pressure and intrapulmonic pressure, affecting directly all the thin walled structures in the thorax, including the walls of the blood vessels and the heart, especially the auricles. Full expansion of the thorax results in increased intrapleural pressure; decreased intrapulmonary pressure, with dilatation of the heart chambers and increase in blood volume in heart and pulmonary vessels, with secondary rise in blood pressure. The entirely opposite picture is seen following complete contraction of the thorax: decreased intrapleural pressure, increased intrapulmonary pressure, contraction of the heart walls and pulmonary vessels, decrease in blood volume in the heart, and a lowering of blood pressure.

The mechanism of respiration, therefore, seems the logical factor, rather than Taylor's nerve stimulation theory, in explaining the effect of volition on blood pressure and pulse rate changes.

C. W. LUEDERS, M.D., Philadelphia.

"ROENTGEN RAYS AND STERILITY"

To the Editor:—I wish to call attention to an editorial comment with this title in *THE JOURNAL*, Nov. 11, 1922, p. 1692. I am familiar with Dr. Hooker's work. It is admirable so far as it goes. But this comment is likely to be misleading, and may tempt some physician to use the roentgen ray for sterilization purposes.

Recently I have seen the work along similar lines of Prof. C. C. Little, formerly of the Carnegie Institution, and now of the University of Maine. He gave mice one fifth of an erythema dose on five successive days and watched the results to the fifth generation. The first generation were apparently normal; but with the second and continuing down to the fifth, various anomalies began to appear, such as blindness in one eye, and deformities of the ears, jaws and feet. No report of this work has as yet been published, I believe, but I hope that a report of it may soon appear.

If sterilization is desired or necessary, there are methods more effective and safe than the use of the roentgen ray.

LYDIA ALLEN DEVILBISS, M.D., New York.

"MERCUROSAL IN THE TREATMENT OF SYPHILIS"

To the Editor:—I was intensely interested in the careful and scientific study of Drs. Cole, Driver and Hutton on mercurosal in the treatment of syphilis (*THE JOURNAL*, Nov. 25, 1922, p. 1821). Their conclusions, based on thirty-eight carefully watched cases, are beyond much comment. However, certain facts that give rise to some discrepancies, in the opinion I have formed about mercurosal, should be brought out carefully. I have been experimenting with mercurosal for more than four years. The work of Dr. Cole and his associates does not make a distinction of the stages of the disease under treatment. If I may judge from their scant statements, most of their cases were either primary or secondary. Taking, for example, those cases that did not respond favorably to the treatment, I find that the great majority were in the primary and practically all the remaining in the secondary stage, with florid skin and mucous membrane manifestations. In my investigations, although arsphenamin was used conjointly with mercurosal, still the superiority of this treatment to a mixed treatment with any other mercurial was clearly demonstrated in my case records. Dr. Cole and his associates, using mercurosal alone in thirty-eight cases, obtained an average total of 60 per cent. improvement, which, in view of the number of primary and secondary infections among their cases, is very much in agreement with my views concerning mercurosal. In regard to the effect of the drug on the vein, these authors

state that in four of their twenty-three cases treated intravenously, a sclerosis of the vein due to the injection was noted. I have administered more than 2,000 intravenous injections, and by going carefully over my records I have not found more than five instances in which sclerosis of the vein was not due to some other error in the technic, mainly puncturing the vein through both walls and thus infiltrating it with the drug. In conclusion, I must state again that for the time being we should avail ourselves of the distinctive advantages offered by this new synthetic mercurial, whose solubility in water, together with its low toxicity and high efficiency, leaves nothing to be desired when compared with the old list of mercurials in common use.

L. G. HADJOPoulos, M.D., New York.

"BATTERY BURNS"

To the Editor:—Dr. Gradle (*THE JOURNAL*, November 25, p. 1819) states that "a storage battery consists of an acid-proof cell, containing alternate plates of lead and zinc filled with dilute sulphuric acid." Both sets of plates are lead, pasted with lead oxids. This is only a slight inaccuracy, but it mars an otherwise interesting paper.

C. D. MARTINETTI, M.D., Orange, N. J.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TOXIN-ANTITOXIN—CONTRAINDICATIONS

To the Editor:—In giving toxin-antitoxin, suppose, for the sake of example, a child has received two injections, but, when the third is due, there is some contraindication, such as fever—what then? How is one to proceed? When may or should the third and last injection be given after the child is back to normal health? What would happen if an interval of two weeks instead of one week were observed in giving toxin-antitoxin. Please do not publish my name.

_____, M.D., Missouri.

ANSWER.—Under the circumstances mentioned, it would probably be wise to defer further injections until the child has recovered. Immunity may follow two injections, and if a Schick test after three months is positive, another series of injections can be administered. In a series of observations related by Park (*THE JOURNAL*, Nov. 4, 1922, p. 1585), of persons who gave positive Schick reactions, 80 per cent. of those who received three injections of toxin-antitoxin became immune, while immunity developed in about 70 per cent. of those receiving two injections, and in about 50 per cent. of those receiving a single injection.

Since most of the observations have been made in series of cases in which the toxin-antitoxin injections were administered at intervals of a week, it is impossible to say just what would occur if the intervals should be prolonged to two weeks. In any case, it would not be wise to repeat the injection until the reaction from the former dose has subsided.

ABSORBINE, JR.

To the Editor:—Will you please give me the formula of Absorbine, Jr., a commonly advertised and used patent rubbing compound, which has been brought to my attention by quite a few of my patients. Would like to know just what it is.

GEORGE S. KING, M.D., Bay Shore, N. Y.

ANSWER.—This liniment was dealt with in the Propaganda department of *THE JOURNAL*, Oct. 25, 1913, and the matter has been reprinted in "Nostrums and Quackery," Vol. 2. It was stated at the time that a product almost identical in physical appearance could be made from the following formula:

Oil of wormwood.....	1 dram
Oil of sassafras.....	16 minims
Menthol	15 grains
Acetone, sufficient to make.....	11 drams