

ago." On the contrary, I should say that up to 50 years ago there was a very hard and fast line indeed between the physician who was the consultant and the apothecary or general practitioner. It is true that up to 20 or 30 years ago the pure consultant in the sense of a practitioner who never visits patients at their own homes except in consultation did not exist in this country, but it may be doubted if even at the present time they exist as a class, although certain individuals may limit their practice in the way stated. Some consulting physicians and consulting surgeons of the highest eminence still visit patients at their own houses without the presence of any general practitioner.

With the latter part of the article I cordially agree. The modern consultant takes his standpoint upon his qualifications as a specialist—that is to say, he must possess special knowledge of certain departments of practice or special skill in carrying out particular kinds of treatment. It is idle for a man to claim to be a consultant merely because he has passed certain examinations and holds hospital appointments unless he has made use of the opportunities afforded him by his appointments to acquire special knowledge and skill.

I am, Sirs, yours faithfully,

Birmingham, Oct. 2nd, 1905.

ROBERT SAUNDBY.

## THE ESSENTIAL CONDITIONS OF STEAM DISINFECTION.

*To the Editors of THE LANCET.*

SIRS,—The article by Mr. Wolf Defries in THE LANCET of Sept. 30th, p. 984, is undoubtedly a valuable contribution to the literature of this subject but his conclusions are based too exclusively upon theoretical considerations and laboratory experiments without due regard to the results of actual experience. I have always contended, and Mr. Defries acknowledges, that steam acts as a disinfecting agent on account of the enormous amount of "latent heat" which becomes "sensible" when the steam condenses. Watt, who investigated this subject, found that "the whole quantity of heat necessary to raise a given weight of water from zero or any temperature and then to evaporate it entirely is a constant quantity. His experiments showed that this quantity is  $640^{\circ}$ . Hence, the lower the temperature the greater the latent heat and, on the other hand, the higher the temperature the less the latent heat." It is true that Regnault found that this was not quite correct and from his formula it appears that the total quantity of heat necessary to evaporate water at  $100^{\circ}\text{C.}$  is  $637^{\circ}$  and at  $120^{\circ}\text{C.}$   $643^{\circ}$ . The use of high pressure necessary to evaporate water at  $120^{\circ}\text{C.}$  only therefore increases the sensible heat produced by condensation by  $6^{\circ}\text{C.}$ , an amount entirely insignificant in the circumstances. Mr. Defries ignores this fact in his theoretical considerations. Another possibly important fact also escapes his attention—namely, that the temperature at which the steam condenses varies with the conditions under which it is allowed to condense. If the steam is allowed to pass into a vessel containing salt the temperature at which the steam condenses will be that at which a saturated solution of salt boils ( $109^{\circ}\text{C.}$ ) and will remain at this so long as any of the salt remains undissolved, whatever the pressure under which the steam may have been generated. If the bulb of a thermometer is moistened with such a solution and then immersed in current steam it will be found that the temperature recorded is several degrees above the boiling point of the water. The same applies to all other solutions capable of taking up water.

Mr. Defries acknowledges that all the known disease-producing organisms for which disinfecting apparatus are required are destroyed at a temperature far below  $100^{\circ}\text{C.}$  but he states that the exciting organisms of small-pox and scarlet fever have not yet been isolated. This may be open to discussion, but it is a fact that the organisms which have been isolated and which bacteriologists of the highest repute believe to be the causes of these diseases are no more difficult to destroy by heat than the diphtheria or typhoid bacillus and it is a matter of common knowledge that the vaccine virus loses its effect at a very moderate temperature. There is not the slightest reason for supposing that these organisms are capable of withstanding the action of steam applied in circumstances which would infallibly destroy the spores of anthrax. Another, and most important, point which Mr. Defries ignores is the fact that when current

steam is admitted into any form of apparatus in which bedding, clothes, &c., are being disinfected, the steam must be condensed by these cold articles and that the incoming steam in contact with the excess of moisture must become and remain saturated, even if, upon entering the apparatus, the steam is one or two degrees above the normal boiling point. The steam in the interstices of the bedding must remain saturated during the whole process of disinfection.

These and other points dealt with by Mr. Defries are of little importance compared with the results of experiments made with actual disinfecting machines. If the results obtained do not correspond with Mr. Defries's theories, so much the worse for the theories, and if a machine using current steam, or steam under very slight pressure, will disinfect as well as the pressure machines with their complex arrangement of pressure gauges, water injectors, vacuum apparatus, &c., it follows that their greater simplicity will result in their continued use. May I, therefore, direct your attention to the results of your own Special Commission on Disinfection, published in THE LANCET only a few years ago. Writing of a current steam machine which your Commissioner had tested you state: "To sum up, it will be seen that in no single particular have we found the invention of ..... to come short of the requirements which we have laid down as essential in a machine intended for practical disinfection. .... Next and above all, it is efficient as a steriliser." I may be allowed to add that since that time the same form of machine has been submitted to more rigorous tests by various commissions and by Government officials, without a single failure, even with the spore-bearing bacilli of most resistant anthrax.

Practical tests of this kind are, I contend, far more important than any number of theoretical deductions or laboratory experiments and conclusively establish the fact, first pointed out by Koch, that current steam properly used is thoroughly reliable for disinfecting purposes. Space will not permit of my dealing with the final statement of Mr. Defries that return cases of infectious disease may be due to insufficient disinfection beyond remarking that there has never been any proof adduced of this and that should it be true it would affect one form of machine as well as another, assuming that each was an efficient steriliser if properly used.

I am, Sirs, yours faithfully,

Oct. 4th, 1905.

JOHN C. THRESH.

## VARICOCELE—WHAT OF IT?

*To the Editors of THE LANCET.*

SIRS,—It is very interesting to read the different views of surgeons on this important question. Mr. Harrison Cripps considers that varicocele is not an abnormal condition but merely a provision of nature to keep in abeyance the functions of the testicle when not required. If this is so, why does nature not provide this condition on both sides, as in nine cases out of ten the left side only is affected? On the other hand, Mr. Edred M. Corner considers that fibrotic changes in the testicle are due to varicocele and that operation hastens and magnifies these changes. If this is correct varicocele must be an abnormal condition.

That varicocele does cause real suffering at times I have no doubt, as during the two years I was civil surgeon with the South African Field Force I saw many cases in which a varicocele did very greatly interfere with the ability of a soldier and often prevented him from performing his duties on active service from pain and increase in size of the varicocele. I also operated on several of these cases with the greatest benefit to the sufferers. I remember one man who wore out his suspensory bandage marching and I know that that man used to suffer agonies from his large varicocele; at times he felt quite sick with pain and would always take the opportunity of bathing his varicocele if he came to a water course on the march. He was very plucky and would not go sick, although I advised him to on several occasions. Mr. Jacobson, in his book "The Operations of Surgery," mentions the case of —, a goods guard on probation, who had a large left-sided varicocele which threatened to spoil his prospects, the aching pain from which invariably followed the jumping in and out of his break-van, being only relieved by the patient's lying down and being inevitably brought on again by the exertions at the next station. Mr. Jacobson operated. Five years after the operation the man stopped Mr. Jacobson on London Bridge, saying that he was in regular employment as a goods guard, married, and the father of two children.

As recruiting medical officer at Winchester, out of 530 recruits during the past year I have rejected 21 for varicocele and these were all large varicoceles, left-sided, and with the testicle hanging abnormally low. In my opinion if a recruit has a large varicocele his gymnasium course will cause it to pain him and I have seen these varicoceles become very painful and tender during a gymnastic course.

It was only quite recently that a recruit who had been passed in London was sent to this dépôt. He had a large left-sided varicocele. The medical officer who passed him wrote on his medical-history sheet "that he was willing to undergo an operation if the varicocele in any way interfered with his duties." In less than ten days after joining this station this recruit reported sick, saying that he suffered so much pain in the left scrotum and groin that he wished to undergo an operation. This was granted. A few months ago a middle-aged man came to my out-patient department at the County Hospital with a large varicocele and varicose veins of both legs. The varicocele was left-sided and the testicle hung very low; he stated that the varicocele gave him more pain than the veins in his legs and the pain was chiefly at night after a day's work. He was a farm labourer, married, and with a large family. He refused operation and was given a suspensory bandage. In Mr. Watson Cheyne's "Manual of Surgical Treatment" appears: "Varicocele—Operative. When for any reason an operation is desired a complete cure can be effected by a very simple operation which has no risk if it be done aseptically."

In conclusion, I think that—1. Varicocele is an abnormal condition, leading in some cases to changes in the testicle and in some cases giving rise to definite symptoms, such as pain, tenderness, &c., and although operation may not prevent the changes in the testicle it does relieve the symptoms. 2. That in some cases the condition may be relieved by palliative treatment—viz., support, regulation of the bowels, cold douches, and regular exercise. 3. That operation may be advised if the varicocele is large and causes the testicle to hang very low and if the varicocele gives rise to symptoms which are not relieved by palliative treatment. 4. That varicoceles ought not to cause rejections for the services but that candidates for the services suffering from varicocele should be asked to sign a form on passing into the service stating that they are willing to undergo an operation should the varicocele in any way interfere with their duties. I think this would prevent any tendency to malingering.

I am, Sirs, yours faithfully,

HERBERT JAMES GODWIN,

Surgeon to the Royal Hants County Hospital; late Civil Surgeon, South African Field Force; Medical Officer in Charge of Recruits, Winchester.

Oct. 2nd, 1905.

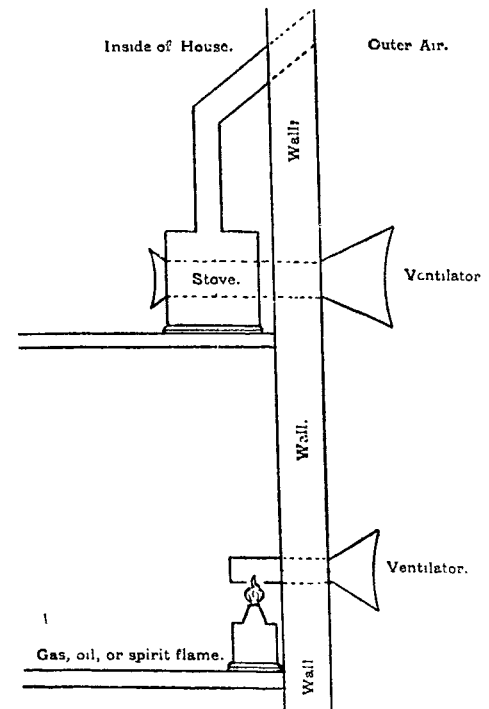
## HOT - AIR VENTILATION.

To the Editors of THE LANCET.

SIRS,—The most careless observer cannot but have noticed the increased, and daily increasing, interest displayed by the general public in the questions of health and longevity. 100 years ago, or less, when our forefathers awaited impatiently the retirement of the ladies as the signal for an orgy of excess, the term "hygiene" was scarcely recognised as a word to be used in ordinary converse. Now we talk glibly of "bacteria" and "microbes." As for our hospitals and gaols, in the matter of ventilation, it was little thought of in summer and regarded as something suggestive of insanity in winter. *Tempora mutantur, nos et mutamur in illis.* Nowadays in our hospitals and prisons, in the Houses of Parliament, and in a few public buildings, the importance of pure air is recognised, though scarcely with enthusiasm, and it is even admitted in behalf of our lungs and brains to be as needful in winter as in summer.

At an enormous expense, and by means of a complicated and costly machinery, attempts have been made to supply a warm-air ventilation—how ineffectually may be learned by a reference to the representations of so many Members of the House of Commons in the last session of Parliament complaining that the deteriorated warm air so admitted caused irresistible feelings of lethargy and somnolence. The simple fact was that in the process of heating the pure air was deprived of a considerable portion of its oxygen with the substitution of a deadly poisonous gas. But however necessary may be a supply of pure warm air in winter in the cases of hospitals and public buildings, it will be readily conceded that it is quite as desirable in private dwellings. But what hope is

there, and what inducement, for the householder to introduce such a desirable novelty when he has before him the example of the Houses of Parliament? Can the simple man, perhaps already living up to the extent of his income, be expected to sacrifice a year's rent or more in the purchase of an unsightly and cumbrous device that, after all, must prove worse than efficient? In all previous and existing systems of hot-air ventilation the pure air from outside is heated in



Showing simplest and cheapest form of hot-air ventilation.  
For house or single room.

actual contact with the heating agent, generally an open fire of coal or charcoal, and it requires little knowledge of chemistry to understand that this cannot be done without abstraction of oxygen and the formation of carbonic acid gas.

Having these conditions in view it has occurred to me that pure air might be warmed, not thus *in aperto* or in the open, but in a closed tube or channel, and it next struck me that the principle has already been utilised in the case of water, as seen in the well-known geyser process. Not to trespass further on your space I will content myself with submitting a drawing that may show more clearly the idea I have endeavoured to describe. And I would particularly beg attention to the extreme simplicity, and consequent economy, of such an arrangement, alike adapted to the largest building and the smallest cottage, or even to a single room.

I am, Sirs, yours faithfully,

A. C. MACLEOD, F.R.C.S. Eng.,  
Colonel, I.M.S.

Sept. 23rd, 1905.

## IS ALCOHOL EXCRETED BY THE SKIN?

To the Editors of THE LANCET.

SIRS,—Mr. D. Harris's letter in THE LANCET of Sept. 30th reopens a very important question—namely, the extent to which the skin may act as an excretory organ. The matter is one which has been interesting me very considerably of late and the only conclusion to which my investigations have so far led me is that very little of a positive nature is known about it. From the aid which it is capable of giving in rapidly eliminating the uræmic poison and from the part which it plays at health resorts in gradually expelling the gouty and rheumatic toxins it is obvious that the excretory power of the skin is very considerable; that it is a function which is hygienically and therapeutically unduly neglected few would be found to deny. This neglect arises largely from the ridiculous heresy which surrounds the everyday treatment of the cutaneous surface—that, namely, which decrees that it should be continually swathed in wool or flannel. This material, being completely devoid of absorbent properties, the organ is for ever surrounded by a warm, damp, impure atmosphere, than which, as every climatologist knows, nothing is more inimical to cutaneous secretion.

Mr. Harris is probably quite right in his view that at high