reproduced from the original plates, and have lost little in the reproduction. The last 120 pages are occupied by a consideration of the clinical examination of pathological urine. Hæmaturia and pyuria in especial are dwelt upon, while the rare and peculiar condition of gas in the urine (pneumaturia) is shortly described. This portion of the work is interesting, and the author's wide knowledge and experience do much to elucidate the interpretation of symptoms which vary so greatly in different conditions. The importance of noting the appearance of the urine, the time of the passage of the blood or pus (at the beginning, during, and at the end of micturition), the quantity, the duration of its presence, etc., are particularly laid stress upon. In relation to hæmaturia, under the heading, "Indications for Instrumental Exploration," the author gives sound advice. Where the cause can be recognised without instrumentation, he protests against the use of instruments, unless at the same time treatment is to be carried out—that is, the passage of the instrument should be the initiation of treatment. In particular, he advises against the use of an instrument when hæmaturia is present, unless there be retention. If retention be present, he advocates that a soft catheter be used with great gentleness, and with strict antiseptic precautions.

In connection with pyuria, the interesting and much debated question of ammoniacal urine is discussed, and Guyon insists, after a careful historical review of the work upon this subject, upon the presence of an essential factor for its production, namely, organisms, and points the moral how important it is to prevent the introduction of organisms into the bladder.

Drs. Kraus and Zucherhandl have done good work in translating M. Guyon's treatise, which gives to the profession, in an attractive form, the methods and experience of a master in genito-urinary surgery.

DAVID WALLACE.

Compressed-Air Illness, or so-called Caisson Disease. By E. HUGH SNELL, M.D., B.Sc. London: H. K. Lewis. 1896.

DR. SNELL's book is not merely entitled to the credit which attaches to its being the first work on the subject produced in this country (for a graduation thesis on caisson disease of several years' priority was never published). But a perusal of the book cannot fail to stamp it as one of genuine merit, worthy of an honourable place amongst recent medical publications. Opportunities of practically investigating the problems involved in compressed-air illness are comparatively infrequent, and it is well, therefore, that those who may be interested in this bypath of medical literature should have such a reliable guide as the book before us.

The author begins with a critical summary of the views which have been held since the invention of the diving-bell by Sturmius in the early part of the sixteenth century, tracing the gradual increase in our knowledge of the physiology and pathology of the disease, as gained by the works of Triger, Paul Bert, François, Foley, Bauer, Smith, and others, and concludes the interesting history with a somewhat copious

reference to observations made during the excavations required for the founding of the piers of the Forth Bridge.

Thereafter, glancing for a moment at the work arrangements of the Blackwall Tunnel, Dr. Snell takes up the symptoms and clinical history of the disease, illustrating the various symptoms by typical instances drawn from a rich store of over two hundred cases which he carefully observed. The cases of auditory vertigo, all of which are recorded in detail, are of special and noteworthy value, inasmuch as this particular symptom has received but scant attention from previous writers.

As regards etiology, the following are held by the author to be the determining factors—(1) The pressure itself; (2) the length of stay in the compressed air; (3) ventilation; (4) too rapid decompression; (5) personal idiosyncrasies.

A distinct and valuable addition to our knowledge has been made in tracing the connection between ventilation and compressed-air illness. One previous writer, indeed, but one only, has even mentioned ventilation as an element of causation. Dr. Snell, however, has dealt with the matter exhaustively, and he has shown, by a series of convincing experimental observations, that in a pressure up to 20 lbs. above the normal atmosphere, with a supply of fresh air of less than 4000 cubic ft. per man per hour, sixteen cases of illness occurred; from 4000 to 8000 cubic ft. per man per hour, nine cases occurred; from 8000 to 12,000 cubic ft. per man per hour, eight cases occurred; above 12,000 cubic feet per man per hour, no cases occurred; and again, at higher pressures, from 25 to 35 lbs. above the normal atmospheric pressure—

Cubic Feet of Fresh Air per Man per Hour.	No. of Days.	Cases of Illness.	Estimated Cases of Illness for One Hundred Days.
Below 4000	13	41	315·5
From 8000 to 12,000 . .	10	8	80
Above 12,000	12	4	33

proving that the amount of illness is in direct proportion to the absence of ventilation, or to the inadequate fresh-air distribution in the air chamber.

Too rapid decompression has hitherto been believed to play the principal part in causing the symptoms of caisson illness. And whilst we are in cordial agreement with Dr. Snell as to the importance of ventilation, we are inclined to think that he seems to underestimate the harmful results of undue rapidity of decompression. Indeed, we have observed that when, as a remedial agent, recompression has been resorted to, most careful decompression, or "leaking out," as it is termed—extending to forty-five minutes, as compared with four or five minutes in the initial decompression—was always carried out, and generally beneficially.

Dr. Snell has had no fatal cases, and no opportunity, therefore, of adding to the present somewhat meagre and indefinite knowledge of the

morbid anatomy. After summarising the various theories which have been held as to the pathology of the disease, he ranges them into three divisions—(1) Theories suggesting exhaustion, carbonic-acid poisoning, and the like, as the cause; (2) theories ascribing the symptoms to mechanical congestion of the different viscera; and (3) theories depending on an increased solution by the blood of the gases of the compressed air, and the liberation of these gases on the pressure being removed.

Each theory has had more or less zealous and able advocates. We believe, however, that Dr. Snell is right in ascribing to the last-named theory the sole or principal part in the pathological process, and he advances well-reasoned arguments for his assertion that the gas mostly concerned is carbonic acid, and not nitrogen, as many observers have supposed.

In regard to treatment, Dr. Snell has followed the lines adopted by some at least of his predecessors in this sphere of work; and the best testimony to its correctness has been the unvarying success with which it was attended. Altogether we have been much impressed with the ability displayed in the writing of this book, and we believe it will remain for a long time to come a standard work on the subject.

JAMES HUNTER.

Diphtheria and Antitoxin. By NESTOR TIRARD, M.D. London, New York, and Bombay: Longmans, Green, & Co. 1897.

VARIOUS papers written by the author upon diphtheria and its treatment during recent years have been collected and put together in book form, and we now have a very complete and handy little volume, containing a clinical description of this disease, with its complications and sequelæ, illustrated with cases treated in the Evelina Hospital for Children. While the signs and symptoms of diphtheria are very fully dealt with, we cannot fail to note the omission of any account of the microscopic appearances of the Klebs-Löffler bacillus, and of the cultivations that may be grown from them. The question of intubation and tracheotomy is discussed at some length, and the operation of intubation is given in detail. Dr. Tirard urges a trial of the latter in cases treated with antitoxin, when any surgical interference is necessary; in the Evelina Hospital tracheotomy is now rarely performed, the results more recently obtained from intubation having so much improved. The whole of this chapter should be carefully read, as the author evidently writes from a considerable experience. Intubation has fallen into more or less general disuse, largely from the fact that it has been employed by many who have had little or no practice in its use; it is an operation that requires careful manipulation and some dexterity. The last chapter deals with the antitoxin treatment, and the results obtained with it are such as to establish, in the author's opinion, a strong claim for its further employment. Both mild and severe cases were treated with it; the detachment of the membrane was found to be more rapid, and there was less tendency for its downward spread; there was improvement in the strength of the pulse and in the general condition of the patient. The rash following the injection produced no bad effects, albuminuria was not detected more frequently than in the pre-antitoxin