must have that can be actualized in no other way than by their coming together to make the compound substance put me out of conscious existence. No amount of chemical examination in the laboratory, so far as I know, would indicate that the two would unite and make a substance that would have such a remarkable effect.

I raise the question of whether this striking example of chemical transformation is more or less typical of all chemical transformation. Is there anything about the phenomenon that we can say intelligently, other than that chemical transformation in general is a process of bringing into actuality the potential qualities that the elements have, which can be discovered in no other way than just that of their acting on one another; and that when they have made a compound substance, the action of that substance can be discovered in no other way than by trying it on a living being more or less like myself?

I wonder if this sort of thing which is now common knowledge to us moderns, does not throw some light on the seemingly endless speculation of the philosophers and theologians, not to say some expert scientists, with reference to what the idea of substance really amounts to.

It looks to me as though the idea of potentiality, of which Aristotle made much as to that particular meaning of the Greek *dunamis,* has been overly neglected in the natural knowledge of the modern era.

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THE CONQUEST OF LEPROSY

IN 1927 my wife and I visited Dr. Douglas Collier and his wife, Dr. Mary Collier, at their mission station at Nan, Siam. We also went to Chiengmai, where Dr. J. W. McKean was in charge of the admirable institution for the care of lepers. These medical missionaries worked under the auspices of the Presbyterian Board, and we felt that their work was of the utmost importance to the country, and a credit to their American supporters.

The years have gone by, Dr. McKean has retired, and now lives in California; Dr. Collier has moved to Chiengmai, and taken up the work with the lepers. All this might not call for special comment were it not that at last after long years of investigation, it appears probable that leprosy may be actually conquered. The experimental work at Chiengmai, in its present form, was initiated by Dr. M. J. Oberdoerffer, a young German who had worked in Africa under the British Empire Leprosy Relief Association. It appeared that the eating of colocasia predisposed to the development of leprosy, apparently due to a toxic substance also found in partly decomposed fish. Using this method, it was found possible to cause monkeys to acquire leprosy, something which it had seemed impossible to do before. The conclusion was reached that injury to the adrenal glands was the more immediate cause of trouble, and short-wave radiation was used to stimulate these glands, with satisfactory results. However, it was suggested that possibly the use of diphtheria antitoxin might be beneficial, as in diphtheria a toxin is liberated which damages the adrenal glands. In diphtheria, antibodies are formed, but this seems not to be the case in leprosy. When the work had reached this promising stage, Dr. Oberdoerffer, on account of poor health, felt obliged to leave Siam. Dr. Collier continued the work, now using toxoid instead of the old antitoxin. The results have been extraordinary, and Dr. Collier states:

> In the use of toxoid and antitoxin we have a treatment which far exceeds any method yet known. Results are obtained in a few weeks, which formerly were seen only after months or years of treatment. While the early cases are less spectacular in response, all types seem to be benefited.

It is reasonably hoped to immunize the children and associates of lepers, and so in time eradicate the disease. All these matters are set forth in a paper just received, published in the *Journal of the Thailand Research Society* (Bangkok), February, 1940.

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SCIENTIFIC BOOKS

THE KOSHER CODE

The Kosher Code of the Orthodox Jew. Being a literal translation of that portion of the sixteenth-century codification of the Babylonian Talmud which describes such deficiencies as render animals unfit for food (Hilkot Terefot, Shulhan 'Aruk); to which is appended a discussion of Talmudic anatomy in the light of the science of its day and of the present time. By S. I. LEVIN, senior rabbi of Minneapolis, and EDWARD A. BOYDEN, professor of anatomy, University of Minnesota. xx + 243 pp. Minneapolis: University of Minnesota Press. 1940. $4.50.

THE anatomist and embryologist must visit, if not frequent, the slaughter-house. The late Professor Minot remarked, in his quiet way, "It is hell," as he sent the reviewer there. Dr. Boyden's errand, fifteen years ago, was to find how often partly divided and supernumerary gall bladders occur in calves and sheep