enough, for it can be smoked from early morning until dewy eve."

Old Japanese Woodcut.
A Geisha Smoking

It is not surprising that many doctors took a firm stand against the widespread misuse of tobacco. There are extant the writings of several seventeenth century physicians, who inveighed against the abuse of the herb; but the powerful tobacco trade overcame all resistance.

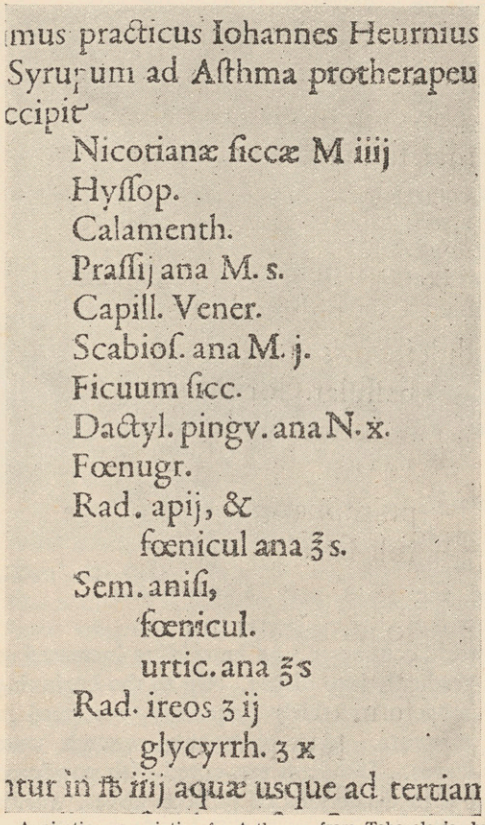
A Last Therapeutic Flourish.

Gradually the cultivation of tobacco became a science of its own, and its widespread use resulted in its becoming one of the most important items in world commerce. As knowledge increased so tobacco as a medicine fell gradually into disuse. Up to the beginning of the eighteenth century tobacco was fairly frequently prescribed in various forms for divers ailments. Most commonly, wounds were treated with fresh tobacco leaves. Dandruff was cured with powdered tobacco. Lice were killed with decoctions of tobacco leaves, worms were dealt with by the application to the stomach of green leaves, which were also applied to the throat when that organ gave trouble. Lying-in women put the fresh leaves on their breasts in order to promote the flow of milk. In cases of colic, obstruction, and strangulated hernia, and to revive those overcome by alcohol, water in which tobacco leaves had been boiled was given as an enema, and the old Indian remedy of blowing tobacco smoke into the rectum was also applied.

There are on record particulars of attempts to cure tetanus, apoplexy, paralysis, and diseases of the breasts and kidneys with tobacco in some form or another. A book by Fowler, published in London in 1785, contains particulars of the various preparations of tobacco to use in cases of œdema and retention of urine. Toothache was treated

with an infusion of tobacco leaves. Even to-day in many rural districts tobacco juice is inserted into the cavity of the aching tooth to ease the pain.

The disadvantages and dangers of the indiscriminate use of tobacco in therapeutics were gradually learnt. The toxicity of tobacco came to be recognised, and some conscientious physicians recorded deaths which occurred as a result of tobacco "cures."


mus practicus Iohannes Heurnius
Syrupum ad Aſthma protherapeu
ccipit
Nicotianæ ſiccæ M iiij
Hyſſop.
Calamenth.
Praſſij ana M. s.
Capill. Vener.
Scabioſ. ana M. j.
Ficuum ſicc.
Dactyl. pingv. ana N. x.
Fœnugr.
Rad. apij, &
fœnicul ana ℥ s.
Sem. aniſi,
fœnicul.
urtic. ana ℥ s
Rad. ireos ℥ ij
glycyrrh. ℥ x
itur in ℔ iiij aquæ usque ad tertian

A nicotine prescription for Asthma: from Tabacologia, by Johannes Neander, 1622.

Soon the rapidly growing science of Chemistry was called in to analyse the potent substances in the tobacco plant. Nicotine was demonstrated by Posselt and Reimann in Heidelberg in 1828. The chief dangers associated with tobacco came to be recognised, and from this time the gross physical damage which tobacco used to cause could be avoided. As a therapeutic agent tobacco fell completely out of use. It is probably fifty years ago since tobacco was occasionally prescribed for worms, although it is still recommended by some veterinarians. Likewise in folk-lore, tobacco as a medicinal herb has been abandoned. In fact, the therapeutic use of tobacco is now of interest only from a historical point of view.

The illustrations (except for the prescription) are reproduced by kind permission of George G. Harrap & Co., Ltd., from "A History of Smoking," by Count Corti.

might be to give smaller doses more frequently. The treatment was continued for from five to eight days according to the severity of the case. In lobar pneumonias treated early striking changes in the temperature chart were seen; in the morning after the beginning of treatment the temperature was almost normal, and it rose during the day to a point slightly lower than the maximum before treatment. Each morning a fall in temperature was noted and each evening a rise occurred, but the rise was less on successive occasions, until on the fourth or fifth day the normal level was reached and maintained. In addition, symptoms such as cyanosis, dyspnœa, loss of appetite, and restlessness were much less marked. Despite the general improvement and the shortening of the febrile period, however, the physical signs did not disappear any more quickly than in untreated cases.

In broncho-pneumonia the temperature behaved in a manner corresponding to that in lobar pneumonia, but the time taken to reach normal varied from two to five weeks; here again the symptoms were much less troublesome. Vitamin C was also used as a prophylactic measure, 1–3 doses of 100 mg., or two lemons, being given daily in patients preparatory to operation on the mouth or throat, and in those suffering from chest injuries and emphysema. In all, 37 cases of pneumonia, some post-operative, were treated in this way and 2 died from pneumonia; 122 were treated prophylactically, and 6 suffered from mild and non-fatal broncho-pneumonia. It is as yet too early to draw comparative conclusions between groups of treated and untreated patients in an effort to assess the value of this method.

An Xmas Booklet

Reflecting that the Christmas season is an excuse for, shall we say, a little innocent fatuity, we have commissioned a professional humorist to write a booklet (enclosed in this issue) about medicine from the patient's point of view. Having thus introduced Mr. A. H. d'Egville, whose contributions will be well known to *Punch* subscribers, we leave him with a blessing to the mercy of our readers. We are thinking here of those readers who do *not* make a practice of shaking, with a deft flick of the wrists, all the unbound contents of CLINICAL EXCERPTS (including valuable "blotters") into the waste paper basket. We have previously sent out another booklet of this kind. One of our forty thousand readers told us that it was the funniest thing she had ever read. We will not weary you with what the others said, and did not say.

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THE DOCTOR AS A TEACHER OF COOKERY

SINCE the discovery of the life-giving properties of vitamins at the beginning of this century much more popular attention has been given to questions of diet and the hygienic aspect of cookery. It is now quite a common thing for doctors to devote a good deal of study to the choice of foods and their mode of preparation, and in Paris (the home of gastronomy par excellence) there is an Institute of Alimentary Hygiene presided over by a well-known physician, who gives a practical course of instruction in what he has named "gastro-technics." If we carry our researches back to primitive times we find that doctors have, in almost every period of history, paid considerable attention to questions of diet.

In Greece and Rome

Mnesitheos, a doctor of Athens, in his book "On Food," observes that oysters and mussels are hard to digest and so should be eaten roasted, and warns likewise against wine of inferior quality, railing against the practice of drinking wine with sweetmeats. The Roman writer Celsus, in the introduction to his encyclopædic work "De Medecina," says: "Of the three divisions of medicine, that dealing with the healing of diseases and called 'dietetics' is the most difficult, but also the most splendid." "Dietetics" here is taken in the broader sense of "the teaching of a rational way of life," but we see that

Iſte Doctor recedit iterum non rediturus, quia in venerat iſtos nobiles egrotantes comedentes fructus et alia mali nutrimenti ſine conſilio ſuo.

Doctor abandons Patient who ate forbidden food. *Vaquete de Nobles Cavalleros*, 1540.

questions of alimentary hygiene are definitely being accepted as part of the science of medicine. The Greeks had treated dietetics strictly from the hygienic point of view, but with the growth of opulence in Rome the customs changed, and the people were no longer content with the simple diet of their forefathers. We find many medical writers dealing with methods of preparing repasts, but often it is clear that the authors, though undoubtedly drawing upon their medical experience, deal with their subject as appreciators of good cheer rather than as scientific observers. Thus we should not forget the existence of special chambers called "vomitories" to which surfeited guests retired to submit themselves to specially trained slaves, who, by the use of feathers and emetics, endeavoured to get their lords into such a state that they could safely continue with the banquet. Celsus declares "a healthy man may quite well from time to time take part in a banquet" and, "it is best to begin the meal with salted fish, vegetables, and similar things, then can one best enjoy roasted and boiled meats. Sweets, such as dates, fruits, and other dainties do not harm a healthy stomach."

The Cook's Uniform. *Larmessin, 17th Cent.*

The oldest known cookery book dates from this period. Caelius Apicius, by some declared to have been a doctor, a celebrated gastronomist of the time of Augustus and Tiberius, published "De Arte Coquinaria." In the second century Galen writes on "the slimming diet" and on "meats which engender good and bad juices." He soundly reproves those who partake not wisely but too well of the pleasures of the table, but it is more against the glutton that his invectives are directed. When he goes into detail, we find him praising the refinements of the culinary art, and giving long lists of delectable dishes invented by the master-cooks of every land known to civilisation.

Invalid Cookery Begins

In the twelfth century we find in the "Summula de praeparatione ciborum et potuum infirmorum" by Petrus Musandinus, a physician of the Salerno school, recipes for nourishing and easily digested foods, descriptions of appetising dishes, directions for the preparation of meat extract (from chickens), advice regarding the tasteful presentation

of food for invalids, in pleasing receptacles. . . In certain cases of very delicate patients he advises a light repast of chicken stewed in rose water.

Maitre Aldobrandin of Sienna, physician to Saint Louis, King of France, wrote in 1256 a work entitled " Livre pour la santé du corps garder " (on the preservation of the health of the body) which is a careful study of the properties and nutritive value of ordinary articles of diet according to the ideas of the age. He displays a disinclination to approve of a meat diet and a certain caution in regard to the use of vegetables and fruit. " Beef is dry by nature, engenders

Invalid Cookery in Action. *Neues Kochbuch für die Kranken, G. Ryff,* 1545.

much blood and melancholy and when digested well by the stomach it gives good nourishment, but is not good except for those with hot and strong stomachs. It gives rise to many melancholy maladies including dropsy, spots on the face, even that leprosy which medicine calls leprous elephantiasis, and canker." . . . " Broad beans are of two kinds, green and dry. The green provide gross nourishment and engender wind and are bad for the stomach, therefore should be avoided by those having a tendency to flatulence. The best beans to use are those neither young nor old, and those cooked in water are better than those cooked on the hot cinders as the water lessens flatulence. To improve them prepare them if you like with mint, parsley, or sage." . . . " Apples . . . those which are green and sour strengthen the

stomach, but should be eaten by those who have a cold stomach for the nature of the juice. But by the nature of the substance they engender phlegmatic humours from which fevers, worms, and pains in the sides may result. But they are good for those who have indulged in an abundance of cold undiluted wine."

The Sixteenth and Seventeenth Centuries

Invalid cookery now begins to receive more and more attention. In a very interesting French work written about 1393 by a Paris bourgeois, a "Treatise on Domestic Morality and Economy," we find a delightful recipe for barley water: "Beverage for the sick . . . Sweet infusion. Take water and boil it, then put for each sextier of water a good spoonful of barley and do not mind if it has some of the husk on it. Add as much liquorice as will go on two parisis (a small silver coin), perhaps also some figs, and boil all together until the barley splits. Pour through two or three pieces of linen and put in each goblet a good amount of rock sugar." Later we have the cookery book of Hieronymus Bock, famous as a preacher, botanist, teacher, and doctor. This work, published at Strassburg in 1550 was dedicated to Prince Wolfgang of the Rhine Province and the full title may be rendered as follows: "The German larder. What healthy and sick people need for their nourishment. Also how all food and drink for diet and cure should be prepared." The book is of great interest, not only for its own sake but for the light it throws on the culture of the time. Another important work is the "Portrait de Sante," published in 1606 by Joseph du Chesne, physician to Henry IV. This is a medical manual of cookery in practically the modern spirit, a careful gastronomical handbook following the principles of hygiene. Du Chesne considers raw fruit to be particularly good for the health and recommends it especially as hors d'œuvres. On the other hand he has nothing to say in favour

A Caricature of Dr. Pierre de Montmaur Teaching Cookery.

of truffles, mushrooms, and such-like delicacies, terming them "excrement of the earth." He prefers poultry and game-birds to any other form of meat diet, calling them the healthiest and best nourishment for the body. Sugar he holds to be bad, as it "heats the blood and spoils and blackens the teeth," and he strongly disapproves of iced drinks.

Doctors Retreat from Cookery to Dietetics

The art of cookery now makes great progress, new specialists come to the fore, and the doctor is less frequently called upon for his culinary advice. Pierre de Montmaur, a French physician of the beginning of the seventeenth century, actually gave practical courses of cookery not only to the ordinary public but to cooks as well, but he was made the subject of many lampoons and caricatures. With the widening fields of medical investigation the elements of a real science of dietetics were gradually evolved. Already in the early seventeenth century Santorio, a Venetian investigator, had been elaborating a series of interesting experiments with instruments of his own contrivance in the attempt to formulate the processes of food assimilation. The majority of these experiments were carried out on himself, and though his apparatus was not exact, and his conclusions were vague, his work was extremely valuable by reason of the new possibilities of investigation which it foreshadowed. Dr. W. Stark, of St. George's Hospital, London, carried out similar experiments with the definite view of differentiating harmful and harmless articles of diet. He submitted himself to long periods in which his sole nourishment was restricted to bread and water, water and olive oil or meat, bread, bacon, and tea, or fine wheatmeal, melted butter, water and salt, etc. His experiments were primitive, but he noted the weather each day, the quantities and kinds of foods, quantities of excreta and urine, change of body-weight, state of general health, etc. Unfortunately he ended by ruining his health, and died at the early age of 29, on Feb. 23rd, 1770.

Santorio Testing himself. *La Medicina Statica.*

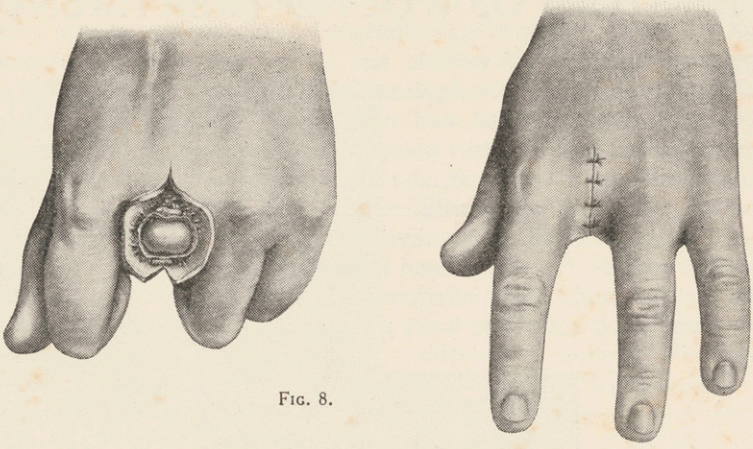


FIG. 8.

METACARPO-PHALANGEAL DISARTICULATION—(*Continued*)

FIG. 8—Bleeding is controlled by pressure clamp and ligature. The principal spurters are, of course, the digital arteries on either side of the bone. It is recommended that the nerves be isolated and injected with alcohol. The tendons are pulled down, cut short, and then allowed to retract. The skin flap is trimmed so as to fit neatly in the closure. It is almost invariably necessary to excise a small wedge of skin on the anterior surface, as shown. Some surgeons recommend that the soft tissues of the flaps be stitched together with plain catgut in order to eliminate dead space. The wound is then closed with interrupted non-absorbable sutures, without drainage.

AMPUTATION PROXIMAL TO THE METACARPAL HEAD

FIG. 9—When the finger is amputated without removing the metacarpal head, a considerable hiatus is left between the major digits. Therefore, it is sometimes desirable to remove the head of the bone along with the finger in order to obliterate this space. A much better cosmetic result is thus obtained, but at the same time the hand is weakened somewhat owing to the fact that it is necessary to divide the transverse ligaments that connect the metacarpal heads. This operation is, therefore, confined chiefly to women. The tourniquet is placed higher up on the arm and is removed before closure of the wound. The incision is similar to that described in the preceding operation ("Metacarpo-Phalangeal Disarticulation") but the handle of the racquet begins about ¾ inch proximal to the prominent point of the knuckle. Just before reaching this point, the oval portion of the incision is begun. The limbs of the oval incline distally and toward the palm and then pass around the anterior aspect of the finger at the edge of the wedge. The flaps are then dissected back. The transverse ligament uniting the metacarpal head with its neighbours is divided. The metacarpal head is exposed by drawing the adjoining fingers apart and a Gigli saw is passed around the neck of the bone to divide it. The wound is closed as shown in the preceding operation, but here it is important to draw the hand together and keep it bandaged rather tightly during the post-operative period in order to approximate the metacarpals.

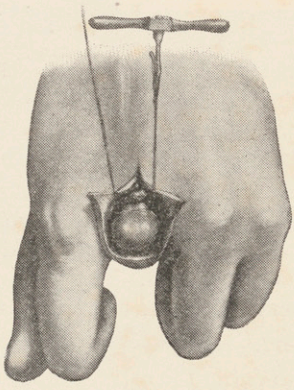


FIG. 9.

THE STORY OF WOUND TREATMENT

THE treatment of wounds was always well developed among primitive peoples. Applications of various kinds, both moist and dry, were used, and even plaster bandages were not unknown. Some tribes actually practised suture of wounds. Technique must have reached a considerable degree of perfection among early civilised races. In Egypt the different stages of healing were dealt with by different methods, and a division was made between clean and infected wounds. In the Talmud it was advised not to touch wounds because the hands cause inflammation. The first-aid treatment was by means of oil and warm water; the subsequent dressing consisted

The Plaster. *School of D. Teniers* (1610–1690).

of wool and a mushroom preparation. Great stress was laid upon diet in the process of healing injuries. It was thought, for instance, that the eating of honey was liable to cause ulceration of a wound and the neglect of medical instructions regarding diet caused the patient to forego his claim for compensation for injuries sustained. Probably the learned doctor regarded it as beneath his dignity to treat wounds with his hands. This gave rise to a class of healers who were mostly amateurs in the army, and who represented the early medical corps.

Ulcers and wounds were treated by barbers and bath attendants, often belonging to the unlettered classes. But there were also educated and observant barber-surgeons, and from among these Ambrose Paré rose to be Councillor of State and surgeon to the French royal family. It was he who said of one of his first patients, wounded in a military expedition in 1536, " I dressed him, God cured him." Gunshot injuries were then treated with boiling oil in the belief that they were poisoned,

and it was Paré who introduced the use of a simple dressing, and found, after much trepidation, that the results were very favourable. He also made use again of a long-neglected procedure in amputations, the employment of ligatures for arteries. Although wound treatment was simplified in the sixteenth century there were still many peculiarities attaching to it, such as that of forbidding love-play, even in cases of slight injury. Even so experienced a surgeon as Wilhelm Fabricius (1560–1634), who expected a wound doctor to have a good knowledge of anatomy and not merely practical skill, seemed disposed to believe in the efficacy of wound salves. These had been recommended by Paracelsus, and the procedure was to anoint with the ointment the weapon that had caused the wound. Fabricius explained the failure of the salve in one famous case at Rüdesheim on the Rhine by saying that the method had been revealed to Paracelsus by the devil, and the patient was a lady of such singular piety that nothing devilish could have any effect on her. So much for Paracelsus' supposed reform of medieval medicine.

Dressing an Arm. *School of Adrian Ostade* (1610–1685).

It was really through experience gained in military surgery that the treatment of wounds advanced. In England separation between the barber-surgeons and wound-healers was effected in 1800. The reason why the latter had been looked on as so inferior was that they did not refrain from travelling about like tumblers and tight-rope walkers, and practising their art at the local fairs. Only when wound healing and internal medicine were united in one faculty in France in 1792 was their status raised. In Vienna the wound-

Treating a Wound. *Sajtleven* (1606–1651).

healers seem to have enjoyed a certain reputation, otherwise they would not have been compared by a German chaplain to the divine healer himself. But he also knew of some exceptions, otherwise he would not have lectured them as he does in one of his works. He was acquainted not only with the laughing Vienna that was to produce Haydn and Mozart, but a city oppressed by the Turks and overrun with the plague.

He recognised Æsculapius as the founder of the treatment of broken bones, but considered that no one had treated wounds better than Christ himself. When He was attacked in the garden by the Roman soldiers and rabble, Peter, to prove his loyalty and courage, struck off the ear of Malchus. But Christ, disregarding the fact that Malchus had been a worthless man, set his ear in place again, and, thanks to his divine powers, it immediately healed, which even the best wound doctor could not have accomplished. The good Samaritan who treated the wayfarer's wounds with wine and oil seems to have been a wound-healer with a better sense of duty than some shepherds of souls. But there were also unskilful and conscienceless healers of wounds, who demanded exorbitant fees for a suture or any trifle. They praised up goose-fat and fowl-dung as Egyptian balsam, and reaped a fine harvest out of hops water and other worthless draughts. It was nothing for a healer who was treating a woman's eyes to relieve her, on the quiet, of a silver spoon or a pewter bowl at each visit, and at the end to be refused payment, because the patient saw much less than at the beginning of her treatment, the operator having helped himself so liberally to her possessions. There were many unskilful practitioners who made lesions worse, and used the knife as indiscriminately as a gardener his shears, thinking that the common people's limbs grew like crabs' legs.

The Foot Bandage. *D. Teniers* (1610–1690).

Bandages were improved by Heister (1683–1758), and Mezler (1792) recommended compression bandages and elastic stockings for varicose ulcers. Plaster bandages were introduced by a Dutchman in 1852, and Bonnet introduced wire supports. In 1855 warm water baths were still being used for amputation wounds and it was not until the advent of Lister that the modern period in wound treatment really began.

in such a state is obviously in danger of decay, if not already in a state of dissolution. The tasks which will face the young people at the end of this century are likely to be terrific. They will not only have to pay for all the vast loans which will have accumulated by then, but they will have to support a large army of pensioners. Already the average age of the population is rising, for during the last fifteen years there has been a decline of about a million and a half in the child population of Britain.

Future Possibilities

The only thing that can prevent these unpleasant things happening is for fertility to increase—that is, women of reproductive age must have more children than they are having at present. Is it the concern of the State to increase fertility? The totalitarian states certainly think so, and their efforts have had considerable success. There would appear to be much in favour of starting family allowances, and perhaps marriage loans, in this country. But the roots of the problem go deeper still. The birth-rate began to fall when the knowledge of birth control first became available. The present low birth-rate in this and other countries must surely be due to a definite lack of desire to have children, or, at least, to have large families. It has been said, obviously with truth, that if children are not to be had for love, they are not likely to be had for money.

It may be that the war and the unsettled condition of the post-war world has stifled the natural desire of women to have children, and that if life became more settled and living conditions improved, the birth-rate would rise again, just as it has risen during the last three or four years in Germany. Other causes of the decline may be the emancipation of women, and the present lack of deep religious feeling in the community. One authority thinks that there is a definite association between fertility and price levels—that the birth-rate depends on economic factors working via psychological routes. If an industrial boom were to come along, we might see an almost immediate rise in the birth-rate.

There is one theory which is extremely attractive from a philosophical point of view, but which does not greatly appeal to the statistical experts of the present day. This is the theory of " Germinal Vitality," first suggested by Brownlee. He believed that an evolutionary force influenced the birth-rate, and that, in fact, cyclical changes in fertility have occurred in waves, the peaks of which are reached every two hundred years. He produced evidence that the birth-rate was probably high round about the beginning of the 15th, 17th, and 19th centuries. These were all times of great endeavour and achievement. Let us hope that, after all, our children's children may be on the peak of the wave which is due at the beginning of the twenty-first century.

POISON CASES OF THE SEVENTEENTH CENTURY

THE seventeenth century, following the Renaissance, had a prosaic air. It was characterised by the charm of the spendthrift Stuarts, the austerity of Cromwell, the poetry of Milton, and the gradual development of the parliamentary system and of good middle-class respectability. Similar phenomena appeared elsewhere. Thus in France, under Louis XIV, dramatists like Molière and Racine dissected the follies and passions of mankind and great orators like Bossuet and Bourdaloue fulminated against the moral weaknesses of their time. Nevertheless, in spite of the culture and the grace of this age, one of the most terrible epidemics of criminal poisonings ever recorded broke out towards the middle of the century, and it needed the combined energies of the greatest intellects of France and the full weight of royal authority to eradicate the evil.

Fortune-telling *17th Century*

Religion and Chemistry

It was a period of religious fervour, unfortunately exaggerated in some respects. The Church and the reformers alike threatened sinners with the tortures of hell fire, and the great majority of people lived in a morbid fear of death. In their desire to escape damnation they resurrected some of the darker superstitions of the Middle Ages and sought to obtain the aid and protection of occult powers. Charlatans and impostors of all sorts appeared. During the Great Plague of London in 1665 an amazing crowd of sorcerers, magicians, and diviners sprang up in the panic-stricken city. They opened shops under the sign of Friar Bacon, of Merlin, or of Mother Shipton where they sold amulets against the pest, disinfectant waters, and advice as to where to take refuge to escape contagion.

There was, however, a serious revival of interest in natural phenomena. The great learned societies were founded in England, France, and Italy, Galileo revised the conception of the universe, the microscope and the telescope were invented, and Harvey observed the circulation of the blood. Already, a century before, Paracelsus had given an impetus to the study of chemical compositions. The search for the philosopher's stone and the "universal elixir" also led to patient investigation of every conceivable kind of substance. The properties of known metallic compounds and of vegetable tinctures were slowly discovered and their effects on the animal organism noted by a rough system of trial and error. Unfortunately, physicians, who should have been interested, generally held themselves aloof from these experiments.

Weakness of Medicine

In medicine many forms of ill health represented insoluble problems and in default of reasonable explanations doctors were led to postulate unscientific causes. Nervous trouble, weakness, pallor, wasting, and consumption were only too often accounted for by the supposed influence of the evil eye or attributed to poison. Because of this, because drugs were handled and dispensed by charlatans and poorly trained apothecaries, and since physicians were unable to diagnose certain cases of sudden death, almost every case of unexpected death was attributed to poison.

When Henrietta of England, wife of the Duke of Orleans, died in 1670, almost everybody, her brother-in-law Louis XIV and her brother Charles II not excepted, believed she had been poisoned, although it is now thought that she died of peritonitis following perforation by a gastric ulcer. There were also people who suspected Charles II of having been poisoned and the later years of Louis XIV were saddened by the ebb and flow of suspicions at the deaths of his son and his son's wife and of various other members of the family. This veritable reign of mental terror had been fomented by the discovery of two terrible series of crimes committed between the years 1666 and 1679.

The Marquise de Brinvilliers

The Marquise de Brinvilliers, a lady of distinguished family, but of ill-regulated passions, was convicted of the murder by poisoning of her father and of her two brothers. She was also proved to have had similar intentions with regard to other members of her family. The motive appears to have been impatience at the moral sermons delivered by her father, a patriarch of the old school, and a covetous desire to enter into her inheritance. She was undoubtedly a person of charm and education, she moved in the highest circles and was universally admired. Passionately fond of pleasure and married to a man of like tastes, she was immersed in the gay life of town and Court.

The dominant passion of her many love-affairs was for Sainte-Croix, a man as charming, as brilliant, and as unscrupulous as his mistress. Her father heard of this liaison and, using his influence at court to procure the arrest of his daughter's lover, signed his own death warrant. According to some accounts Sainte-Croix was the real instigator of the poisoning, which lasted for eight months. During his detention at the Bastille he is said to have made the acquaintance of an Italian gentleman named Exili, who had been in the service of Christina of Sweden and was the supposed possessor of the secret of many famous Italian poisons. There is no absolute proof of this, but Madame de Brinvilliers and Sainte-Croix refer in their letters to a mysterious " Glaser's receipt."

Marquise de Brinvilliers on her way to scaffold — *Le Brun*

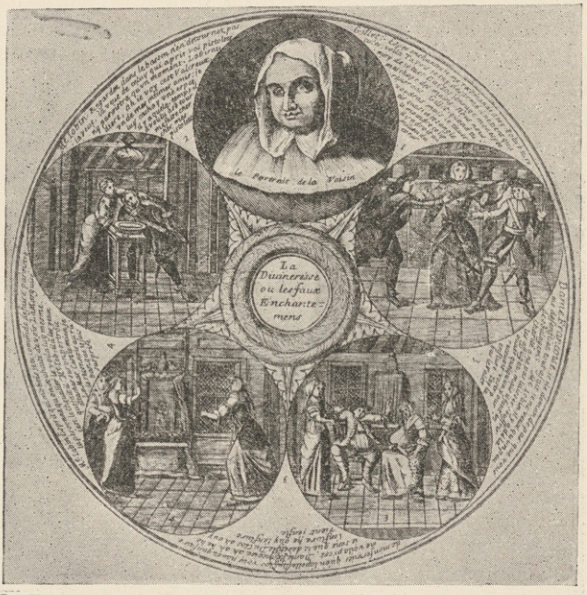
In her confession, Madame de Brinvilliers stated she knew of three poisons, arsenic, vitriol, and toad's venom, the most violent of which was " rarefied arsenic." She was beheaded in 1676 but unfortunately inspired other poisoners.

The La Voisin Poisonings

One day a worthy but insignificant lawyer was invited to dinner by a ladies' tailor and his wife. During the meal an unguarded remark by a woman present, a self-styled " divineress," so alarmed the lawyer that he consulted a friend of his, an officer who had actually been instrumental in the arrest of Mme. de Brinvilliers. This officer sent the wife of one of his archers to consult the " divineress " with instructions to complain of her husband, and the wife returned with a phial of poison. This led to the arrest of the woman and a number of her associates, among whom was a certain Catherine Monvoisin, called La Voisin, the wife of a tradesman; she was a sorceress practising black magic, telling fortunes, furnishing simple drugs for common ailments, concocting love-philters and beauty preparations and acting as midwife and abortionist. A person of considerable intelligence, she succeeded in making immense sums of money by her ingenuity and stagecraft, for her clients were drawn from the wealthiest classes. La Voisin was interested in all branches of scientific activity and, strange as it may seem, lavishly subsidised more than one undertaking. Careful notes of her clients' physical and physiognomical peculiarities were kept,

and she was proved to have supplied poison to a large number of people.

Further arrests revealed the widespread nature of the evil. It was found that La Voisin knew an ex-officer named Louis de Vanens who had been charged with complicity in a plot to poison the King and the Dauphin two years before, and whose papers had revealed the existence of an association of alchemists with a medley of names of people of all classes. Vanens had frequently visited La Voisin and had been on friendly terms with a well-known beauty, Madame de Montespan. He was a fanatical student of the occult, the friend and collaborator of an extraordinary person, the satanic Chasteuil, in turn Knight of Malta, Carmelite prior, and passionate alchemist. Another associate was a still more influential person, the Portuguese Count of Castelmelhor, an accomplished student of alchemy and metallurgy.



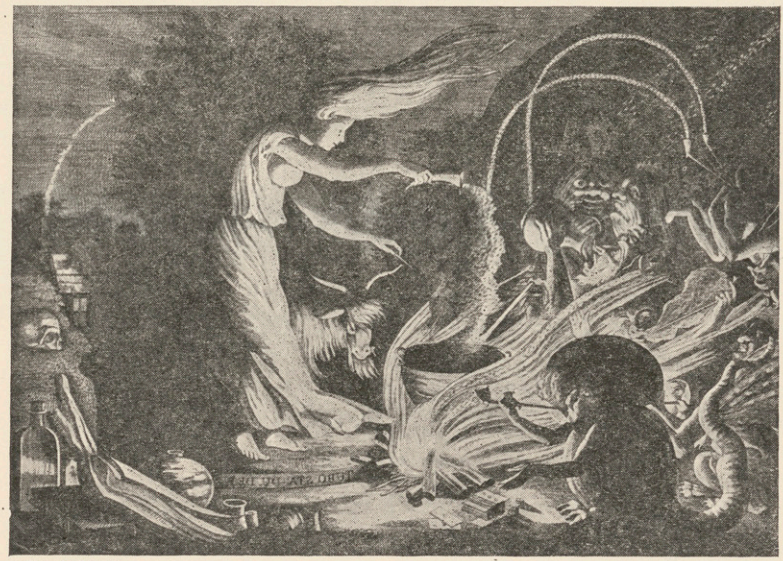
La Voisin, and scenes from play based on her career

The La Voisin case was continued. The divineress was proved to have sold countless packets of poison and to have presided at black masses at which new-born babies had been massacred. Her guilt was greater than can possibly be imagined. She was burnt at the stake in 1679 and, as Mme. de Sevigné writes, "yielded up her soul very charmingly to the devil."

The King's Mistress Implicated

Louis XIV was horrified at the result of the investigations, which did not end with the death of La Voisin. Hundreds of well-known people, many of them were the close associates of the royal family, were incriminated in the affair. Madame de Montespan herself, who had never made a secret of her jealousy when rival ladies claimed the King's attention, groped for any means of allaying her pain. Vanens brought her to La Voisin. She ordered philters to win back

the King's affection, and, when they proved ineffectual, asked for stronger ones; then, tortured in mind and soul, she commissioned the reading of a black mass. These revelations touched the very depths of infamy and sacrilege and the King, in a final effort to protect his one-time mistress and to put a stop to the scandals, dissolved the Special Commission of Enquiry and confiscated a large part of the written depositions. To save his own royal dignity and to lessen the disgrace of the persons concerned he arrested the normal course of justice. But numerous prisoners were sequestered for life in various royal fortresses, and Madame de Montespan retired to a convent she herself had founded. The case was closed.



A Black Mass

But the Lieutenant of Police through whose hands the bulk of the inquiries had passed and who was an upright and progressive magistrate, maintained that material steps must be taken to prevent the repetition of such crimes. In consultation with Colbert he drew up a decree against sorcerers and poisoners. This edict came out in August, 1682, and forbade magic practices of all kinds, prohibiting the manufacture of and traffic in poisonous substances except such as could be proved to be necessary for the proper needs of industry and commerce. One by one the conditions which had largely favoured this series of poison murders were removed. A change came about in medical outlook, surgery was rehabilitated, the knowledge of pathology was increased, and progress in chemistry brought with it a more exact study of pharmacology. As the horizon was enlarged, reason advanced and men and women found themselves better protected against their own fears and credulities.

Post-operative Excitement.

One patient was really violent afterwards for about a quarter of an hour. He was a man who had had his sciatic nerve stretched. It was his second dose of avertin within eight days, and yet after the first dose (injection of sciatic nerve with normal saline) he was quite normal. After the injection of morphine he soon became quiet.

		Vomit once or twice.	Vomit more than twice.	No vomit at all.
Total cases . . .	170	45 (26·5%)	12 (7%)	113 (66·5%)
Cases where nitrous oxide and oxygen only was used .	100	17	6	77
Cases where ether was used as well in greater or lesser amount (i.e., upper abdominals, excluding gastrostomies and appendicectomies)	25	7 (28%)	2 (8%)	16 (64%)

Total.		Vomit once or twice.	Vomit more than twice.	No vomit at all.
Breasts	20	6 (30%)	2 (10%)	12 (60%)
Appendices . . .	18	8	1	9
Hernias	21	1	1	19
Gastrostomies . . .	7	1	0	6
Thyroids	23	5	4	14
Upper abdomen* . .	25	7 (28%)	2 (8%)	16 (64%)

* Cholecystectomies, gastro-enterostomies, and gastrectomies, excluding gastrostomies. Of these, 6 were combined spinal percain and avertin. 3 were sick and 3 were not. (One died some hours later of collapse.)

These results tend to demonstrate that the addition of ether causes a rise in the incidence of vomiting. The presence of blood in the stomach after gastro-enterostomy is apt to precipitate sickness, but on comparing the results of gastro-enterostomy with those obtained with cholecystectomy it would appear that the presence of blood in the stomach as a cause of vomiting is negligible, as compared with the stimulation of the sympathetic by traction on and around the gall-bladder, and by the fact that more ether is required to maintain relaxation under these circumstances. The figures are self-explanatory, and Evans suggests that the results show that avertin definitely decreases the amount of after-sickness. He finds that patients are now demanding this drug and are most enthusiastic about it. He has found no difficulty in using it as a routine in hospital, " thanks to the active coöperation of the nursing staff involved."

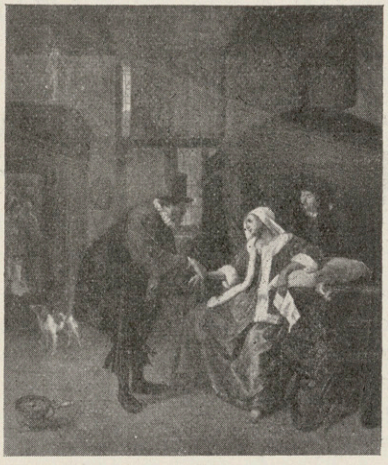
his letters—had he been travelling to-day instead of 1806 he would have bought a picture postcard, and his friends would no doubt have missed much of the artist's meaning.

Hermitage, Petrograd.

THE DOCTOR'S VISIT.

" A girl of 16 years is lying in bed. The physician sits at the bedside, and the mother, a young and handsome woman still, is handing him daintily a glass of brandy wine. The girl looks so plump and innocent, as though she could not understand why she was ill. She is a bonny lass, with one plump arm lying by her side, the other round her head. Her mother is very serious, and her seriousness seems to have some effect on the doctor's ambiguous smile. The glass is welcome, but he must make a show of refusal—it's rather early for a drink, but—well, to the patient's health ! In the open doorway one can see a couple of pet animals, introduced by Steen to demonstrate in pantomime what the doctor does not dare to mention in the presence of the mother," and so forth.

Other connoisseurs, Holländer for example, have also drawn attention to the amorous gambols of the little dogs as giving some indication of the patient's complaint, and in addition to the picture in the background showing nymphs raped by centaurs, the little basket of glowing coals is not without significance. Over the coals lies a blue ribbon; the fumes of a smouldering ribbon held under the nose were regarded in Holland as a corrective to hysterical fainting fits—as burnt feathers were in England —and further the fumes had some reputation in amenorrhœa, when directed on the lower abdomen. No doubt it is the latter indication that Steen had in mind.



Pinakothek, Munich.

PHYSICIAN AND PATIENT.

Conclusions.

1. Avertin is a great advance, and in proper dosage is quite safe.
2. The dosage recommended 0·08 c.c. per kg. body-weight, with preliminary morphine $\frac{1}{6}$ gr., or 0·1 c.c. per kg. body-weight if no morphine used.
3. Nitrous oxide oxygen is necessary to complete the anæsthesia.
4. The likelihood of vomiting depends largely on the amount of ether used.
5. Vomiting is absent in most patients; its absence can almost be guaranteed if nitrous oxide oxygen only be used.
6. It is strongly recommended for the patient who has a history of being very sick after ordinary anæsthesia, and for the highly nervous individual.

JAN STEEN, THE PAINTER OF THE SICK ROOM.

THE Dutch painter Jan Steen (1626–1679) died at the comparatively early age of 53. It is not known from what disease he suffered, but a large proportion among his works of pictures of physicians and the sick chamber point to a familiarity with the doctor's visit in the home. There are at least 50 pictures by him portraying doctors' visits to ailing women and girls.[1] This attraction of the sick room for Jan Steen was commented upon by the scientist Benzenberg in his letters describing a journey to Paris in 1806.

Rijksmuseum, Amsterdam.

THE SICK WOMAN.

In all these many portraits the physician appears as a shrewd student of human nature, whose knowledge of men and women is often—and rightly—greater than his medical lore. The artist occasionally emphasises this with a legend: "If I am not mistaken, your daughter is pregnant," but in the picture itself this diagnosis is merely hinted at delicately. The painting in the Royal Gallery at The Hague (see plate facing p. 134) is an example, and it has been accurately and prettily described by Benzenberg in

[1] Dr. Erich Ebstein, Leipzig: Jan Steen, *Der Maler des Krankenhauses*, *Therapeutische Berichte*, 1931, No. 4.

In "The Physician" the patient has got out of bed and is sitting in a chair. The doctor stands before her and feels her pulse, but does not seem to take the condition over seriously, as a case of "mal d'amour." Over her shoulder glances the maid, with a smile of mingled curiosity and amusement: "Will the learned doctor discover what I know already?" Even the little dog on the cushion is taking an interest in the business. The old woman at the hearth is, wisely, occupying herself with what really matters—creature comforts. The statuette of Cupid on the mantlepiece is perhaps the keynote of the whole affair.

The other paintings which we reproduce here are in much the same satirical style. Steen, differing from Molière, does not direct his satire on the physician, but on the patient.

Royal Gallery, The Hague.

THE PHYSICIAN.

ADJUVANTS TO SALYRGAN DIURESIS

WITH A NOTE ON SALYRGAN ADMINISTRATION

The diuretic action of the complex mercurial salyrgan is increased by the administration of ammonium chloride and ammonium bromide. The technique of salyrgan injections is described.

CARDIAC disease accompanied by œdema is treated, at the Graf Apponyi Polyclinic, Budapest, almost exclusively with the mercury diuretics, in association with appropriate cardiac medication (digitalis, etc.). If diuresis begins to diminish, or is suppressed, after the administration of salyrgan[1] intramuscularly, it may be brought on again by the administration of ammonium chloride. Dr. Elisabeth Berger, at the clinic, has been carrying out tests on the action of ammonium chloride in this connexion, and further examined the effects of other substances as adjuvants to salyrgan diuresis. The results on the urine output are given in the following table, taken from the *Wiener Klinische Wochenschrift* (1930, No. 49); the original gives many other factors, such as the influence on the body-weight and the changes in the pH.

[1] Salyrgan (10% solution) is issued in ampoules of 1 c.c. and 2 c.c. in boxes of 5.

led me to believe that in the majority of cases of this kind a moderate amount of good black China tea, to replace the harmful tea previously used, might well have been prescribed in place of total abstention. I had also become convinced that in all such cases the use of China tea after recovery in place of the strong and coarse teas which were the original cause of the complaint would assure that there should be no return of the symptoms. Not being a qualified practitioner, however, I did not put forward this theory until it had been independently examined and tested by one of the leading dieteticians of the present day. His observations have confirmed my own, and these have since been re-confirmed by other medical men with large general practices. As I write I have a number of letters from doctors before me ; and on this question all of them, without exception, have arrived at the same conclusion. It appears to be an unarguable one.

I am endeavouring to present my case without bias or prejudice, and I therefore do not attempt to suggest that if all the exaggerated tea-drinking of the present day had been confined to China tea no ill-effects would have resulted. No matter how beneficial a stimulant, or how wholesome a food, the over-use of any article of diet must be inherently bad. And it is impossible to deny that tea-drinking in England has to-day reached proportions which are altogether excessive. Its cheapness compared with any other form of refreshment, its stimulating qualities, and the ease and quickness with which it can be prepared, have in this country at least combined to make it incomparably the most popular of any beverage known. Not only at meal times, but also between meals and even before rising in the morning and retiring at night, excessive doses of this strong tea have become more and more general. Its stimulating effects in particular have caused the habit to be confirmed regardless of consequence. In short, it is only too clear that tea-drinking has become a national habit bordering on an obsession, and under

content of good black China tea is invariably lower than that of any other variety.

As is well known, tannic acid forms with the proteids (albumin contents of the stomach) a leathery insoluble compound upon which the digestive ferments cannot easily act, and hence excessive tea-drinking becomes a primary cause of indigestion. The human system is capable, under favourable circumstances, of coping with a small amount of tannic acid without ill effects ; but the cumulative effect of habitually exceeding this "small amount," to say nothing of the inveterate habit of large doses, is little less than disastrous.

Owing to its astringent action on the muscular coating of the intestines, tannic acid tends to arrest their normal gradual movements and so induces constipation. For the same reason this astringent effect is a common cause of gastritis, gastric ulcer, duodenal ulcer, intestinal stasis, and dyspepsia. But above all, the drinking of excessive amounts of tea is a cause of chronic constipation, which greatly adds to the danger of hæmorrhoids, appendicitis, and other complaints arising from intestinal obstructions.

Many medical authorities believe that tannic acid astringency may be a contributory cause of cancer of the stomach ; but on this aspect of a most highly technical problem, on which the whole resources of medical science have been concentrated for many years, it would obviously be out of the question for me to express an opinion. I shall therefore do no more than point out that I am advised that it may be possible for a tendency towards cancer to remain latent in the system throughout the patient's lifetime provided that there is no constant irritation sufficient to bring it forward ; and that tannic acid, if taken into the system in excess quantities, does undoubtedly act as an exciting cause of many complaints. I repeat that in this connection I make no attempt to express any opinion, or to suggest any theory ; but while there still exists even a possibility of tannic acid irritation

modern conditions it is doubtful whether this obsession can ever be eradicated.

Faced with this situation—that excessive tea-drinking is definitely harmful, and that it has become a habit which shows signs of increasing rather than diminishing—the physician finds himself in a difficult position. What course is he to follow ?

From all the investigations which have been made as to the effect of tea on the human system, one fact alone emerges which appears to point a way to the solution of the problem.

It has now been definitely established by independent scientific experimenters that China tea, even when used in excess, is much less harmful in its effects than the stronger and coarser growths produced in other countries. It has also been definitely established that a good quality black China tea, if not used in excessive quantities, is an entirely innocent beverage which does not inhibit digestion. This vital fact has been confirmed by all dietetic physicians who have studied the question of tea, and (as I understand) is now accepted by the medical profession generally as being beyond question.

The reason for the difference between the action of China and other teas is not far to seek, and may be disclosed immediately by chemical analysis. A typical experiment recently carried out by a leading dietician—an experiment which may be repeated and confirmed by any competent analyst—showed that of sundry samples of tea examined the best samples of other growths contained approximately 80 per cent. more tannic acid than did the best samples of the China teas. Over a large number of similar experiments, the same analyst has demonstrated that whereas the tannic acid content of good black China tea is practically constant, that of other growths varies over a very wide margin. And although in this respect some teas have been shown to be much better than others, the whole of his experiments have gone to prove that the tannic acid

and cancer being in any way associated, I feel that my present attempt to lay stress on the inherent dangers of excessive tea-drinking must surely be justified.

As I have already tried to show, however, the difficulties encountered by the physician in endeavouring to induce his patients to discontinue or even to moderate their consumption of tea may often prove to be almost insurmountable. I have a vivid recollection of my Father—himself a medical man—asking a contemporary whether "he would not be better without so much whisky." To this question his friend evasively replied: "I do not want to be better without so much whisky," and tea-drinkers to-day are only too inclined to adopt the same attitude. The only practicable alternative to the present state of affairs would therefore seem to lie in a more general appreciation of the comparative harmlessness of China teas as compared with those from other countries, and a more general adoption of China teas in place of the stronger and coarser growths now so generally popular.

Genuine controversy as to the merit of China tea still exists, but it is difficult to see how a hostile critic can hope to maintain his position in the face of such conclusive medical and scientific testimony as is now available. It is a proven fact that it is the tannic acid content of tea that is inimical to health; it is no less a proven fact that the tannic acid content of black China tea is less than that of other growths. And therefore whatever may be the side-issues involved in the controversy, it is impossible to avoid the conclusion that China tea may safely be used in a vast number of cases in which the use of other teas would be highly undesirable.

It may be interesting to the medical man who has had little opportunity of studying the question to know what are in fact the essential differences between China and other teas, and more especially as this is a highly technical matter of which only a very small minority of tea experts have any accurate knowledge.

Although in this work I have laid particular stress on the innocuous character of China tea as such, and particularly on the innocuous character of really good black China tea, I have made no attempt to differentiate between one brand and another. So long as none but the recognised most healthful tea is used, a medical man may not think it necessary to specify any particular brand. On the other hand, it is a very real advantage to the patient if the tea which he uses is not only the most suitable in every way, but is also one which is easily obtainable, moderate in price, and of a rigidly-maintained standard of quality. I feel, therefore, that in spite of my personal connection with " The Doctor's China Tea " it is not only permissible but advisable that I should specify some few of its admittedly good points, provided that I limit them to such as can be readily submitted to proof. The practitioner naturally wishes to feel fully satisfied that he is recommending a brand which will be in the best interests of his patients, and in many cases he is unwilling to leave it to the patient himself to select a tea which may after all prove to be an unsuitable one.

Many hundreds of medical men have to my personal knowledge prescribed this particular tea in cases of nervous and digestive disorder, and the records of my company conclusively prove that still larger numbers of practitioners, unknown to us personally, must be following the same course. Every day, I receive letters from members of the profession expressing their confidence in the brand, and instancing cases in which its use has been found invaluable in assisting even if indirectly towards a successful recovery. These opinions are confirmed and re-confirmed by experienced nurses who have had special opportunities of forming an accurate judgment, and further by letters from people in all conditions of life who have found that to their intense relief they can use this special brand without any evil effects. Taken collectively, this united testimony of its reliability

should be conclusive, especially as the confidence of the medical and nursing professions has been gained by actual personal experience, and by observation under circumstances admitting of no deception.

Its being harmless because of its low content of tannic acid may be proved by chemical analysis. Its highly refreshing but not too stimulating qualities give that ready relief that tea drinkers desire, without any accompaniment of over-exhilaration. Its standard of quality—based on an unvarying formula—is uniform from month to month and from year to year. Its peculiarly attractive flavour is such that even those persons who normally dislike China teas in general find " The Doctor's China Tea " immediately palatable. It can be secured readily in any but the most out-of-the-way village ; and where there is any difficulty in obtaining supplies the proprietors remove the inconvenience by forwarding small quantities free of postage. Special order-forms are used to accompany samples sent on medical advice, and the recipients of these are accorded preferential dispatch.

This treatise, however, has not been written with the object of stressing the value of one brand of tea as opposed to other brands, provided that these are of similar quality and blended with the same scientific accuracy. Rather have I endeavoured to put forward the view that the " Black China Tea " first recommended by the late Sir Andrew Clarke, M.D., in 1891, and thereafter by the ever-increasing numbers of dieteticians to whom the present prevalence of digestive disorders has become a problem of the gravest concern, is the only form of the beverage which persons showing the slightest tendency towards digestive disorders should be allowed to consume.

I am an enthusiast for my subject, but I have tried to make no statement and to suggest no theory which cannot be conclusively demonstrated by actual trial. On this vitally important matter, there can be no room for slipshod reasoning and haphazard conjecture. I shall

welcome any correspondence which doctors or nurses—or indeed anyone who is genuinely interested in the subject —may care to address to me, and if I can feel that this little work of mine has stimulated their interest in tea, and encouraged them to further inquiry, the time which I have spent on its composition will have been amply rewarded.

To those who are sufficiently interested in the subject of tea to inquire a little further into its history, it may perhaps be useful briefly to trace this world-wide development of the public taste from its original humble beginnings.

It is not actually known by whom the virtues of tea were first discovered, and the vast masses of unstudied literature lying in Chinese libraries have never been sufficiently sifted for them to reveal any authentic information. Legend attributes the brewing of the first cup of tea to the Emperor Chinning (or Shen-nung), who so far as can be ascertained died in the year 2737 B.C. But as legend also attributes practically all agricultural and medical knowledge to the same source, it may be doubted whether the Emperor be really entitled to this additional honour. Another tradition, and an even less likely one, attributes the discovery of tea to a wandering Indian ascetic of the name of Bodidharma, who travelled to China as a missionary and vowed that he would spend nine unsleeping years in contemplation of the virtues of Buddha. After three years, however, he discovered a marked tendency towards drowsiness ; and enraged by his weakness, he cut off his eyelids and cast them on the ground. But even this treatment failed, and after a further five years he was again on the point of sleeping when he plucked some leaves from a nearby shrub and obtained from them such stimulation as enabled him to complete his vigil. Bodidharma lived in the sixth century B.C., but his claims to be the discoverer of tea are weakened by

a reference—though admittedly a doubtful one—to tea-drinking in a book of poems edited by Confucius in 550 B.C. or earlier.

It is not until nearly a thousand years later that our evidence becomes in any way reliable. It is quite certain that tea was used as a beverage in China in the sixth century A.D., and in the year 793 its use had become so common that a tax was put on its consumption by the Emperor Tih Tsung. It is thereafter freely referred-to in historical narrative.

The first European writer to mention tea was Giovanni Botero, an Italian author, who in 1590 referred to "A herb out of which the Chinese press a delicate juice which serves them for wine, it also preserving their health and freeing them from all the evils which the immoderate use of wine produces among us." But it was not until more than a hundred years later that the early Dutch settlers in Bantam began to drink tea with the Chinese, and as a consequence introduced it to Europe. Probably the first Englishman to refer to tea was a Mr. Wickham, an agent for the East India Company at Firando, Japan, who wrote on June 27th, 1615, to a friend at Macoa asking for "a pot of the best sort of chaw." That the request was granted seems proved by a subsequent entry in Mr. Wickham's accounts—"Three silver porringers to drink chaw in."

The English did not begin to drink tea until the middle of the seventeenth century, when prices ranged from £6 to £10 per lb. That tea was still something of a novelty as late as 1660 is proved by an entry in Samuel Pepys' Diary on September 25th of that year: "I did send for a cup of tee, a China drink of which I had never drunk before." In 1664 Charles II became the first King of England to drink tea, and was presented with 2 lb. 2 oz. of "Thea" by the East India Company.

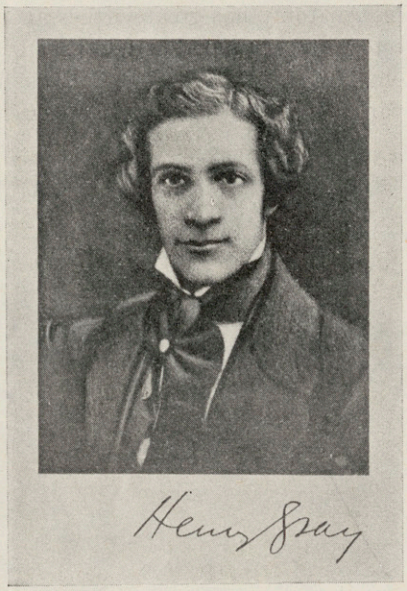
It was the East India Company who made the first really commercial importation of China tea in 1667, and in 1678 the market was actually glutted for some years by

HENRY GRAY, F.R.S.

1827-1861

By George Edwards

Being the second part of a paper read to the Hunterian Society on 14th January, 1958



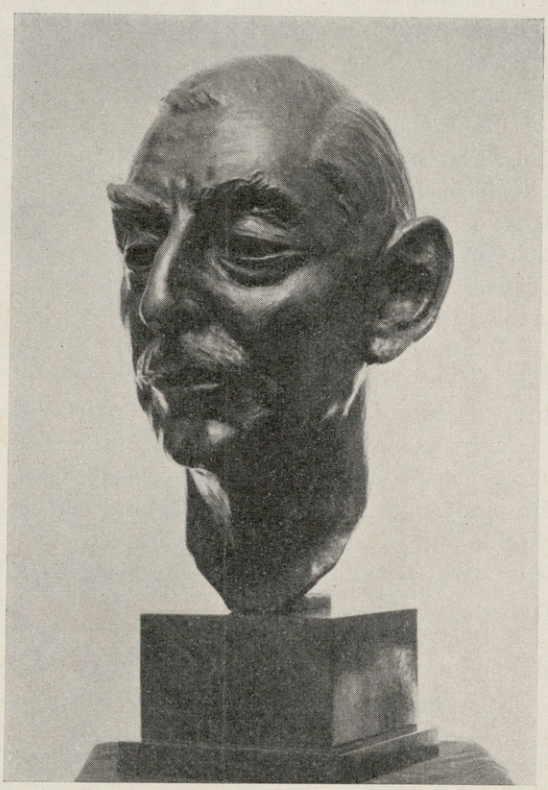
Rephotographed by Miss Underhill

HENRY GRAY died young, unmarried, and little is known of his family or of his early life and connections. The son of a private messenger to George IV and William IV, he was born in 1827, probably in London. He enrolled as a student in the Kinnerton Street School on May 6th, 1845, aged 18. At that time it is said that the lectureship in Anatomy was held by Henry Charles Johnson, who gave his name to the School Anatomy Prize. In 1848, now twenty-one, Gray was awarded the Triennial Prize of the Royal College of Surgeons for a paper on " The Origin, Connections and Distribution of the Nerves of the Human Eye and its Appendages, illustrated by Comparative Dissections of the Eye in the other Vertebrate Animals." Two years later, in 1850, Gray, presumably now qualified, held the house-surgeoncy for the then usual twelve months. Two more years and, at the age of 25, he was elected to the Fellowship of the Royal Society. In 1853 he won the Astley Cooper Prize of three hundred guineas for a dissertation on the Structure and Use of the Spleen. (This Prize was open triennially to the whole world with the exception of students from Guy's Hospital). In this same year of 1853 Gray was appointed Lecturer in Anatomy in the School, a post which he combined with that of Surgical Curator of the Pathological Museum. He devoted his time to the preparation of his " Anatomy, Descriptive and Surgical," the great work with which medical students are all familiar.

The tome was published in 1858, one hundred years ago. It was received with varying views, *The Lancet* was enthusiastic, whilst *The Medical Times* indulged in a slashing criticism. As the years have rolled on the views of *The Lancet* have become the more general ; in fact, they have become universal. The thirtieth edition appeared in 1949. It was not that there were not plenty of admirable Anatomies, both before and since ; there were many. The merit of Gray's book is that the work is arranged, the illustrations were chosen and the text written in such a way as to make the

student's path clear before him. In the preface to the first edition Gray freely acknowledges the excellence of Dr. Vandyke Carter's drawings of the dissections which Gray had made. He also thanks Timothy Holmes for his help in seeing the work through the press.

In 1861 there were two vacancies on the surgical staff of the Hospital. Gray was a candidate and his appointment seemed to be most probable—but before the election Gray was dead of confluent smallpox caught from a nephew whom he nursed. Although his Anatomy has great virtues and although it has lived for a century in increasing esteem, we cannot but feel that had he lived, Gray would have been more than a one-book man and that much was lost to surgery in general and to St. George's in particular by his untimely decease.



Mr. M. F. Nicholls

Head recently modelled in bronze by Professor S. D. Elek. Reproduced with their kind permission.

You can put all your "student's aids" back on the shelf ;
Take a rest you have earned, pack a bag and depart
For the depth of the country—alone, by yourself,
And
Park Davey, &c.

And when you return to your rooms, or your flat ;
Tired with your journey, and longing for friends,
You will find them in rows, lying about on the mat.
Park Davey, &c.

When you make your mistakes, and of doubts have your fill ;
And no one believes you—not even yourself ;
They turn up with the postman and trust in you still.
Park Davey, &c.

If you're stuck on an outpost in a country afar,
And your family forgets you, believing you dead,
Who is it remembers each mail where you are ?
Park Davey, &c.

So wherever it is we may happen to be—
In country or city, on land or at sea,
Let us toast them in samples so frequent and Free !
Park Davey, Allen Hanbury, Boro Wellcome,
Johnny Bell, Billy Bovril, and old Uncle Eno and all.
And old Uncle Eno and all.

J.H.S. (1926)

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Extract from student's notes—

. . . "the patient is toxic and slightly pregnant" . . .

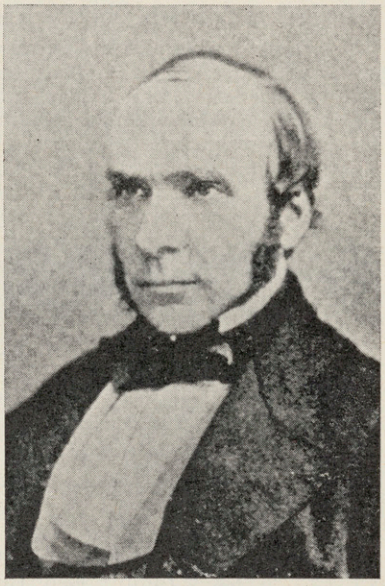
* * *

JOHN SNOW

1813-1858

By George Edwards

Being the third and last part of a paper read to the Hunterian Society on 14th January, 1958



JOHN SNOW was a farmer's eldest son born at York in 1813. He was educated at a local school until he was fourteen and was then apprenticed to a Newcastle surgeon, a Mr. Hardwick. Snow's name appears among those of the first batch of students registered in the newly-formed Medical School of Newcastle. The chief incident of this apprenticeship was the cholera epidemic of 1831-32. During this outbreak Snow acted as physician-in-charge at the badly affected Killingworth Colliery and it was on this occasion, no doubt, that his mind turned to the problem of cholera control to which he was later to contribute so much in the way of answer. In 1833 Snow spent a year with Mr. Weston of Burnop Field ; he was next assistant to Mr. Warburton of Pateley Bridge in Yorkshire.

In 1836 Snow left York for London, walking through North and South Wales, and staying with an uncle in Bath enroute. In October of this 1836 he enrolled himself at the Windmill Street School of Medicine, the famous school founded by William Hunter to which came the great younger brother John. A year later Snow walked the wards of the Westminster Hospital, in the old building which some of us happily recall, across the road from the West Door of the Abbey. In 1838 Snow became a member of the College of Surgeons, but before he could become appointed to a post for which he applied at his own Hospital, he had to 'pass Apothecaries Hall' as the expression then was and as the regulations then demanded. By the time this had been done Snow found that someone else had slipped into the post. He therefore departed and started in private practice at 54 Frith Street, Soho. This was a meagre and thin time, but Snow joined the clinical staff of the Charing Cross Hospital and continued his academic studies, taking the London M.B. in 1843 and his M.D. a year later. In the meantime he also made notable contributions to the medical press on a wide range of subjects—on asphyxia, on paracentesis of the thorax, on the removal

of adherent placenta, and so on. This meant that on the introduction of anaesthetics in 1846 his was a mind trained and receptive, ready to deal with the manifold problems of technique which inevitably appeared. Benjamin Richardson, the great public health authority and Snow's friend and immediate biographer, recounts how at the end of 1846 Snow met a well-known Oxford St. druggist who was bustling along with a large and cumbersome ether apparatus. Snow decided that some of this growing practice of administering anaesthetics might as well come his way. He soon found that there were many improvements to be made both in the method and the apparatus then available. He devised an improved inhaler and asked for permission to try it out in the Dental Department at St. George's. The results were so successful that he was soon asked to use it for in-patients' surgery. Here is something of which St. George's may well be proud—that it so rapidly appreciated the value of this strange innovation of anaesthesia that by the 14th January, 1847, it had arranged for an anaesthetist to attend in its theatre, less than three months, be it noted, from the original demonstration in Boston. Snow thus became the first anaesthetist to this, or as far as one can find out, to any other Hospital. He was shortly afterwards also invited to anaesthetise at University College Hospital where he worked with Liston during the last year of that great surgeon's life. He also anaesthetised for Sir William Fergusson, the distinguished surgeon of King's College Hospital, then situated in the Aldwych.

By September, 1847, Snow had written his book on ' The Inhalation of the Vapour of Ether in Surgical Operations' and on the title-page he recorded that his observations were based on eighty-six operations in which ether was employed at St. George's and University College Hospitals. In this book was given the classification of the stages of ether anaesthesia—a classification which stood the test of time for over eighty years and which was still taught in my student days. Snow also illustrated in his book the new portable ether inhaler which he had devised. At the centenary celebrations in 1946 Snow's inhaler was reproduced according to his original description : it turned out to work quite satisfactorily.

In 1847 chloroform was introduced by Simpson and Snow took to using it. He freely admitted that it was more dangerous than ether but contended that it was so much more effective and convenient that its use was justified. Snow devised an inhaler for this new agent. The cylinder from which the chloroform was vapourised is made of what we call blotting-paper but which was known to the mid-Victorians as 'bibulous' paper.

Snow rapidly became the leading anaesthetist in London, but this did not prevent him from much deliberate research into the effects of ether, chloroform and other drugs. In fact some of his animal experiments have only begun to be appraised and followed up in the last twenty years. We have only to observe that he seriously considered the problems of intubation and of maintaining oxygenation in a completely paralysed animal to realise how far ahead his mind had ranged. In 1853 his pre-eminence was made obvious to the non-medical world; for he was called upon to give

chloroform to Queen Victoria during one of her later confinements, a service he again performed in 1856.

Snow's increasingly busy practice both as physician and anaesthetist and his private researches, would have seemed enough to have fully occupied one man's time. But, no! Snow was meanwhile conducting a great and quite invaluable research into the sources of cholera epidemics. Whenever he heard of an outbreak or even of a single case he visited the locality and noted the local conditions, particularly as to water-supply and drainage. It happened that two different companies with different sources served various parts of South London. Snow was able to show that if your house or street was supplied by Company A with the dirtier water your risks of getting cholera were about fourteen times as great as if you obtained your water from Company B. He published this view in a pamphlet but his great hour came in 1854 when there was a devastating outbreak round about Golden Square just on the other side of Regent Street from Snow's house and in the Soho district where he had lived and worked for so long. The workhouse, which had its own artesian well, was immune. So was the brewery, whose workers scorned to drink anything so mild as water. More than this, there was the case of the particular lady of Hampstead, who thought that the water from the Broad Street pump had a merit all of its own ; she had a small barrel of this fluid sent up every day, with dire consequences for herself and her family. When the epidemic was at its height (in point of fact, it had just begun to decline and was about to limit itself as outbreaks do) the vestry of St. James', then the local authority, was at its wits' end. An emergency meeting was held and to this meeting a gentleman asked to be admitted. It was John Snow and he earnestly requested the Vestry to padlock the handle of the Broad Street pump. The Vestry was was ready to try anything : the pump was padlocked and the epidemic was over. Snow developed his ideas as to the water-borne nature of cholera (all this before the science of bacteriology had even been conceived) and published them in his famous volume of 1856, which was recently reproduced in America as a classic. He continued his researches into anaesthesia and anaesthetics and in June, 1858, was actually penning the last paragraph of his magnum opus, ' On Chloroform and Other Anaesthetics ' when he had the seizure which was to prove fatal in a few days' time. This was the end at the early age of forty-five of a man whose fame in the world of anaesthesia and in the world of public health has only grown the brighter as one hundred years have passed.

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Mr. Ch*rl*s to students, during hysterectomy—

"What do you think the condition of this patient is?"

Dr. J*hns*n, looking up from *Times*—

" Precarious !"

* * *

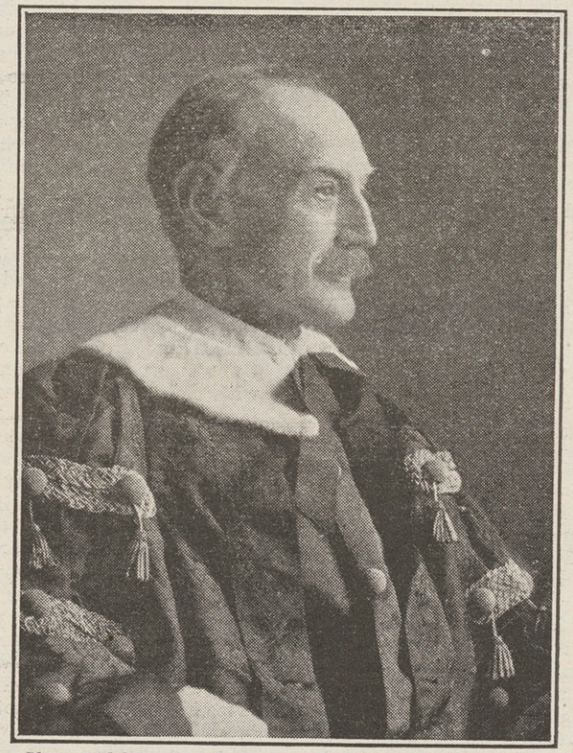
Obituary.

SIR ISAMBARD OWEN, M.D., F.R.C.P.,

Lately Vice-Chancellor of the University of Bristol.

WE regret to have to record the sudden death, in Paris on January 14th, of Sir Isambard Owen, who, during his residence in London, was an earnest worker for the British Medical Association.

Isambard Owen was the son of Mr. William George Owen, who became chief engineer of the Great Western Railway. He had been associated with Mr. Isambard Brunel in the construction of that railway, and when in 1850 his son was born was residing at Chepstow. His father afterwards removed to Gloucester, and Isambard Owen was sent to the King's School there and later to Rossall. He went up to Cambridge (Downing College) at the age of 18. Later on his old College made him an Honorary Fellow. Having resolved to take to medicine he entered the Medical School of St. George's Hospital, with which he remained connected until he left London. He was elected assistant physician and afterwards physician. He was dean for five years, and from 1899 lecturer on medicine until his appointment to be Principal of Armstrong College, Newcastle-on-Tyne, in 1904. He had graduated M.B.Camb. in 1876 and proceeded M.D. in 1882; in 1885 he was elected Fellow of the Royal College of Physicians of London.



Photograph by] [Lafayette, Manchester.

SIR ISAMBARD OWEN.

Prior to his appointment at Newcastle Owen had shown a lively interest in higher education and had taken an active share in the discussions for the reconstitution of the University of London. Earlier than this he had been largely instrumental in the establishment of the University of Wales. While still a young man he had become a member of the great London Welsh Society of Cymmrodorion, and in 1879 became a member of its council; there then existed University Colleges at Aberystwyth, Bangor, and Cardiff, all in receipt of Government grants. Attention was first directed to intermediate education, and the Welsh Intermediate Education Act was passed in 1889. In 1887 Owen organized a public conference which passed resolutions disclosing a strong feeling in favour of the establishment of a national Welsh University, and it was at that early date recognized that women should be afforded the same facilities as men. In March, 1888, after a further conference of an academic character, held at Shrewsbury in January, a series of resolutions were laid before a meeting of Welsh peers and members of Parliament. In 1891 Isambard Owen was one of the representatives of Cardiff at a University Conference appointed by the University Colleges of Aberystwyth, Bangor, and Cardiff, and the Conference of Joint Education Committees. The difficult task of this conference was to frame a scheme which would commend itself to all these colleges, lay and academic elements alike, and to the rising intermediate education authorities, as well as to the religious bodies, the local authorities, and the general public of Wales. Something approaching unanimity was required to give any hope of success in getting a scheme passed into law. A draft scheme prepared by Isambard Owen and Principal Viriamu Jones was submitted to the conference, which laid down certain broad principles and provided for the appointment of a draft charter committee to prepare a scheme in detail. Of this committee, which began its meetings in April, 1892, Isambard Owen was an active member, and to him was entrusted the delicate and arduous duty of drafting a definite scheme. The University conference reassembled in January, 1893, adopted the scheme, remitted it to the county councils, the colleges, and the Intermediate Education Conference, and commended it to the public. For six months it was actively debated, but ultimately was found to have gained general assent. Both during and after this time an immense amount of work had to be done in defending the scheme and converting it into charter form; but Isambard Owen proved equal to all calls upon his time and energies, and the charter was approved by Parliament and passed under the Great Seal. Isambard Owen was appointed one of the Crown Members of the University Court, and when it met in April, 1894, he consented to act as honorory secretary till the statutes were completed and a registrar could be appointed. In January, 1895, Lord Aberdare was elected Chancellor, Principal Viriamu Jones entered office as first Vice-Chancellor, and Isambard Owen was elected Senior Deputy Chancellor. The Chancellor's place, when absent, is, in the University of Wales, taken by one of two deputy chancellors. The Vice-Chancellor is the academic head of the University, but not the chancellor's deputy unless specially elected as such. The vice-chancellorship can only be filled by the principal of a college. As originally contemplated, the duties of a deputy chancellor would have been limited to occasional presidency of the University Court or its committees, or of a congregation of the University, in the absence of a resident chancellor. The death of Lord Aberdare a few weeks later and the subsequent election of the then Prince of Wales (afterwards King Edward VII) to the chancellorship made the senior deputy virtually the acting head of the University in all but purely academic matters, and his office became an arduous and responsible one. He discharged all its duties with his accustomed grace and assiduity, and when he became officially connected with other universities he retained his connexion with Wales as a member of the council of University College, Cardiff, and a governor of University College, Aberystwyth. The honour of knighthood which he received in 1902 was a recognition of the work he had done for Wales in promoting the establishment of the national University.

Isambard Owen's chief contribution to the long-drawn-out discussions on the reconstitution of the University of London was a scheme for a University of Westminster, drafted in consultation with Sir James Fowler in 1897. It proposed to leave the existing University of London alone, and would have given to the medical schools all that they had asked for, and especially the possibility of their students obtaining a degree in medicine or surgery on terms of equality with students of other universities. It was, we are told, the twenty-first scheme which had been put forward. It differed from its predecessors by placing the chief power in the hands of a council of the faculty, the institutions represented therein being left to organize themselves, instead of entrusting this duty to a commission in the composition of which they had had no voice. A general committee was formed, containing 140 persons attached to one or other of the London medical schools,

and for a time the prospect of the scheme seemed good, but the London University Commission Bill was passed soon after the Westminster scheme was published in the BRITISH MEDICAL JOURNAL of December 25th, 1897 (pp. 1869-71), and it consequently went into abeyance and was never, so far as we are aware, revived. Owen loyally accepted the recommendations of the Royal Commission, and was vice-dean from 1901 to 1904 during Sir James Fowler's tenure of office as dean of the Faculty of Medicine of the University of London.

In 1904 he gave up his work in London to become Principal of the Armstrong College at Newcastle-on-Tyne.

Sir ROBERT BOLAM has been good enough to send us the following note:

Sir Isambard Owen's work in Newcastle-on-Tyne covered a brief period of five years. He followed Principal Gurney, and saw the finish of the construction and the official opening of the fine west front of Armstrong College. Probably through his personal influence King Edward and Queen Alexandra combined this function at the college with the opening of the New Royal Victoria Infirmary. Owen's great achievement in the Northern University, however, was undoubtedly the passing of the University of Durham Act in 1908. Before the successful issue of his diplomatic effort the place of Armstrong College in the University scheme was relatively subordinate. By the new Act Newcastle, with its College of Medicine and Armstrong College, became equally with the colleges at Durham represented in the administrative mechanism of the University The course of the negotiations themselves and the final achievement were remarkable tributes to Owen's genius for organization.

In 1909 he was appointed Vice-Chancellor of the newly constituted University of Bristol. The University had been formed by the combination of three institutions—a university college, a technical college, and the old-established medical school. Of the value of his work for the University Professor J. A. NIXON of Bristol has been good enough to send the following estimate:

Sir Isambard Owen came to Bristol as Vice-Chancellor of the University in its opening years. His mark had already been made in the academic field by his administration of the Armstrong College in Newcastle-on-Tyne and his strong hand in the University of Wales. He found several difficult situations to negotiate in those early years. They were not of his making, and he faced them with a striking detachment, which proved of the utmost value when the troubles had been overcome. It was a great factor in producing an atmosphere of concord that the Vice-Chancellor, the principal officer of the University, had played no part in the transactions which led for a time to serious discord. His neutrality and impartiality strengthened his position for the future.

The young University owed a great deal to his knowledge of university affairs. He was in touch with the other universities of the kingdom, and in conference and congress it was no small asset that the spokesman for the newest university should be already known and capable of commanding attention. In his handling of Government departments there was something of a "wizardry" that may have been, like that of a recent Premier, his birthright—for Sir Isambard Owen was in some of his gifts unmistakably Welsh. It showed in his deep, melodious voice, in his power of oratory, which, though restrained, could alternate quickly between deep emotion and light humour. His education at Cambridge, and his professional life in London as a physician at St. George's, had bred in him a wide sympathy with the humanities as the basis of university education. Thus, in spite of the overpowering attractions of science to the undergraduate of a modern university, Owen strove vigorously and successfully for a place in the sun for the Faculty of Arts and polite learning in general. There was a good deal of the artist in him; pictures and music appealed warmly to him. With medical affairs he concerned himself scarcely at all. It seemed as though he felt that his retirement from the practice of medicine had deprived him of all claim to advise on matters medical in his own university, though he sat on the General Medical Council as its representative from 1910 until 1925. Many of his colleagues knew him as Worshipful Master of the St. Vincent Lodge of Freemasons in the Province of Bristol. He was an ardent Freemason, and in the chair of his Lodge he won lasting affection and widespread admiration; he attained to high honours in the Province in recognition of his labours and his talents. Although at times in his later years he seemed frail and weary, and even ill, he never appeared old. He had a very young heart in him, so that when news came that he had died suddenly in Paris, at the age of 76, the realization of the full tale of his years could scarcely overcome the feeling that the end had come unexpectedly young.

The British Medical Association had from its first institution desired to contribute to the advancement of medicine, especially on its clinical side, and suggestions had been made from time to time that it should enlist the interests of its many members in the collection of clinical and epidemiological information. When, therefore, in his address as President of the Annual Meeting at Cambridge in 1880, Professor (afterwards Sir) George Murray Humphry dwelt on the undeveloped capacities for good collective work which the Association possessed, described the advantages which might be expected to accrue from the successful utilization of those capacities, and made a definite suggestion, it was at once accepted, and on the motion of the then Chairman of the Committee of Council, seconded by Mr. (afterwards Lord) Lister, a committee was appointed to consider how it might best be carried into effect; on its recommendation a Collective Investigation Committee was appointed at the next Annual Meeting (Ryde, 1881). The plan had a very good send off, for it was warmly supported at a meeting of the Metropolitan Counties Branch in the autumn of 1880 by Sir William Gull and Sir James Paget. Its first secretary was Dr. Mahomed of Guy's Hospital; after a couple of years he was succeeded by Dr. (now Sir) Wilmot Herringham, and he by Sir Isambard Owen. The committee worked very energetically and issued a large number of inquiry forms. Reports founded on these returns were prepared, one by Sir George Humphry on centenarians, another on chorea by Sir Stephen Mackenzie, and yet another by Sir Henry Butlin on cancer of the breast. Isambard Owen's own contribution was on the connexion of disease with habits of intemperance; it was published in this JOURNAL in June, 1888, and reprinted in the *Collective Investigation Record* which the committee had instituted. His conclusions were that habitual indulgence in alcoholic liquors beyond the most moderate amount had a distinct tendency to shorten life, and that of men who had passed the age of 25 the strictly temperate, on the average, lived at least ten years longer than those who become decidedly intemperate. Another conclusion was that alcoholic excess or the gout which it induced probably plays a special part in the etiology of chronic renal disease. The report expressed regret that the returns to the inquiry were not far more numerous than they actually were, and it has to be confessed that the scheme generally did not fulfil the high hopes which had attended its birth.

Isambard Owen was an active member of the Association while he continued to reside in London. He was one of the honorary secretaries of the Metropolitan Counties Branch from 1892 to 1897, and its representative on the Central Council from 1896 to 1899. He was one of the honorary local secretaries of the London meeting in 1895. He was a member of the Parliamentary Bills Committee from 1894 to 1897, and of the Medical Charities Committee from 1899 to 1902. He had been secretary of the Section of Medicine at the Annual Meeting in Birmingham in 1890, was vice-president of that Section at the Annual Meeting at Nottingham in 1892, and its president at the Annual Meeting at Swansea in 1903.

Isambard Owen was a good friend and a charming companion. Slim and rather frail in appearance, he was capable of withstanding fatigue, whether physical, in his favourite pastime of cycling, or mental, when completing under pressure some of the laborious inquiries he undertook. He formed opinions only after full examination, but then held them tenaciously. His manner was always conciliatory, but opponents of a different temperament were often surprised how trenchant could be his criticisms, uttered in a quiet tone and often illuminated by a flash of humour.

Sir Isambard Owen married in 1905, and is survived by Lady Owen and two daughters, to whom, on behalf of the Association and the profession at large, we desire to offer our sympathy.

Aug 21st 1927

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LIST 6—FEBRUARY, 1920.

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The following abbreviations are used in this list:—

H.L.—Half length. T.Q.L.—Three-quarter length. N.W.L.—Nearly whole length. W.L.—Whole length.
Del.—Delineator. Sc.—Sculpsit (engraver). Pubd.—Published. Mezzo.—Mezzotint.
SIZES.—The measurements are given in inches, upright measurement first, and are inclusive of inscription space and margins.

1 **Abbot** (George), 1562-1633. *D.D., Archbishop of Canterbury.* Line, H.L., in cap and rochet. Oval, with ornaments. Brilliant Impression, with large margins. 13¾ by 8½. J. Houbraken, Sc. 12s 6d

2 **Agar-Ellis** (Lady Georgiana), 1804-1860. Daughter of George, Sixth Earl of Carlisle; Wife of George J. W. Agar-Ellis, Baron Dover, who died in 1833. Mezzo., full H.L., in feathered hat, short curls, low-necked dress, ermine collar. *Very rare etched letterproof.* Pubd. 1824, the plate measuring 9⅞ by 7. Earlier than Whitman's State I., with an autograph letter in reference to this print from Alfred Whitman to the late E. Layton, Esq., from whose collection the print now comes. In old English carved Hogarth frame. J. Jackson—S. W. Reynolds. £7 7s

3 **Anne** (of Denmark), 1574-1619. Queen of James 1st. Line, H.L., in low-neck dress, with ruff, wearing pearls. Oval, with ornaments. Brilliant Impression, with large margins. 14 by 8¾. C. Jansen—J. Houbraken. 12s 6d

4 **Arbuthnot** (Masters). Sons of Rt. Hon. Charles Arbuthnot, M.P. Two boys, the elder seen H.L., looking to right, the younger looking over his brother's shoulder. Soft ground etching in facsimile of the original drawing by Sir T. Lawrence. Engraved by F. C. Lewis. India Proof. 9½ by 7⅝. (SOLD)

5 **Argyll** (Archibald Campbell, First Duke of), died 1703. Line, H.L., in wig and armour. Oval frame on pedestal; inscription beneath. Rare. 15½ by 12. Medina—Vanderbanck. £1 1s

6 **Bedford** (John Russell, First Earl of), 1486-1555. *K.G. High Steward of Oxford University.* Line, H.L., in cap, holding wand. Oval, with ornaments. Brilliant Impression, with large margins. 1739. 14¼ by 8¾. Houbraken, Sc. 10s

7 **Blachford** (John), 1684-1748. *D.D. Chancellor of St. Patrick's, Dublin.* Mezzo., H.L., in wig, gown and bands. Oval, in a square. 11¼ by 8⅞. J. McArdell, Sculpt. £1 10s

8 **Bloxham** (Miss). Niece of Sir T. Lawrence. Head of a child. Soft ground etching, coloured in facsimile of the original drawing. Sir T. Lawrence—F. C. Lewis. 15s

9 **Boyle** (Hon. Robert), 1627-1691. *F.R.S. Philosopher.* Line, H.L., in cloak. Oval, with ornaments. Brilliant Impression, with large margins. 13⅝ by 8⅝. J. Kerseboom—G. Vertue. 12s 6d

10 **Boynton** (Lady Mary). Eldest daughter of James Heblethwayte, Esq. Married Sir Griffith Boynton, Sixth Baronet of Barmston, Co. York, who died in 1778. Afterwards married John Parkhurst, Esq., of Catesby Abbey. Mezzo., W.L., standing; hair dressed high, with strings of pearls; richly trimmed dress with lace sleeves, right arm on pedestal, hand holding sprig. Fine Impression. Second state (no margin). Pubd. 1770. 24⅞ by 15. F. Cotes—J. Watson. £16 16s

11 **Brisacier** (Guillaume De). *Secretaire des Commandemens de La Reyne.* H.L., in cloak, embroidered collar; long white hair. Oval, within square engraved border, with arms beneath. Fine Impression. Very rare. 13½ by 10½. N. Mignard—A. Masson. £28

12 **Brownlow** (John Cust, First Earl), 1779-1853. *G.C.H. F.R.S.* Mezzo., T.Q.L., standing, in uniform, hand on sword. Fine Proof before the Title on India paper. Pubd. 1843. 17½ by 13⅝. M. Shee—S. Cousins. £1 15s

13 **Buchanan** (George), 1506-1582. *Scottish Historian and Poet.* Line, H.L., in plain coat, white collar. Oval, with ornaments. Brilliant Impression, with large margins. 1742. 14¼ by 8¾. F. Pourbus—J. Houbraken. 12s 6d

14 **Calcott** (Sir Augustus Wall), 1779-1844. R.A. Landscape Painter, Chorister at Westminster Abbey. When Mr. Calcott. Mezzo., H.L., in cloak, white collar. Open Letter Proof, with margins. Pubd. 1832. Rare. 13 by 9¾. 18s

15 **Carleton** (Henry Boyle, *Baron*), died 1725. *Statesman.* Patron of Addison. Line, H.L., in Chancellor of the Exchequer's robes. Oval, with ornaments. Brilliant Impression, with large margins. 1741. 14⅛ by 8⅞. G. Kneller—J. Houbraken. 12s 6d

16 **Canning** (Rt. Hon. George), 1770-1827. *Statesman.* Educated at Eton and Christ Church, Oxford. Mezzo., T.Q.L., seated, in plain dress, white necktie, elbow resting on table. Fine Proof before the title, with margins. Pubd. 1827. 11⅞ by 9⅛. T. Lawrence—C. Turner. £2 2s

17 **Catherine** (of Aragon), 1485-1536. First Queen of Henry VIII. Line, H.L., in plain black hood. Oval, with ornaments. Brilliant Impression, with large margins. 14¼ by 9. Holbein—J. Houbraken. 12s 6d

18 **Chaloner** (Sir Thomas). Erroneously identified as Sir T. C. the younger, who died 1615, probably one of his sons. Mezzo., H.L., in broad lace collar; satin cloak, with slashed sleeves. Brilliant Impression, with full margins. Pubd. 1778. 15½ by 12. Van Dyck—Earlom. £4 10s

19 **Chambers** (Sir William), 1726-1796. R.A., F.R.S. Architect. Designed Somerset House. H.L., seated at a table, holding pencil. Oval stipple. Pubd. 1785. 4 by 3⅛. J. Reynolds—J. Collyer. 6s

20 ——— Another plate. Stipple, bust, in wig. Circle, in a square, on pedestal. Pubd. 1769. 6⅞ by 5. Falconet—Pariset. 7s 6d

21 **Coke** (Sir Edward), 1552-1634. *Lord Chief Justice of England.* Line, H.L., in ruff and robes of Chief Justice; ornamental border. 14 by 9. Houbraken, Sculpt. 12s 6d

22 **Colquhoun** (Patrick), 1745-1820. Police Magistrate and Statistical Writer. Mezzo., T.Q.L., seated, in plain dress, holding papers. Pubd. 1802. 17½ by 12⅜. S. Medley—R. Dunkarton. £1 10s

23 **Copleston** (Edward), 1776-1849. D.D. Bishop of Llandaff. *Provost of Oriel College.* When Provost. Mezzo., N.W.L., seated, in academical dress, holding cap; charter on table. Fine Impression, with full margins. Signed in pencil by Sam. Cousins. Pubd. 1822. 17¼ by 13¾. T. Phillips—S. W. Reynolds—S. Cousins. £2 2s

24 **Coventry** (Thomas Coventy, *First Baron*), 1578-1640. Lord Keeper. Line, H.L., in robes. Oval, with ornaments. Brilliant Impression, with margins. 1741. 14⅛ by 8¾. J. Houbraken, Sc. 12s 6d

Cromwell (Thomas).—*See* Essex, Earl of.

25 **De Valangin** (Francis Joseph), 1720(?)-1805. M.D. Swiss Physician in London. Stipple, H.L., in wig, plain coat, white frilled cravat. Oval, with margins. Pubd. 1793. 6¼ by 5⅛. L. Abbott—J. Collyer. 12s 6d

26 **Dorset** (Thomas Sackville, *First Earl of*), 1536-1608. K.G. *Lord Treasurer.* Line, H.L., in hat and furred robe, holding wand. Oval, with ornaments. Brilliant Impression, with large margins. 13½ by 8⅜. G. Vertue, Sc. 10s

27 **Dorset** (John Frederick Sackville, Third Duke of). K.G. *Diplomatist.* Educated at Westminster. Mezzo., H.L., in plain coat, white cravat. Pleasing portrait, with full margins. Pubd. 1799. 12 by 10. Sir J. Reynolds—T. Hardy. £2 2s

28 **Essex** (Thomas Cromwell, Earl of), 1485-1540. K.G. *Minister of Henry VIII.* Line, H.L., in cap and furred gown. Oval, with ornaments. Brilliant Impression, with large margins. 1739. 14⅛ by 8¾. H. Holbein—J. Houbraken. 12s 6d

29 **Essex** (Robert Devereux, Second Earl of), 1567-1601. K.G. Favourite of Queen Elizabeth. Line, H.L., in ruff and lace collar. Oval, with ornaments. Brilliant Impression, with large margins. 1738. 14⅛ by 8¾. J. Oliver—J. Houbraken. 10s

30 **Essex** (Catherine (Stephens), Countess of), 1794-1882. Second wife of the fifth Earl. Singer. When Miss Stephens. Stipple, H.L., in low-necked white dress. Proof finely printed in colours, with margins. Pubd. 1818. G. H. Harlow—R. Cooper. £8 10s

31 **Fairfax** (Thomas Fairfax, Third Baron), 1612-1671. General for the Parliament. Line, H.L., in armour. Oval, with ornaments. Brilliant Impression, with large margins. 1738. 14⅛ by 8¾. S. Cooper—J. Houbraken. 12s 6d

32 **Fisher** (John), 1459-1535. *D.D. Bishop of Rochester.* Studied at Cambridge. Line, H.L., in cap, fur-trimmed rochet. Oval, with ornaments. Brilliant Impression, with large margins. 14 by 8¾. Holbein—J. Houbraken. 10s

33 **Flaxman** (John), 1755-1826. *Eminent Sculptor.* Mezzo., H.L., in plain dress, white cravat. Fine Impression, with full margins. Pubd. 1827. 10 by 8¼. £1 15s

34 **Fleetwood** (Charles), died 1692. *Parliamentarian. Lord Deputy of Ireland.* Line, H.L., in armour. Oval, with ornaments. Brilliant Impression, with large margins. 1740. 14¼ by 8¾. R. Walker—J. Houbraken. 12s 6d

35 **Fothergill** (John), 1712-1780. M.D. F.R.S. Physician. Chief founder of the Quaker School at Ackworth. Stipple, H.L., in wig and plain coat. Oval, in red, with margins. Pubd. 1782. 3⅞ by 3. Livesay—Bartolozzi. 12s 6d

36 **Gage** (John), 1786-1842. F.R.S., F.S.A. Antiquary. Author of History of Hengrave. Mezzo., H.L., in cloak, white collar. Open Letter Impression, with margins. Pubd. 1824. 8⅝ by 7¼. M. Carpenter—T. Hodgetts. 12s 6d

37 **Garrick** (David), 1717-1779. *Eminent Actor.* Mezzo., H.L., seated at a table, in private dress; hands on papers inscribed "Prologue." Fine Impression. Pubd. 1779. 13⅜ by 11. Sir J. Reynolds—T. Watson. £7 10s

38 **Gillray** (Mr. James), 1757-1815. *Eminent Caricaturist.* Mezzo., H.L., in plain coat with white cravat. Oval, in engraved square border. Fine Impression of the second state, with margins. Pubd. 1819. 12⅜ by 10¾. J. Gillray—C. Turner. £1 10s

39 **Girtin** (Thomas), 1775-1802. *Eminent Landscape Painter.* Mezzo., H.L., in dark coat and white cravat, holding porte-crayon and sketch-book. Fine Impression. First state (no margin over the plate mark). 12⅛ by 10⅛. J. Opie—S. W. Reynolds. £4 4s

40 **Godolphin** (Sidney Godolphin, First Earl of), 1645-1712. K.G. *Lord High Treasurer.* Line, H.L., in plain dress, with wand. Oval, with ornaments. Brilliant Impression, with large margins. 14⅛ by 8¾. G. Kneller—J. Houbraken. 12s 6d

41 **Gordon** (Lord George), 1751-1793. *President of the Protestant Association.* Stipple, H.L., in plain coat, white cravat. Oval, in brown, with margins. Pubd. 1783. 3¼ by 2¼. C. Knight, Sculp. 8s

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With Mr. Howell Evans' compliments - in case you may care to attend.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

HUNTERIAN LECTURE

ON

TESTICULAR TUMOURS OF CONGENITAL ORIGIN,

TO BE DELIVERED IN THE THEATRE OF

THE COLLEGE IN LINCOLN'S INN FIELDS

ON WEDNESDAY, FEBRUARY 23RD, 1927,

AT 5 O'CLOCK P.M.,

BY

PROFESSOR J. HOWELL EVANS, M.A., M.D., M.CH. (OXON.), F.R.C.S.

Brief survey of:

(*a*) Development of the Common Sex-Gland ;
(*b*) Differentiation into Male or Female Gonad ;
(*c*) Relation and Comparative Positions—Abnormalities.

Cysts and Cystic Conditions of the Testis.

(*a*) Human ;
(*b*) Comparative ;
(*c*) Homologous Testicular and Ovarian Cystic Conditions.

Teratomata of the Sex-Gland.

(*a*) Dermoid Tumours ;
(*b*) Teratomata and Cystic Disease ;
(*c*) Pigmentation and Pigments in Tumours of the Testis .
(*d*) Chorion-Epithelioma in the Male.

Teratomata and Malignancy.

(*a*) Malignancy in Teratomata ;
(*b*) Embryonic view of the origin of Cancer ;
(*c*) What determines this Malignancy ?

Pathogeny of Teratomata—History.

(*a*) Theories of the Etiology of Tumours of the Testis ;
(*b*) Experimental Work ;
(*c*) Parthogenesis—in the mammal ?

Present position of the Diagnosis and Treatment in relation to Malignant Disease of the Testis and Ovary.

S. FORREST COWELL,
Secretary.

350 | 1 | 27.