there were also found bodies which looked like embryos.

The material of which the cysts were composed was rather scanty. Teasing revealed only a coarsely granular material the cellular nature of which could not be clearly distinguished. The granules were of irregular size and of varying degrees of transparency. Some appeared quite black, others were brownish or colorless.

The setigerous sacs seemed to be normal in the segments in which the cysts occurred, and in many of the segments the nephridia seemed to be perfectly normal.

No one of the laboratory staff had ever encountered these cysts, and it is difficult to see what they mean. Do the setae in the cysts represent a response to the presence of the parasites? Do they represent bits of the setigerous glands which have "run wild" like tumors?

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AUTO-TRANSPLANTED GASTRIC POUCH FUNCTIONING FOR FIVE YEARS

THIS note is to record the interesting fact that an auto-transplanted pouch of the fundic portion of the stomach functioned for five years. The pouch was transplanted beneath the mammary gland in a female dog in January, 1925. The fact that the pouch secreted following the ingestion of a meal was recorded by Ivy and Farrell[1] in November, 1925, the animal being demonstrated in Cleveland at the meetings of the American Physiological Society[2] in December, 1925. This fact proved the existence of a humoral mechanism for gastric secretion. Observations on the motility of the pouch have been recorded,[2] the most important observations being that when the stomach proper manifested "hunger contractions" the pouch also manifested "hunger contractions," and that the ingestion of food not only inhibited the hunger contractions of the stomach, but also those of the pouch, which demonstrated that a humoral mechanism plays a rôle in the causation of the hunger motility of the stomach. These observations have been repeated and confirmed at intervals on this particular dog for five years. The secretory and motor functions of the pouch continued until the animal contracted an infectious jaundice and pancreatitis which resulted in death in June, 1930. A histological study of the pouch immediately after death revealed the same partially atrophic changes recorded in a previous article.[1]

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SCIENTIFIC BOOKS

Astronomy. By R. H. BAKER. xix + 521 pp. Van Nostrand Company, 1930.

A TEXT-BOOK for introductory college courses in astronomy. The author, who is professor of astronomy at the University of Illinois, has purposely eliminated mathematics where practicable, and does not presuppose any considerable knowledge of physics. With these limitations the author has succeeded remarkably well in giving a picture of the science at the present day.

This book was needed. Many good text-books on astronomy have recently appeared. Yet some of them are too easy for a course of three hours a week during a whole year, and some are too difficult. Professor Baker's book is just what one requires for such a course.

In some respects his desire to avoid mathematical treatment may have been too great. The sections which deal with solar and lunar eclipses, for instance, do not contain any algebraical formulae at all. But in order to explain the phenomena some recourse to "algebra in words" was necessary. Would not even mathematically ill-equipped students prefer some simple formulae?

The book is beautifully printed. The illustrations are well chosen and well reproduced. Figures 10.25, 10.25A on p. 418 are obviously misplaced. One wonders what these pictures of constellations have to do with "the importance of radiation pressure," the subject of the corresponding section.

Some misstatements occur in the section on the variation in the speed of the earth's rotation (p. 52). It is stated that meridian transits of *stars* exhibit fluctuations due to irregularities in the earth's rotation. This is obviously confusing, as they are just the readings on the earth-clock. We further read: "From 1660 to 1790 the earth ran fast; then it ran slow until 1898 when it became fast again." Fast and slow should be interchanged. There is an amusing misprint in the preceding sentence: ". . . sudden changes in the period of rotation, at times as much as $0.^{s}00$ . . . [occur]."

Concluding the section on tides in the solid earth (p. 173), the author states, erroneously of course,

[1] *Am. J. Physiol.*, Volume 74, 1925.
[2] *Am. J. Physiol.*, Volume 76, 1926.

that the earth tides keep in step with the fluid tides of the ocean.

A few more remarks of this kind could be added. But they are in general of minor importance and can be made of every book in which such a wealth of new material has been digested. In fact, the book is exceedingly accurate. The definitions are very carefully chosen, and even where others have usually gone wrong, the book gives correct statements. Typographical errors are also very rare.

Astronomical instruments are briefly treated. Sextant, theodolite, zenith telescope, heliometer are not even mentioned. Apparently the author chooses to emphasize results more than methods of research.

The book is well up-to-date. Pluto, discovered so recently at the Lowell Observatory, is incorporated as the ninth principal planet. Justice is done to the importance of astrophysical research by devoting an admirable 40-page chapter to the constitution of the stars. In this chapter we find a very clear picture of what very recent developments have contributed to our knowledge of the make-up of stars. The following two chapters on the galactic system and exterior galaxies are also up to the minute.

An unusual subject in a book on astronomy is the earth's atmosphere, to which some considerable attention is paid, in particular to illustrate analogies with the sun and the planets.

The author has all sorts of illustrations at his disposal to make facts of exact nature clearly understood: "Everywhere in its interior the intensely hot star is kept inflated like a tire but with far less immediate danger for a blow-out or collapse" (p. 415) is but one example. He uses such parallels with all the freedom that has become common in scientific papers nowadays. But one never gets the impression that he has sacrificed any of the dignity of the science.

References to later sections are frequent throughout the book. For this reason it can not be easy reading for the general public whose knowledge of astronomy is meager. It does not, however, diminish its merits as a text-book for class use, or as a reference book. These merits are considerable. The book easily deserves a prominent place among the several good text-books that have recently appeared.

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REPORTS

THE LÜBECK DISASTER[1]

OF the children inoculated in Lübeck with the BCG vaccine, more than fifty have died. Unfortunately, according to medical opinion, further deaths are to be expected, as the disease covers a period of from one to two months and the vaccinations were carried out at different times. The federal ministry of the interior has just published a statement based on the results of the inquiry as far as it has progressed. The statement throws a new light on the events in Lübeck and shows with what energy all persons in authority are working to clear up the matter. The statement of the federal ministry of the interior is expressed in precise terms and reads thus:

As was unfortunately to be expected, the terrible disaster that overtook the population of Lübeck in connection with the treatment to establish in children immunity to tuberculosis has not proved to be a catastrophe of only short duration but a calamity involving a series of fatalities and protracted illnesses the end of which is not yet definitely in sight. It is easily intelligible that the excitement over the sad event does not die down at once and that at home and abroad the demand for a more complete explanation of the disaster continues to persist. From the tone of the statements made by the federal minister of the interior, May 21, at the session of the head committee, and, June 16, at the plenary session of the reichstag, it was plainly evident that the investigations of the matter had been begun promptly and that they would be prosecuted without sparing any person or the prestige of any scientific method. Since, however, in some quarters suspicions to the contrary found expression, attention must be called to the fact that the scientific side of this affair involves some of the most difficult problems of bacteriology. The Federal Health Bureau was entrusted by the Federal Ministry of the Interior with the prosecution of the scientific investigations. The definitive outcome of the inquiry can not be announced before three to four weeks.

So far as it is possible to form an opinion from the investigations to date carried on by Professor Dr. Ludwig Lange, who was entrusted with this end of the research, it may be stated that the Calmette culture supplied by the Pasteur Institute in Paris was above reproach, but that it became contaminated during the process of recultivation in Lübeck. It is not open to question but that the Federal Health Bureau is using all available scientific means in the investigations that are being carried on to throw light on the complicated problem—investigations that are planned on a wide scale and will require the use of 600 or more experi-

[1] Berlin correspondent of the *Journal* of the American Medical Association.