Correspondence

Benzoate of Soda in Foods

To the Editor:—The position which THE JOURNAL has taken on the benzoate of soda question should be commended by every advocate of pure food and in the interests of the public. The letter in last week's issue from Dr. E. E. Smith puts the question perfectly clear. It is obvious that the only excuse for the use of the benzoate is to permit of careless handling of the raw material. That it is entirely unnecessary for the preservation of catsup every housewife knows. Those manufacturers who use no preservative should be so patronized by the public, that their competitors who use the drug should either be driven out of business or forced to mend their ways.

There is one point in connection with the finding of the referee board which I have not seen brought out and which, I think, should be clearly stated. It has to deal with the decision of the board that benzoate is harmless. I hesitate to express an opinion divergent from that of my colleagues who are men of such high standing and who have made a special study of the problem, but I can not help thinking that they have done an injury to the cause of pure food. Their decision should be, and it was undoubtedly their intention to make it, in strict accord with the facts. That is, the conclusion should not go one particle beyond the facts. Unfortunately, however, the conclusions as stated seem not to have been confined to the facts investigated. They appear, judging from the published report, to have unintentionally fallen into the error of drawing positive conclusions from negative evidence, always a most dangerous proceeding and, in investigations of this character, doubly dangerous. Positive results in such investigations are clear cut and certain. That is, if derangements of health are apparent and clearly due to the drug, there is no doubt about the conclusions. But where the results are negative, as in this case they are reported to be, the conclusions should have been, it seems to me, simply the statement of this fact, for that is all that they observed. One never knows whether, in the case of a negative result, the harm was there and overlooked, or whether it was not there. It is a fact that at the present time our methods of investigation of the internal processes of the body are so crude, we know so little of the internal workings of the machine, that we can detect none but gross changes in it. The examination of the urine only gives the end products of metabolism; it does not show us the finer changes in the body at all. When we put a drug into the body, if it produces a large change it can be seen, but if the change is small it can not be detected. We are in the same position, in this regard, that astronomers were before they had telescopes. If they examined Jupiter, they saw no moons; if, therefore, they concluded that there were no moons, they would have been in error. It appears to me that something very like this is what the referee board may have done in drawing a positive conclusion from negative evidence. It may be, of course, that the board really has some other evidence than that, a summary of which has been given to the country. But on the face of their statement of the facts and the conclusions they have drawn from these facts, they have, I think, laid themselves open to serious criticism for, not having detected derangements of health, they have concluded that there were none, and not only that there were none in such individuals as those examined, but that there would be none, whatever the state of health or age of the individual taking the germicide.

Investigations of this kind, confined as they are to healthy men in the prime of life, are of little use in determining whether a bacterial poison, or germicide, such as sodium benzoate, is or is not harmful to the community made up of infants, children, invalids and the aged, as well as the young and vigorous. Every one knows the difference between the sensitiveness of the stomach mucosa in children and adults. The conclusions of the referee board, if drawn from experiments on healthy young men only, should have been stated to apply only to such a class. It may be that the board have experimented also on infants, children and on those

wavering between life and death and have found that the addition of sodium benzoate is harmless, but if they have tried such experiments they have not said so in their summary. If they have not tried such experiments, what excuse can they offer for having extended to all members of a community conclusions which were the result of an investigation of a selected group only? As the referee board is composed of eminent scientific men, I should conclude that they have tried such experiments and said nothing about them, were it not that they state that the observations were made on healthy young men.

Whatever the final decision of this question of the effect on health of sodium benzoate, wise men will continue to regard germicides, such as sodium benzoate, as highly suspicious constituents of our foods and, as far as possible, purchase foods which are preserved in a cleanly and healthy manner, free from such germicides. We should also express in some way to Dr. Wiley our appreciation of the splendid fight he has made in behalf of all the people against the adulterators and poisoners of our food supplies.

ALBERT P. MATHEWS, Chicago.

The Tariff and Medicine

To the Editor:—Now that Congress is considering a partial revision of the tariff with a view of reducing some of our excessive and burdensome duties, I think that it would be an excellent time for medical men to get together and show how unjustly their interests are affected by the present tariff schedules. Medicine being the only cosmopolitan industry in the world, it continually happens that articles necessary to the prosecution of medical research are made better in one country than in another, and for this reason it often becomes necessary to import in considerable quantities into other countries instruments or appliances made under the supervision of the inventor. I have found the tariff on radium excessively burdensome, and I am sure that it is a serious hindrance to the cause of original investigation in this country in the field of therapeutics. Physicians in both Germany and England have a far better opportunity than we to determine how far radium will effectually cure malignant diseases on the surface of the body. Few medical men are rich enough to pay hundreds of dollars in tariff to the Government every time they purchase enough radium to cover the head of a pin (ten milligrams).

Again, in the case of the reflecting condensers, now so necessary for the study of living bacteria, with the dark-ground illumination, the enormous tariff simply doubles the price of these simple instruments, so that the electric arc lamp (one of the essentials) which can be purchased in Germany for \$8.00, here costs \$16.00.

I wish a vigorous protest might be made against this disastrous policy of our government, which is both stupid and suicidal, hurting all the sick and the prospective sick people of our country by taxing medical enterprise.

HOWARD A. KELLY, Baltimore.

In Behalf of Institutions for Crippled Children

To the Editor:—For the purpose of publishing complete statistics of the institutions in the United States of America devoted wholly or in part to the care of mentally sound crippled children, the object of such institutions being, surgical and medical treatment, education, manual and industrial training, or any one of these features, I earnestly solicit information from persons associated with such institutions or having knowledge or addresses of same, on the receipt of which blanks indicating the information desired will be forwarded. The collected statistics will be published in America and abroad, therefore it is desirable to give America due credit for the efforts being made to benefit and uplift helpless crippled children.

The following is an outline of the information desired: (1) Name and address of institution; (2) date of establishment of institution; (3) how supported; (4) number of pupils; (5) day pupils; (6) resident pupils; (7) provision for surgical care; (8) educational courses; (9) manual training with

account of product; (10) special feature and aim of institution; (11) age at which children are admitted; (12) age at which children are discharged; (13) average length of stay in the institution; (14) list of medical and surgical staff; (15) provision made for children after leaving institution.

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Miscellany

An Idle Challenge from an Antivivisectionist.—We quote the following from the *New York Evening Sun*:

"This characteristic communication comes to us from the president of the Antivivisectionist Society:

"To the Editor:—Regarding your editorial attack in the *Evening Sun* of January 27 on a leaflet issued by this society, I would say that I should be glad to have you attempt at our mass meeting (to be held at Carnegie Lyceum, February 3, 8 p. m.) to sustain your assertions against its accuracy. Miss Lind-af-Hageby will be glad to show you that you are in great error.

DIANA BELAIS, New York.

"We have received a similar letter from a woman who says she wrote the leaflet. She shall be nameless. It is typical of the light-hearted irresponsibility of the antivivisectionists that neither the woman who is responsible for the publication of the leaflet nor the woman who boasts of having penned it offers the least defense of her part in the matter. Instead we are told that a certain young woman from England 'will be very pleased to meet any one in debate.' This young woman, we may remark, was joint author of a scandalous publication entitled 'The Shambles of Science,' which the publisher was compelled to withdraw from circulation several years ago, with a public expression of 'sincere regret for having printed and published the book in question.' We have no desire to enter into any controversy with this woman, who confesses that she has some difficulty in finding opponents at debate in the country of her adoption—a circumstance which does not astonish us in the least.

"Mrs. Belais boldly proclaimed the other day that no 'unjustified assumptions or allegations' were published by her precious society. We picked up a leaflet and extracted this single passage: 'Pasteur and his followers increased a very rare disease called rabies, and are making fortunes out of the antirabic virus.' To call this an 'unjustified assumption' is to state the case mildly. It is nothing less than an infamous and malicious lie. And we maintain that it is a disgusting spectacle to see so great a benefactor of the human race as Pasteur treated in this frivolous manner by a parcel of unscrupulous women."

Care of Static Machines.—Dr. C. S. Minnich, Palmer, Neb., writes that any of the modern makes of static machines can be depended on if the case containing the plates is kept dry and free from dust. Many of the cases are made with loosely fitting doors or at best the doors have a packing of felt or cloth only, often no packing or gasket at all about them. The case can, and should be made so tight that only changes of temperature and of barometric pressure will affect the contained air. The physician should see that the glass panes in the top and sides are as tightly in place as putty and wooden strips will make them. Often the putty and strips will be found to be loose and the glass shaky. Cracked glass in the case must be replaced with whole pieces. A few yards of soft "nursery" tubing may be fastened with small tacks to the frame to form a gasket for the doors to be screwed up against so that they will fit practically airtight. Felt or cloth can not be depended on for this purpose like a rubber tube and even the rubber tube must be replaced occasionally as the ozone and nitrous fumes in the case soon harden and crack it. A large earthen or glass dish may be placed in each side of the case and one partly filled with hard pieces of quicklime and a cloth put over it to keep dust from lime from

flying; in the other dish are put two or three pounds of fused calcium chlorid. The case is then ready to be closed and should be kept closed, except when it is really necessary to open it. If the plates are dusty they should be cleaned with a soft woolen cloth wrapped about a lath, the cloth being held against the plate as it is slowly revolved. When lime is used in the case it should be changed as soon as it begins to air-slake and bulge up under the cloth. There is no particular advantage in quicklime over calcium chlorid, except that it is very cheap and always available. When the calcium chlorid begins to get moist it should be taken out and baked in a hot oven until dry and then should be put back in the case while it is still warm (not hot). In case the varnish is scaling off the plates, they should be taken out of the case and well cleaned with common lye and water, well washed and dried, given a coat of good transparent coach varnish, and dried in the sun, out of the dust, before being replaced in case. Dr. Minnich has an old machine of standard make that was badly broken in transit. Two of the revolving plates were broken and were replaced by others cut from common, double strength, window glass. As the varnish was scaling off all the revolving plates in spots, they were all cleaned with lye and all revarnished with good coach varnish (two coats) before being replaced in the case. Since the machine was thus put in order it has never failed to give a good current in any kind of weather, and seems as sure to work as any common dynamo; and it is only a 27-inch, 16-plate machine. It is a common experience to get a twelve-inch spark from it.

The Present Position of the Theory of Autoregeneration of Nerves.—Dr. J. Gordon Wilson discusses (*Anat. Rec.*, January, 1909, p. 27) the various theories of the regeneration of nerves after section. Three distinct views are held. The first theory is that the regeneration is altogether from a central source; that is, that the axis cylinder grows out from a central or nutritive cell; and, in connection with it the entire nerve fiber reforms independent of any aid from the degenerated remnant in the peripheral stump. The second is that regeneration of a nerve fiber is entirely peripheral, being renewed from what remains of the old nerve fiber and independent of a central connection. The third view is that the central and the peripheral stumps each play an assisting part in the formation of the new nerve fiber. The term "autoregeneration" is used in a restricted sense. All are agreed that under ordinary circumstances some connection must be made between central and peripheral stumps for a nerve to regain its anatomic and physiologic entirety (a modification to some degree of the third view); that regeneration is preceded by degeneration, the last stage of the latter being essentially a stage of transition into the former; that in adults, separation of the two stumps for a distance of 3 to 5 cm. renders union improbable, if not impossible, and that nerve fibers grow out a greater or less distance from the central stump. Bethe upholds the second view. According to him, in young animals, the peripheral end of a sectioned nerve will regenerate (in three to six months) without any connection with the central nervous system. These peripheral nerves appear normal and respond to stimuli. Such is not the case in adults. Contact with the central stump, however, hastens regeneration. Union is first by the connective tissue sheath. After section, nerve fibrils from both central and peripheral stumps grow out to meet each other. Cajal rather supports the first view. It is maintained that fibrils grow out from the central stump—the stump in connection with the central nervous system; are attracted to the degenerated peripheral stump chemotactically by a substance secreted by the latter; grow down into the sheath of the degenerated nerve, and are partly nourished by its neurolemma. Union does not occur between a motor and a degenerated sensory nerve and vice versa—an argument for specific chemotaxis. From his own work Dr. Wilson thinks that "the brilliant work of Cajal and others is not altogether convincing," and further that in the work of Bethe and his school there remains "ever present the lurking doubt that possibly some source of contamination (connection with other nerves, etc.) had been overlooked."