slight antihæmolytic effect which serum exercises toward solanine; they, on the contrary, through their alkalinity, favor it. There is every reason to believe that this effect is due to cholesterin. However, the mixture or combination of the glucosides with cholesterin, while non-toxic toward the red cells and other cellular elements, such as the bronchial epithelium and the epithelium of fishes, preserves all its poisonous properties for the animal as a whole, perhaps because disassociation again occurs, or perhaps because certain cells, as those of the nervous system, again render it toxic.—*Archives Internationales de Pharmacodynamie et de Therapie*, 1902, vol. ix., fasc. 5 and 6, p. 393.

Antibody against Leech Extract.—DR. H. WENDELSTADT was led by the close relationship of leech extract to the ferments and the animal and vegetable poisons with which an immunity can be produced, to experiment with the view of developing an antibody. The heads of leeches were triturated with powdered glass, the resulting mass extracted with normal salt solution and filtered so that 20 c.c. corresponded to fifteen leeches. The extract was then injected subcutaneously or intraperitoneally into rabbits, in doses from 1 to 5 c.c. Many animals died from sepsis or peritonitis, since it was not thought wise to sterilize the material. The serum of the five rabbits which had survived the injection of large doses showed a distinct reaction toward the extract in that the inhibitory action of the latter on clotting disappeared to a certain extent. By heating the serum up to 131° F. to 140° F. it was rendered partially inactive. It was found that the antibody develops after twenty-four hours; the maximum reaction is reached after forty-eight hours, but there still is some present two and three weeks after the injection. The proof that the antibody is really a specific one lies in the fact that the serum from injected animals, if mixed with blood, clotted in exactly the same time as normal serum with blood. The author also succeeded in causing the production of an anti-serum which naturally had much the same effect on coagulation as the original leech extract. The active principle here is not affected by heat. The origin of the various antibodies was found to be the pancreas, and to a less degree the liver and kidneys.—*Archives Internationales de Pharmacodynamie et de Therapie*, 1902, vol. ix., fasc. 5 and 6, p. 407.

On Immunity.—DR. E. F. BASHFORD has been investigating this subject in consideration of the many uncontrollable factors which form important chapters in the study of immunity toward bacterial toxins, and since it seemed proper to ascertain if a similar protective mechanism could be induced by chemically simpler bodies, and thus an insight into the chemistry and physiology of the process be obtained. Pohl would seem to show that indeed such is possible, for he has found that rabbits could be immunized by gradually increasing doses of solanine, so that this drug no longer caused a hæmolytic action upon the red cells. Bashford, however, from his individual work, claims that this is not so; indeed, the red cells of a rabbit treated with solanine were found to be more instead of less sensitive to the action of this drug. This increased susceptibility may be explained as due to anæmia which had developed in the animals as a result of the repeated injections. Two rabbits were selected, one was treated for twenty-five days with almost fatal doses—twelve in number; the second left undisturbed, when a dose exceeding the

fatal one was then injected; both died in approximately the same time.—*Archives Internationales de Pharmacodynamie et de Therapie*, 1902, vol. ix., fasc. 5 and 6, p. 451.

The Last Stand.—DR. JOSEPH BYRNE discusses in a most interesting and able manner the small things which may determine for life or death when the patient is almost in extremis. "The practitioner who tries is often surprised at the many things that can be done in cases in which at first it seemed there was nothing for him to do but fold his arms ingloriously and let death stalk off unchallenged with the victim." This is the central idea that animates the discussion. In the matter of position in bed, when the patient is very low, when the jaw drops, and the tongue falls back in the throat, he should not be left lying on the back, for respiration will be mechanically interfered with to a great extent. Here the patient should be placed on the right side with the face looking downward over the edge of the pillow. The author strongly deprecates the modern drug-store prescribing of headache remedies which, he believes, are causative of neurasthenia and impotency. That both heat and cold can depress should be borne in mind. The question of visitors is tersely summed up. Transfusion, enteroclysis, and hypodermatoclysis are considered as very cardinal procedures, and every physician should be master of the technique of all three. They save life in hemorrhage, in poisoning by noxious gases, or in acute toxæmic states. Bloodletting, cupping, and artificial respiration have their special fields of application. Under the head of pharmacotherapy the author discusses the use of strychnine, cocaine, digitalis, atropine, morphine, hyoscine, quinine, bromides, iodides, alcohol, gualacol, and oxygen. "The miserable logic that fosters pessimism" is the bugaboo that the author would seek to lay low.—*Merck's Archives*, 1902, vol. iv., p. 87.

PEDIATRICS.

UNDER THE CHARGE OF

LOUIS STARR, M.D.,
OF PHILADELPHIA,

AND

THOMPSON S. WESTCOTT, M.D.,
OF PHILADELPHIA.

The Present Status of the Fourth Disease of Dukes.—On several occasions this department has presented abstracts of papers treating of a so-called fourth disease, as described by CLEMENT DUKES (*Lancet*, July 24, 1900), which this able observer believed to be a distinct morbid entity occupying a position between rubella and scarlatina (see *THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES*, February, 1901, p. 233; also January, 1902, p. 122).

The present status of the question is very impartially discussed in a recent paper by CLAUDE B. KER, Medical Superintendent of the Edinburgh City Hospital for Infectious Diseases (*Practitioner*, February, 1902, p. 139). After