

(3) It furnishes a better class of clerks, and consequently a better public service. This is especially true of those branches of the service requiring technical skill and knowledge.

The average age of those who pass the ordinary departmental examination is twenty-eight years. This fact is the best answer to the oft-repeated assertion that the examinations are especially suited to boys fresh from school or college. Through the merit system the Government secures the services of persons who to at least a fair common-school education have added some experience in business.

(4) It insures that permanence in office which is essential to good administration. An officer of high character who has been for many years in the civil service of the Government recently gave it as the result of his observation that under the patronage system the period intervening between the election and the inauguration of a President was marked by demoralization of the service which diminished the efficiency of the ordinary clerk at least fifty per cent. Employees of the Government, uncertain of their future, neglected their duties to seek influence to secure their retention or promotion. What percentage of removals usually followed a change of administration cannot be stated, but it may safely be asserted that it was greater under the spoils system when the different administrations were of the same party than under the merit system, which within the last five years has stood the crucial test of two changes as between the two great political parties. The records show that of those who entered the classified service through the merit system the removals and resignations under the administration of President Cleveland averaged from three to eight per cent. a year, and that in one year of the administration of President Harrison similar changes averaged a little less than eight per cent. These figures teach the valuable lesson that retention and promotion in the classified departmental service depend upon merit, and not upon the personal or political influence which employees can bring to bear upon an appointing officer. The resulting benefit to the public service is obvious. Mr. Secretary Windom in his last annual report to Congress found time amid the exacting duties of his great office to bear testimony to the value of the merit system. I quote only a part of what he said on this subject.

"It is my belief that the personnel and efficiency of the service have been in no way lowered by the present method of appointments to clerical positions in the department. The beneficial influences of the civil service law in its practical workings are clearly apparent. Having been at the head of the department both before and after its adoption, I am able to judge by comparison of the two systems, and have no hesitation in pronouncing the present condition of affairs as preferable in all respects. Under the old plan appointments were usually made to please some one under political or other obligations to the appointee, and the question of fitness was not always the controlling one. The temptation to make removals only to provide places for others was always present and constantly being urged by strong influences, and this restless and feverish condition of departmental life did much to distract and disturb the even current of routine work. Under instrumentalities which are now used to secure selections for clerical places the department has some as-

urance of mental capacity, and also of moral worth, as the character of the candidates is ascertained before examination."

I trust it will be deemed pardonable State pride if I call attention to the record of my own State with reference to the merit system. On the 22d of December, 1884, both houses of the legislature of South Carolina adopted the following resolution:

Whereas the general assembly of the State of South Carolina did, at the regular session of 1880, adopt a concurrent resolution, to wit:

"Resolved by the House of Representatives, the Senate concurring, That our senators and representatives in the Congress of the United States be requested to urge Congress to take such measures as may be expedient for the reformation of the civil service, so that the tenure of office under the General Government may no longer be dependent upon party success nor subject to levy by means of forced pecuniary contributions to any political party, and so that capacity and character shall be the test of fitness for office and the sole but certain guarantee of its tenure";

And whereas this general assembly, in view of the change in the administration of the National Government, desires to reiterate and reaffirm the principles and policy of the said resolution:

Be it now resolved by the House of Representatives, the Senate concurring, That this general assembly adheres to the same, and tenders to the administration of the President-elect the approval and support of the people of this State in carrying out the provisions of the law in regard to civil service reform.

Resolved, That his Excellency the governor is hereby requested to forward a copy of this resolution to President Cleveland when he shall have been inaugurated.

These resolutions were passed after the election and before the inauguration of President Cleveland by a legislature a majority of whose members in both branches were politically in sympathy with him. They express briefly and forcibly the cardinal principles of the merit system. I do not claim that the opponents of that system are necessarily corrupt politicians, nor that its advocates have a monopoly of the political virtues, but I do claim that it is thoroughly American and in perfect harmony with the theory of our government, in that it recognizes the equality of all men before the law, and makes merit the sole test for public office.

Hugh S. Thompson.

WASHINGTON, D. C.

Does Vivisection Help?

IT may not be out of place to reëxamine the foundation for some of the great claims now made for recent advances in medicine and surgery. Some light may be thrown upon this subject by other discoveries—the discovery, for instance, in Sanskrit and classical literature of full descriptions of certain medical and surgical methods and appliances in use among the ancients.

In some cases, as, for instance, from the excavations at Pompeii, instruments have been found, both surgical and dental, almost identical with our own. In others, as in the works of Hippocrates and in the "Susruta," a commentary on the "Yajur Veda" of the Hindus, full descriptions are given of more than a hundred surgical instruments of steel; of many kinds of bandages; and the specifications for a splint, like the patented bamboo splint now in use by British army surgeons. Susruta also describes surgical operations which are claimed as crowning glories of nineteenth-century surgery. The

surgical operation for the stone, and the rhinoplastic, or that which consists in making an artificial nose from flesh and skin taken from the patient's own forehead, were fully known and practiced by the ancient Hindus.

And finally, the antiseptic treatment of wounds, one of the glories of modern surgery, is proved to be a re-discovery. Hippocrates, in his book on wounds, which is a small manual on this method of treatment, describes it, and calls it by the Greek word for non-putrescible. The plain truth seems to be that the ancients knew pretty nearly as much as we do about surgery and medicine; for it unfortunately happens that with all our increased scientific knowledge of disease, its etiology, its diagnosis and prognosis, we have arrived at the conclusion that the "expectant treatment," or the art of letting the disease severely alone, is the most scientific way of curing it—in other words, nature will effect the cure herself if we do not meddle with her. Certainly we run less risk of being killed by the doctors nowadays than at any other period of the world's history, but this can scarcely be claimed to the physicians' credit. The success of homeopathy is simply the success of the expectant treatment, just as the success of the so-called antiseptic treatment is due to the high ritual of perfect and microscopic cleanliness. Even educated surgeons could not be brought to see the necessity for absolute cleanliness in their operations till Professor Lister, with the genius of a great discoverer, elevated it into a dogma with a Greek name, and elaborated a ritual as complicated and significant as that of the Roman Church. Looking round the dirty wards of the ill-managed hospitals, where patients lay festering and rotting in their own discharges, where noxious emanations from ill-dressed wounds poisoned the atmosphere and penetrated all the walls and ceilings, Professor Lister made up his mind that doctors and patients should be compelled to wash and be clean; to ventilate, scour, purify, and scrub, though a ceremonial as troublesome and costly as the Jewish should have to be invented for the purpose.

If, however, this microscopic cleanliness can be reached more simply and directly, so much the better; the point is that absolute cleanliness shall be secured, the means by which it is attained being comparatively unimportant.

All the nonsense talked about the experiments upon living animals which enabled Lister to discover and perfect his new system did not blind the eyes of the great surgeons of the old school to the fact that plain water efficiently used was every whit as good as the carbolic-acid dressings, which killed the wonderful "germs" said to be the cause of the pyæmia and surgical fever which kills the patients. The plain truth is that experiments on animals had no more to do with these improvements in modern surgery than they had to do with the successful means used by the farmer's wife in securing the best results of her churn and milk dishes. Experience taught her that the scrubbing-brush and soap must unremittingly be used on all her vessels and implements, or her butter and cheese would infallibly spoil. The microscope taught the doctors that microbes and bacteria must be ruthlessly fought with similar weapons. Vivisection had no more to do with turning out the dirty surgeon, with his contaminated tools and ligatures, than it had to do with washing the pails and tiling the walls of the dairies of the Ayles-

bury Dairy Company. Hear Mr. Lawson Tait, the greatest abdominal surgeon in the world, on this.

BIRMINGHAM, October 9, 1889.

DEAR DR. BERDOE: You may take it from me that instead of vivisection having in any way advanced abdominal surgery, it has, on the contrary, had a uniform tendency to retard it. This I show to be particularly the case in operations upon the gall bladder, and refer you to the current number of the "Edinburgh Medical Journal," where in an article I point to the fact. As to the use of the antiseptics of Lister, it increased our mortality, prevented recoveries, and did a vast deal of harm by retarding true progress.

Yours very truly,
LAWSON TAIT.

Hear also Sir William Savory, late President of the Royal College of Surgeons, than whom no better surgical authority exists. Speaking at the Medical Congress held in London in 1881 he said: "If you examine the records of surgery in recent years, the fact that most impresses you is the very sudden and prodigious improvement which has taken place in certain quarters. At a single spring, as it were, they have passed from a frightful mortality to a very fair amount of success, and this because the mischief of filth and foulness from putrefaction has been recognized. Surgical wards, not long ago hotbeds of poison, are now made fairly safe for patients. . . . Still, no doubt, some startling novelty of practice was necessary, or at least greatly advantageous, to this end, yet I cannot doubt that the same end might have been reached by an adequate improvement in simple sanitary arrangements." ("Transactions of the International Medical Congress." Vol. II., p. 347. London, 1881.)

The great improvements during the last twenty years in the manufacture of the microscope, coupled with precise methods of cultivating minute organisms—microbes and bacteria,—have enormously increased our knowledge of diseases caused by "germs"; and though doubtless many experiments have been performed on animals in this connection, it is not correct to attribute to such methods successes which have been achieved through quite other means. It seems, however, that with what is known as the scientific school of doctors no practice or mode of treatment which is not founded on experimental research on the lower animals is worth much attention.

To the general public, not versed in the peculiar methods of controversialists, especially of those who, to use an American phrase, have "an ax to grind," nothing is more surprising or annoying than the way experts have of manipulating facts and figures to suit their particular contentions. The world was rather startled the other day to read some statistics which went to prove that drunkards live longer than total abstainers; but even this barefaced attempt to "make the worse appear the better reason" has been eclipsed within the past few months by an attempt to make the wonderful success of Mr. Lawson Tait's operations in abdominal surgery the result of experiments on living animals. In a late article on "Recent Progress in Surgery" the author says, "The most remarkable statistics recently published are those of Mr. Tait, and a mere statement of his percentages will go far to convince the non-medical public of the correctness of the above statements, startling as they appear to one unfamiliar with modern surgical progress." To drag in Mr. Tait as a witness in a long and elaborate argument

on behalf of vivisection, as the letter just quoted as well as his published articles will prove, is about as honest as to make Luther speak in defense of the Papacy. Mr. Tait is unwearied in protesting that none of his successes can in any way be attributed to experiments on living animals. He published a few years ago an exceedingly clever treatise entitled "The Uselessness of Vivisection upon Animals as a Method of Scientific Research." He says that he never witnessed a single experiment on a living animal in the whole course of his medical education, and to the present moment has never found it necessary to instruct his pupils by any such method. He is equally skeptical as to the advantages of Listerism, and thinks cleanliness *plus* carbolic acid and high ritual no whit better than cleanliness *plus* common sense. Yet his statistics are so important in every argument relating to the triumphs of modern surgery that they must be made to do duty on the other side whether he will or no. Happily abdominal tumors, the kidney, spleen, and gall-stones can now be removed with every promise of success, and because Gross and others experimented on dogs in this direction it is the fashion to say that suffering humanity owes its relief from abdominal maladies to the operations on the animals; but the *real* history of surgery — not the romance history — teaches us that it was by Baker Brown and Keith, working by experience on the indications offered by human patients, that the mortality of the abdominal operations was so reduced that surgeons were emboldened to attempt what they now so nobly and bravely carry out. It is not because spleens, kidneys, and portions of intestines were successfully removed from dogs that surgeons learned to operate on these organs in man, but because the bold dexterity of Keith and others in dealing with abdominal tumors suggested the practicability of dealing successfully with organs lying in the region of the abdomen. We should have been precisely where we are now in this respect if a surgeon had never opened the peritoneal cavity of dog or rabbit. It is the fashion to deny this, but there is plenty of proof for the statement.

Then, as to the surgery of the brain, it is constantly stated "that without vivisection the exact localization of cerebral tumors and other such lesions, which is one of the chief glories of the present day, would be impossible." And then we are told of the wonderful works in localization of brain functions done by Ferrier, Schafer, and Horsley in England, and Fritsch, Hitzig, and Goltz in Germany. What we are not told is that these vivisectioners are not at all in harmony with each other, and that it is highly improbable that either would allow another to localize his brain functions for him with a view to operating in case of necessity for surgical interference with his skull and its contents. Dr. Watts said that "Birds in their little nests agree," but nothing of the sort could be said of the physiologists we have named, for they anathematize one another like rival theologians, though, like them, they endeavor to conceal their disagreements before the heathen, with more or less success. Between the speaking brain of man and the dumb brain of the animal there can be but little analogy, as Professor Charcot has pointed out. Even if there were an actual similarity, it would still be useless to use the brains of animals for experiment, as accidents and inju-

ries to the human head have afforded surgeons abundant opportunity of localizing brain function, with sufficient approximation to precision, so far as operations for the relief of abscess, tumors, and injuries are concerned. It required no experiments on monkeys to teach the ancients to use the trephine for relieving pressure of depressed fracture of the skull; the symptoms were carefully noted, and the position of the depressed bone indicated the area with whose interference they were concerned. MacEwen of Glasgow achieved astonishing success in this department of surgery long before Ferrier's cruel experiments on monkeys set surgeons to work on the lines of his localizations. Surgery has advanced with giant strides; how much credit is due to the makers of surgical instruments, whose activity and ingenuity have done so much to aid its progress, we are not likely to learn from the transactions of any medical society or congress, but the fact remains that we are indebted to a great number of very humble artificers for much of it; and for the rest let the patient workers in methods which do not dazzle by their fashionable appeal to vulgar preconceptions have a place in the history of medicine, though their names are not yet recorded in its calendar.

Edward Berdoe.

An Anecdote of Sheridan.

WHILE the United States was engaged in the great civil war, France and Austria took advantage of our comparatively helpless condition to attempt the conquest of Mexico, with a view to construct a new empire there under Maximilian. General Grant was strongly opposed to this policy, and after Appomattox sent Sheridan with an army to the lower Rio Grande to observe the movements of the foreigners and to be in readiness to intervene whenever Congress gave permission. A colonel who was present with that portion of our army which was posted at Brownsville, opposite Matamoras, related the following incident, which can be recorded now; but which, if it had found its way into the newspapers of that day, would probably have led to international complications.

An orderly woke the colonel soon after daylight one morning and urged him to go down to the bank of the river, as something remarkable was going on there. The colonel did so, and had the gratification of seeing a combat — it could hardly be called a battle — between the national troops, the adherents of Juarez, and the Mexicans who were serving under the banner of Maximilian and who were in possession of Matamoras. The object of the Juarez troops was, of course, to drive the enemy from Matamoras and hold the place, as, owing to its proximity to the United States forces, it was a very important point. Each side seemed to be fortified, and was engaged in a contest at long range, which was neither very exciting nor destructive. The next morning the orderly came again to wake the colonel, and assured him that he would see some genuine fighting. The colonel hurried down to the bank, and there he saw the Juarez men leave their intrenchments, advance with the utmost intrepidity, storm the works at Matamoras, and drive the adherents of Maximilian through the town and far beyond out into the open country. Of course Sheridan could not send a force to the other side of the river without the authority of

sermons preached against excessive eagerness to make money.

The negroes of Nashville have also made a promising beginning in the way of combining for church or benevolent enterprises. The only negro-church publishing-house in the world is located here, the building, five stories high, being situated on the public square. It was purchased with the contributions of the children of the African Methodist Episcopal Church. A home for aged and indigent negroes is the latest enterprise, while a shop for teaching mechanical trades was opened a year or so ago. The number of benevolent church societies is of course legion.

More interesting still were the discoveries I made in the homes of the negroes. Through the courtesy of a well-educated negro who works ardently for the welfare of his race I had the opportunity, in company with a friend, to inspect in one day more than twenty of the better class of homes. The list of representative homes we were to see included more than fifty; but the time was too short. Most were taken by surprise, but willingly showed their houses from cellar to garret. The result may be summed up as follows: The occupant was the owner in every case but one. In most parlors there were pianos, and handsome carpets on the floor, with other furniture to match; indeed the houses were generally carpeted throughout, while bedrooms, dining-rooms, and kitchens were remarkably clean. I noted with pleasure several bathrooms, and remarked how one thrifty pair had so arranged their handsome base-burner stove that it heated comfortably the whole house of four or five rooms at a cost of only a few cents a day. It was interesting to learn that in most cases where the heads of families were young they had been educated at one of the negro colleges in the city; where old, that the children had attended these. Let one example stand for all. A — is the janitor of one of the banks of the city. By working hard at the bank, while his wife worked and saved at home, he has graduated one son and two daughters at Fisk University, the fourth, and last, child being now there. His son, at first a teacher, is now in the service of the Pullman Company, one daughter is married, the other is a teacher. His house is comfortably furnished, and his lot extends one hundred feet in a very respectable street in the heart of the city.

Just two or three remarks at the close. First, I am quite sure that more comfortable and well-kept homes could not be found anywhere among the same number of whites of the same income, and the owners of these homes have the same interest in good government, peace, good morals, the well-being of society, as the better class of whites have. These well-kept homes are not only the best proof of the progress in civilization of the negro race, but they are also the best security for the welfare of the whites in property and in morals, and I have never had so much hope for the future of this region as since I learned these things. Granted that these may be the picked few, it is most hopeful that there is a picked few, whose example will inspire others to lift themselves up. Finally, an interesting fact which I have not found place for elsewhere — one of the daily papers of Nashville reports a circulation among the negroes of the city of more than eighteen hundred copies.

"Does Vivisection Help?"

I.

IN the October number of *THE CENTURY*, among the "Open Letters," will be found an article under the above heading which is well calculated to mislead a non-medical public.

One would judge from its opening that surgery had made no progress since the time of the ancient Hindus, but towards its end the author admits that "surgery has advanced with giant strides."

That surgical and dental instruments have been found in the excavations at Pompeii and in the ancient tombs in Egypt is true, but they are of the rudest patterns, and only foreshadow, as it were, the instruments of the surgeon of to-day. Other instruments, surgical appliances and procedures, are described in the *Susruta*, and by Hippocrates, Celsus, and others, but none of these are claimed by intelligent surgeons as "crowning glories of nineteenth-century surgery." Any one who will study into the history of surgery will see that "rhinoplasty" is of ancient date, and that the "operation for stone" was practised in Egypt as long ago as two thousand years. Even at that date specialists were recognized in Alexandria who confined themselves to the extraction of stone. These operations are not claimed for nineteenth-century discoveries, but the perfection of the methods employed in their performance is claimed for the surgeons of our century. While attempting to detract from the credit due the surgeon, the author is inclined to glorify the instrument-maker as a prime factor in the advancement of surgery. The multiplication of instruments is not the cause of the advances that have been made, for some of our best surgeons do their best work with the simplest instruments, and in all cases the instruments are made to fill the surgeon's needs. To whom is the credit due — to the architect who plans the structure or to the workman who follows his directions?

It is true that the ancients had some faint idea of the proper treatment of wounds, and that the good Samaritan carried out antiseptic principles when he poured oil and wine into the wounds of him who fell among thieves, but does this detract from the glory of Semmelweis and Lister, who formulated rules and perfected methods, the adoption of which has saved thousands of lives annually to the human race?

The author makes a mistake when he states that the "expectant plan of treatment" consists in "letting the disease severely alone." If such be the case, how can the great mortality in countries where no physicians exist be accounted for? How can we explain the fact that with increase of physicians the average human life has increased, in spite of the daily accidents attending the progress of civilization? A comparison of our century with the middle ages shows an addition of several years to the life of each individual that is born. The "expectant plan" consists in carefully watching the disease, and fortifying the system so that it will be able successfully to combat the evil influences with which it has to contend. Nature is always willing but not always able to effect a cure, and in these cases she must be assisted. But now we come to our question, "Does vivisection help?" It will perhaps make it clearer to a non-medical public to formulate the question thus — "What shall we vivisect?"

A glance at the statistics of different operators will show marked improvements in their results as the operations increase in number. This is noticeable in all operations, but more especially in operations in the abdominal cavity. Formerly one woman out of every three died who was operated on for ovarian tumors, while now the mortality has fallen to less than one in twenty!

To what is this improvement due? It is due to more perfect methods, greater boldness, and greater dexterity. And how can these requisites for success be acquired? Only by experience on the living animal, either man or beast. Hear what Dr. Senn, one of America's greatest abdominal surgeons, has to say on the subject. "The necessary diagnostic skill and requisite manual dexterity in the operative treatment of gunshot wounds of the stomach and intestines can be acquired only by experiments on the lower animals." Mr. Lawson Tait of Birmingham, who is so frequently mentioned in the former article, is one of the boldest and most successful of abdominal surgeons, and his diagnostic skill and manual dexterity have been acquired only by experiments on women! Listen to what Dr. Winkel, one of the most celebrated German surgeons, has to say while speaking of and condemning the unsexing of women. "One can scarcely furnish a sadder proof of these assertions than the statistics presented by Lawson Tait in August, 1881, before the International Medical Congress at London, of cases on which he had operated. They were, in fact, animal experiments on living women, and for that reason it is not strange that Lawson Tait is such an energetic opponent of vivisection."

Does the attempt then seem "barefaced" that was made some months ago to show the "wonderful success of Lawson Tait's operations in abdominal surgery the results of experiments on living animals"? (women). Why should not his operations be brought to the support of vivisection?

Alas! it is only too true that "the real history of surgery . . . teaches us that it was by Baker, Brown, and Keith" (and others), "working by experience on the indications offered by human patients, that the mortality of the abdominal operations was so reduced that surgeons were emboldened to attempt what they now so nobly and bravely carry out." But would it not have been better if Mr. Keith had gained from experiments on the lower animals the experience he has gained from the sacrifice of many female lives before he came to the conclusion that electricity, as applied by Apostoli, was better in the treatment of certain tumors than the application of the knife?

The author is pretty nearly right when he asserts that "we should have been precisely where we are now in this respect if a surgeon had never opened the peritoneal cavity of dog or rabbit," for while "what is known as the scientific school of doctors" have been painlessly sacrificing a few of the lower animals so as to become more dexterous and better able to cope with the afflictions of the human race the antivivisectionists have been pandering to the tastes of a morbidly sentimental public and at the same time mutilating or destroying God's noblest creation.

The assertion that there is little analogy between the brain of man and the brain of the lower animals is utterly unfounded; and as far as locating the centers on

the surface of the brain which govern certain groups of muscles is concerned, scientists are sufficiently in accord for all practical purposes. This is shown by the successful operations, performed almost daily, for the removal of tumors, or the evacuation of cysts and abscesses of the brain.

The knowledge gained from accidents and injuries comes slowly, and frequently at the expense of the patient. This knowledge must be had before it can be applied; now, shall it be acquired slowly and at the expense of poor, suffering humanity, or rapidly, by sacrificing a few useless curs?

And what will these antivivisectionists do with the bacteriologists who are daily sacrificing thousands of animals on the altar of science?

Could Pasteur have discovered a remedy for hydrophobia without experimenting? Could Koch have made his wonderful discoveries which render probable the cure of consumption? These and many other diseases will probably become extinct or lose their terrors through the knowledge gained by experimenting. For advance, individual or general, experimentation is necessary. Shall it be on man or beast?

SCRANTON, PA.

Thomas W. Kay.

II.

I OFFER the description of a "vivisection" as an appendix to the above letter. It is taken from the notes of a justly horrified eye-witness.

"They seized a sentient animal, quivering with apprehension, bound it fast upon a table, and began their fiendish work by injecting a deadly poison under its skin. While the whole nervous system of the victim was still reeling under the assaults of this drug, an assistant completed certain maneuvers, which, in the diabolical phraseology of one of the most notorious of this class of criminals, 'dissected apart the nerve-centers, separating the so-called vital portions of the medulla from the hemispheres of the brain'; thus, it is to be presumed, leaving the latter in an unnatural isolation. And yet they dare pretend that the physiological conditions were sufficiently preserved to render the experiment useful!

"But to proceed with the horrid recital. The ruthless principal in the crime now advanced, glittering knife in hand, and at a single stroke ripped up the belly of the poor beast, and plunged his hand among its smoking entrails. Not a gleam of compassion lightened his fixed eyes; not a sign of reverence for the shrine of life, whose sanctity he thus dared to violate. Then from the body of the helpless, inarticulate creature prostrate before him this demon in man's form literally tore out a vital organ — or rather an organ far more precious than those which merely conserve individual life, for it contained the countless germs of future generations. It was a symbol of immortality! This Sacred Thing was tossed carelessly into a basin, and the bloody work went on.

"At this point I, at least, hoped to see the unfortunate animal put to death — receiving the last meed of mercy yet possible. But no! The gaping wound was only partly closed; through it was plunged a glass tube into the vital parts, and there left as a festering source of irritation. The subject of the fearful experiment was then borne away and left for days to toss about in

agony. And this — Heaven save the mark! — is modern science! Let us pray rather for medieval ignorance."

These notes will be more intelligible to the general reader when it is explained that they accurately, if somewhat too fervently, describe an ordinary surgical operation for removing diseased ovaries. The "deadly drug" injected is morphine; "the maneuver" which serves to dissect apart nerve-centers is the inhalation of ether, which removes the consciousness of the brain while leaving intact the cardiac and respiratory centers of the medulla; the animal — *i. e.*, the sick woman — is absolutely unconscious and free from pain during the operation; the cystic ovary removed has ceased to be capable of normal functions, and has become a focus of painful disease, constantly threatening death.

The one essential difference between the human operation and one performed on animals under the same condition of anæsthesia, is that the operator expects to benefit the human being and to sacrifice the life of the animal for the ultimate benefit of a human being. From one point of view, therefore, the laboratory ranks with the surgical operating-room; from another, with the well-legitimized slaughter-house, where animals are daily sacrificed by the thousand for human food, and only the vegetarian or the Buddhist objects.

NEW YORK CITY.

Mary Putnam Jacobi, M.D.

Homeopathy and "Expectant Treatment."

In the October CENTURY appears an "Open Letter" under the caption, "Does Vivisection Help?" The letter will attract, I trust, as it deserves, much attention among physicians and the general mass of readers as well. That it voices the judgment of the majority of both classes concerning the oft-repeated experiments upon living animals there can be but little room for doubt.

But that the writer of the letter in question, while apparently so well equipped with facts, should have attempted to strengthen his position by assuming and proclaiming a relationship between homeopathy and "expectant treatment," seems unfortunate.

While it may be a fact that "expectant treatment" is the flower — perhaps I should say the nearest approach to *fruit* — of modern "scientific" medicine, remaining between it and the grave, it is not true that "expectant treatment" and homeopathy are identical, nor that "the success of homeopathy is simply the success of the expectant treatment." The merest tyro among the disciples of Hahnemann can bear witness to the absurdity of the statement above quoted.

If homeopathy offers nothing more than "the art of letting the disease severely alone," — that is, "expectant treatment," — why should there be better results attending the let-alone policy when administered by the strict homeopath than when that policy is adopted by his "old school" brother in the same class of cases?

C. H. Oakes.

BRIC-À-BRAC.

Observations.

NO man is accountable for the mistakes of his friends.

DON'T call a spade a spade when it is a shovel.

NO man ever yet minded his own business who did n't get into trouble.

HOWEVER great some men's abilities are, their liabilities are always greater.

A MAN is frequently known by the company he keeps out of.

HONESTY is the best policy, because it is the only policy which insures against loss of character.

DON'T lose sight of an honorable enemy; he 'll make a good friend.

THE soaring hawk has no ear for music, and rates the cry of the partridge above the song of the nightingale.

AFTER a while the king will do no wrong, because he will never have a chance.

THE man who believes in ghosts may be a better citizen than the one who does not believe in his fellow-creatures.

FASHION and decency should be always on good terms.

Friend and Lover.

WHEN Psyche's friend becomes her lover,
How sweetly these conditions blend.
But oh, what anguish to discover
Her lover has become — her friend!

Mary Ainge De Vere.

To a Thermometer.

O SLENDER, silver thread,
Whose proud or 'minished head
Marks truly heat and cold,
The genial summer's glow
Or wintry winds that blow
Your rise and falling show
In figures bold.

Yet, all to what avail!
Your puny forces fail
To tell what fain I 'd learn.
I ask, most weatherwise,
What subtle force there lies
Within my lady's eyes
To freeze and burn?

For more uncertain she
Than weather e'er can be,
Or April day.
Mark now her sunny mood,
Then her cold attitude,
And tell me, pray,
Is drought, or wind, or snow,
More deep and hard to know
— Or woman's way?

W. D. Eltwanger.

Ashes.

BESIDE the blazing log, at eventide,
He read his glowing lines with honest pride.
In the gray dawn he read the lines anew.
The log was ashes — and the poem, too.

J. C. Miller.

was not then out. I had not seen the War Records table. It must of course be taken as accurate, and mine, made some years ago, as faulty. I could not now exhume the sources of the Southern items of my table. The Northern items are from the Provost-Marshal-General's accounts. My table was first published in 1883. The table referred to in Vol. IV. of "Battles and Leaders" does not include "local land forces" of the Confederacy. Taking these at ten per cent. of those at the front, "the South had under arms, until the last third of the war, an average of about three-fifths the force of the North," and not "about three-fourths," as stated in my article. Or, throwing out "local land forces" entirely, "the South had about fifty-five per cent. of the force of the North." While this error in my figures is not thereby excused, the argument is in no material degree weakened by the variation. By a fair allowance for garrison work which the North had to do and the South had not, the original statement of three-quarters would stand.

At the time of making my battle-estimate I corresponded with the War Records Office, asking it to make for me the figures of men at the point of fighting contact in the battles tabulated; but the Bureau was practically unable to do so without taking indefinite time and more pains than I could ask. No official records, that I am aware of, have been made of the men at the point of fighting contact. I made mine by taking the brigades and divisions known to have been engaged, and estimating their force as well as possible when it was not given by some good authority. The numbers were set roundly. My premise depends strictly on estimates of men *at the point of fighting contact*, and I think my estimates are very close. For instance, if Chancellorsville were taken as an example, we would have a total of one hundred and thirty thousand men pitted against about fifty-eight to sixty thousand. But the men who actually fought were, not to count the assault on Fredericksburg Heights:

May 2d, at Dowdall's,	22,000	Confed's	against	10,000	Federals.
" 3d, at Fairview,	37,000	"	"	32,000	"
" 3d, at Salem Church,	10,000	"	"	9,000	"
" 4h, at Banks's Ford,	25,000	"	"	20,000	"

This makes a very different showing. Every Northerner who fought at the front recognizes the brilliant gallantry of the South. Many of us carry ever-present mementos of their hard fighting. The higher the Southern capacity to fight, claimed or proved by statistics, the better the work done by the North in carrying the war through to a successful issue. I do not insist on every item of my figures being beyond dispute; but it still seems to me that "no reasonable or admissible variation will alter the conclusion which must be drawn from them."

Mr. Derry points out fairly the difference between the conditions of the contestants in our Revolution and in our Civil War. There can be no exact historical parallel found. To illustrate my point, the one I chose remains good, especially as Anglo-Saxons were concerned in both wars.

Is not Mr. Derry inaccurate in what he says of Peter III. and Frederick? The Russian alliance with Frederick was terminated by Peter's death some four months after it was made. The help was timely and useful, but it was neither that which saved Frederick,

nor the withdrawal of Sweden from among his enemies. The work of Ferdinand of Brunswick, while excellent, was of negative value in the campaigns of Frederick. Mr. Derry is right in saying that neither the Revolution nor the Seven Years' War is a close parallel; but each is illustratively good.

Mr. Derry's rule-of-three estimate of forces is ingenious, but I doubt if it will work in practice. Very slight difference in the methods of organization or of raising troops North and South would throw out this calculation.

While it is "impossible to argue the question to a satisfactory conclusion on theories and opinions," and while I owe an apology to the readers of THE CENTURY for not correcting my table of forces up to date, the primary value of the statistics is to prove or disprove "either to be the better soldier." *Quoad hoc*, I do not see wherein the figures given have been falsified, nor do I think the premises capable of alteration so as to draw any other than my conclusion.

I thank Mr. Derry for his frank and kindly criticism.

Theodore Ayrault Dodge.

"Does Vivisection Help?"

IN the May number of THE CENTURY Mr. Thomas W. Kay endeavors to weaken my case against vivisection as a method of advancing the healing art. He asks, "How can the great mortality in countries where no physicians exist be accounted for?" and goes on to urge that the increase of doctors always implies increase in the average of human life.

His question and his answer are alike beside the mark, so far as my argument is concerned. I merely explained what the "expectant treatment" was. I do not imagine that it is very largely followed by those who are chiefly responsible for the health of the community. As a fact, it is found that people do get well *without* doctors, just as they die *with* them. Of course the presence of a number of doctors in any country means a certain amount of civilization, and this means, in its turn, good sanitation, and improved hygienic conditions. With these things vivisection has nothing to do. I do not attach much importance to medical or surgical statistics. A famous and witty American physician (was it Dr. Bigelow?) once said, "You can tell as many lies with figures as with words, and bigger ones."

Mr. Kay says the improvement in modern surgery is largely due to greater dexterity in operating, which dexterity is "obtained by practising on the living animal, either man or beast." I do not know what goes on in American schools of surgery, but I am positive that no English surgeons learn dexterity in operations on human beings by practising on animals. I was for four years a pupil at the largest hospital in London, and I never knew a single instance where a surgeon attempted to fortify himself for an operation on a patient by practising on a beast. Mr. Kay says that Mr. Lawson Tait has acquired his manual dexterity and his diagnostic skill only by experiments on women. In a certain sense every surgical operation is an experiment; but there are experiments and experiments. There are operations which are so uniformly fatal that it is merely another sort of murder to perform

them. There are others which have been so marvelously thought out, so admirably planned and carried out with such skill, that they are almost lifted from the region of experiment and elevated into certainties. Of this class are Mr. Lawson Tait's particular operations. A woman operated upon by Tait is rather safer than if she were traveling on certain lines of railway, if we may trust statistics.

It is refreshing to read the quotation which is given from Dr. Winkel, the German surgeon who complained that Lawson Tait's operations "were, in fact, animal experiments on living women." Is Saul also among the prophets? Does a surgeon, and a German one especially, come forward to denounce animal experiments on living patients? Have I been asleep for a long spell and awakened to find the hospitals reformed? And was it in the remote past that "Dying Scientifically" and "St. Bernard's" set the world talking of the horrors that went on in the hospital wards of England? And was it so very long ago that Mr. Erichsen said, "Will the surgery of our time record surgical triumphs or operative audacities?" And was it in such a very ancient medical journal that Dr. Jackson, lecturer on surgery at the Sheffield School of Medicine, proposed to use the word "atrocities" instead of "audacities"?

Was it in 1886, as I thought, or in a more distant age that the "Lancet" said, "It is doubtful whether some of these operations have resulted in adding to the sum total of human life; the prolongation of a life here and there does not compensate for *the cutting short of that of many others*"?

I could "tell an I would" of a great surgeon who could not finish his operations in many cases because he always liked to let his patient die in bed rather than on the operating-table! Of another, too, whose name is now before me, who said of his experiments that "Death seems to begin from the time of the operation, or, rather, during it." Are not these things written in the volumes of the "British Medical Journal" and the "London Lancet"? And do not their reporters say, "We have no right to rush our patients into such a fearful risk, yet this is done every day"? And the "British Medical Journal" in which this is recorded (p. 1837) was dated December 10, 1887. Yet here, in what I took to be 1891, I find doctors making charges against Professor Lawson Tait for experimenting on living women!

There was once a great German surgeon who went to Mr. Tait to ask him "to what he chiefly attributed his great success in abdominal surgery?" And Mr. Tait, glancing at his questioner's fingers, replied, "To always taking care to keep my finger-nails clean." Some unforgiving men would have spoken ill of Mr. Tait after this; perhaps this one did.

I have seen so many evil results of tampering with the brain by the surgeon's knife that I am skeptical as to the whole business of brain localization, so far as its application to surgery is concerned.

Mr. Kay asks, "What will these antivivisectionists do with the bacteriologists who are daily sacrificing thousands of animals on the altar of science?" I would inoculate them with the filthy products of their own cultivations, and let them have a taste of the sufferings they inflict on the animals.

Mr. Kay asks, "Could Pasteur have discovered a

remedy for hydrophobia without experimenting?" I do not know, but I do know that he has not discovered anything of the kind by his experiments.

Once more Mr. Kay demands, "Could Koch have made his wonderful discoveries which render probable the cure of consumption?" What, ask this question in May, 1891? No! I have not been on the Catskill Mountains asleep with Rip van Winkle. I am, and have been, wide awake. I know this Koch; he comes from Berlin, and is going into oblivion.

Edward Berdoe, M. R. C. S.

LONDON, May 5, 1891.

Alexander Harrison.

THOMAS ALEXANDER HARRISON was born in Philadelphia in January, 1853, and while engaged in work on the United States Coast Survey on the Pacific slope in 1875-76 became sufficiently interested in the fine arts to think of taking up painting as a serious pursuit. He entered the schools of the San Francisco Art Association, and worked there two or three years. He went to Paris in 1878, and became a pupil of Gérôme in the École des Beaux-Arts. He has since resided in France. He visited New York the past winter, when an exhibition of some of his work was held, including among other pictures "Le Crépuscule," engraved in this number of THE CENTURY. Mr. Harrison's first success dates from the Salon of 1882, when he exhibited there a picture called "Castles in Spain," which attracted much attention from artists and critics. He has been a constant contributor to the Salon exhibitions since that time, and last year, when the division in the Society of French Artists occurred, he was made a member and juror of the new Société Nationale des Beaux-Arts, which has given two brilliant exhibitions at the Champ de Mars. He received at the old Salon an honorable mention in 1885. At the International Exposition at Paris in 1889 he was awarded a gold medal in the American section, and made a Chevalier of the Legion of Honor and an Officer of Public Instruction by the French Government. He has received various medals and prizes at exhibitions in the United States where his works have been shown, and is a member of the Society of American Artists. Some of his most noted pictures are "Arcady," "Le Crépuscule," "The Open Sea," and "The Wave." He is best known as a painter of marines, though he has signed excellent landscape and figure studies. "Arcady," an outdoor effect of sunlight striking through the foliage of willow trees growing in a meadow on the border of a stream, with three nude female figures, is one of the most remarkable canvases the modern *plein air* movement has produced. Mr. Harrison's pictures of the sea are noted for their beauty of color and individuality of treatment. He is an artist who has studied nature with great conscientiousness, and has sought for truth in a direction that is enough his own to stamp his creations with an unmistakable personal character. It may justly be said of him that he is one of the ablest of modern painters, and he is one whom we are glad to honor for the sake of American art.

William A. Coffin.