duodenale, on the other hand, proceed as separate hair-like processes.

This observation as to the termination of the spicules of *N. americanus* has been verified by others to whom I have demonstrated this point.

Should it not be convenient to examine the specimens when fresh the following procedure will give results equally satisfactory. Furthermore, after an experience with lactophenol solution of about two years I can recommend it for small trematodes as well as nematodes. In fact, it will even clear a large nematode such as *Ascaris lumbricoides* so that the anatomic structures are sharply brought out and with only slight shrinking.

The formula for lactophenol as given in Braun and Lühe is:

Lactic acid	1 part
Phenol (cryst.)	1 part
Glycerin	2 parts
Water	1 part

The specimens should be fixed in 2 per cent. formaldehyd solution for from two to twelve hours according to the size of the worm. It is then placed in lactophenol diluted with an equal quantity of water. Subsequently the specimen is transferred to full-strength lactophenol.

The hookworm can be kept permanently in a bottle of lactophenol and the orientation with the pressure of a wooden toothpick carried out as with fresh specimens.

If desired, permanent mounts can be made by ringing the cover-glass with gold size.

INTESTINAL PARASITES IN THE SOUTH

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With the advent of the Rockefeller Sanitary Commission there has been an awakening in the search for parasitic causes of disease, particularly in regard to those parasites which find lodgment in the intestines. Some of the results of this work are more or less surprising as they indicate various parasitic infestations which are confined to somewhat limited localities, or may be carried by the hosts to various parts of the continent. A person who is a native of the Southern states, or who has resided in them but a short time, may admit and harbor some organisms and carry these unrecognized into a far country.

These parasites, few or numerous, may simulate, by their varying effects on the individual, various abdominal or systemic conditions, and cause considerable anxiety or damage if their presence is not appreciated.

That intestinal parasites are common among certain classes in the North was shown by Rosenberger, who, on examining the stools of 1,280 patients in the Philadelphia General Hospital, found 170 to be harboring parasites. Ten different parasites were encountered, single infestations existing in 147 cases.

The therapeutics of intestinal parasites is still quite incomplete, as is the knowledge of the pathologic effect caused by some of them. Some parasites do not yield readily to the present treatments employed, while with others the adopted medication gives irregular effects or incomplete returns. It may be safe to assume that no live animal is of any great benefit to the intestinal tract when harbored therein, yet there are some which have not made their pathologic significance manifest.

The appended records represent, as far as available to me, the examinations made in the state laboratories in

the Southern states, exclusive of Alabama, Louisiana, South Carolina and Texas. The figures represent the examinations made during 1911 and the first quarter of 1912, with some exceptions. The field directors of the Rockefeller Sanitary Commission, working in the various parts of the states, have made many thousands of microscopic examinations (90,724 in 1911), but since it is not customary for them to report the infestations other than those caused by the hookworm, their results are not herewith included.

To obtain figures which would be as full and representative of state conditions as possible, all the figures available were included. Some state laboratories are employing larger forces to develop as a special feature the parasitic work than are others in which these examinations are but a part of the routine work. Some laboratories have been established for years, while in other states such clinical necessities are but new innovations,

TABLE 1.—SUMMARY OF THE INTESTINAL PARASITES REPORTED

	Number Found.	Ratio to Other Parasites, Per Cent.
Total examinations reported.....	62,786	
Total showing hookworm infestation.....	11,147	
Percentage of hookworm infestation.....	17.7	
Percentage of infestation by other parasites...	6.5	
<i>Necator americanus</i>	11,147	73.13
<i>Ascaris lumbricoides</i>	2,339	15.34
<i>Hymenolepis nana</i>	1,004	6.59
<i>Trichocephalus dispar</i>	551	3.62
<i>Strongylus intestinalis</i>	119	.70
<i>Oxyuris vermicularis</i>	72	.47
<i>Tenia saginata</i>	10	.06

TABLE 2.—RATIO OF PARASITES FOUND

	Arkansas	Florida	Georgia	Kentucky	Mississippi	No. Carolina	Tennessee	Virginia
<i>Necator americanus</i> ..	94.5	41.6	94.7	40.9	90.9	82.9	47.1	65.7
<i>Ascaris lumbricoides</i> ..	2.7	7.3	1.9	42.8	1.3	17.9	34.4	26.3
<i>Hymenolepis nana</i> ..	1.1	39.6	2.8	.9	3.7	5.6	5.0	3.1
<i>Trichocephalus dispar</i> ..	.3	10.6	.1	15.4	..	3.1	8.6	3.2
<i>Strongylus intestinalis</i> ..	.7	.8	..	..	15.9	1.1	.2	..
<i>Oxyuris vermicularis</i> ..	.3	1.0	.2	..	.4	..	2.6	.9
<i>Tenia saginata</i>	..	..	..	..	.4	.03	1.1	..

and hence are less widely called on by the general practitioners.

To publish the number of examinations made by the various laboratories, or to show the exact number of parasites discovered, would be an obvious injustice to some laboratories as the figures would be misleading in the intent and purposes for which the laboratories are founded. Hence for purposes of comparison, only ratios are presented. Apparently no attempt is made by the laboratories to distinguish the ankylostoma. If any have been seen they have been classified with the necator.

Pinworms (*oxyuris*) were formerly accepted as being extremely common, and dwarf tapeworms (*hymenolepis*) were regarded as rare. These theories are not borne out by the examinations.

There is a wide variability in the prevalence of the parasites, other than the hookworm, in the various states. Kentucky reports that 15 per cent. of all parasites found are *trichocephalus*, and Georgia, 10 per cent., yet they are uncommon or not found in other laboratories. One field man found them quite abundant in one locality in

Southern Mississippi. *Ascaris* is frequently seen in North Carolina, Virginia and Kentucky, but to the southwest of these states it is only occasionally encountered. Strongyloids are common in Mississippi, but are rare or not seen in other laboratories.

The flagellate infusoria are undoubtedly occasionally seen, but would be more frequently noticed if the higher-power objectives were employed. For practical work only the low-power lenses are used; hence the smaller organisms, including amebas, are frequently overlooked. The infusoria are not usually reported. In the Mississippi laboratory, the paramecium *Balantidium coli* was found four times. The flagellates *Lambia intestinalis* and *Cercomonas hominis* were found once and twice, respectively.

Trematodes are undoubtedly rare in the Southern states, not being reported as seen and recognized in any of the examinations. In the Mississippi laboratories, a fluke egg was seen once, but was not found in this specimen again. This same patient, a Syrian woman, was infested with a parasite whose eggs could not be identified, but bore a close resemblance to the genus *Hymenolepis*. She was given treatment and all adult parasites lost. This same laboratory received two small flat worms which were lost in the mail before being identified.

Myiasis is perhaps quite common, but owing to the ease of extracorporeal fly contamination, there is a hesitancy about reporting the cases. Among many supposed cases received at the Mississippi laboratory only five or six are accepted as being intestinal myiasis. Two were by larvæ of the sarcophagæ, two by muscæ, and the others not identified. Five cases of myiasis are reported from Kentucky. A gastropod, obtained from the intestines of a young man, can scarcely be accepted as a parasite.

The finding of amebas is not included in the reports. In the Mississippi laboratory eleven examinations were made for the diagnosis of suspected amebiasis; the *Entamoeba histolytica* was found twice. In both instances the stool was green, liquid and contained mucus.

Multiple infestations are not usually noted and reported because the examination of a specimen is discontinued after the first few ova are encountered. Prolonging the search would markedly increase the number of multiple infestations recorded.

THYROID EXTRACT IN NEPHRITIS

A PRELIMINARY STATEMENT OF A NEW AND EFFECTIVE METHOD OF TREATMENT

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CASE 1.—In March, 1909, J. E. P., a man aged 48, 6 feet in height, well proportioned and weighing 180 pounds, consulted me because of a general depression and inability to work, either mentally or physically. He had been in failing health for several years. He complained of headache, shortness of breath and at times difficult vision. There had been a progressive loss of weight for five years; previous to the beginning of this illness, it averaged from 200 to 220 pounds. The patient was conscious of an irregular action of the heart, which, he said, had developed within the past six months; it was this irregularity, together with shortness of breath on even moderate exertion, for which he sought relief. There was some irritation of the bladder, especially at night, but no prostatic trouble. His general appearance gave one the impression of a once active, energetic business man who was failing physically and who had lost courage.

External examination disclosed a cystic goiter. The neck measured 19½ inches in circumference. This had been present for sixteen years. The heart-apex was diffused and outside of the nipple-line in the sixth interspace. Blood-pressure was 190 mm. Hg. In the fingers of the extended hand there was a slight tremor. There were no other symptoms indicative of hyperthyroidism. The physical examination was otherwise negative.

The urine contained 4 per cent. albumin and was loaded with granular and hyaline casts. The chlorids were diminished and the reaction for indican was positive.

This case represents a type seen frequently by every practitioner in the course of his work, and medicine has, heretofore, had little to offer in the way of a direct cure since Richard Bright of England, in 1827, first published his paper which described the disease.

As this article is but a preliminary statement and the subject is so vast, I purpose to report here but two cases, leaving for the future a more extended report which will contain all that I have learned regarding the treatment of this disease so far. Before doing this, I am sure the following will be granted: Here was a man in the prime of life and of large business interests, and about all we had to offer him was a diagnosis followed by some advice to limit his business activities, to go to a mild climate for the winter and to follow a prescribed suitable diet. Anything further in the way of treatment must be done symptomatically. I told this man, therefore, that as long as he attended strictly to the business of conserving his health in the future, he would prolong his life with a reasonable measure of comfort just to the degree that he did so. But we all know that such advice is not scientific. It is merely a sentence to these individuals to go out into life and grasp at the straws of hope that finally they may find something in the regular or irregular practice of medicine which will stave off the evil day of total incapacity with its measureless depths of mental and physical suffering.

All that I did at first for this patient in the way of treatment was to consider his high blood-pressure. For this I prescribed small doses of potassium iodid and 1/100 grain of nitroglycerin every two hours. I really had nothing, as I have said, to offer him for his nephritis.

In thinking of this patient and his physical condition after he had gone home, and in casting about for a possible form of treatment that had more to offer than what I had already done, I thought of a possible relationship between the kidney findings and the greatly enlarged cystic thyroid. It was easy for me to think of this possible relationship because of my previous work in reference to the internal secretion of the hypertrophied prostate gland as a cause of certain distressing symptoms in middle-aged and old men.¹ It occurred to me that although hyperthyroidism had a very extensive literature, the subject of hypothyroidism lay in an almost unknown field in the realm of pathologic physiology. I reasoned that this man's thyroid gland, greatly damaged as it was, was not giving him the required amount of its secretion. I believe, by the way, that there is a direct relationship, embryologically, between the thyroid gland, the adrenals, the kidneys and the sexual system; just what I believe this relationship to be, however, is not the purpose of this article to discuss.

On the basis, then, of the greatly enlarged thyroid gland and a coincident nephritis, I prescribed 20 grains of thyroid extract a day, in four doses, for a week, and

1. Percy, J. F.: Psychic Aberrations Associated with the Diseased Prostate Gland, Illinois Med. Jour., November, 1908; abstr. in THE JOURNAL A. M. A., Jan. 9, 1909, p. 160; Phrenitis Prostatitis, Ibid., July 2, 1910, p. 10; editorial, Ibid., Dec. 12, 1908, p. 2064.