

SCIENCE.

FRIDAY, MAY 27, 1887.

COMMENT AND CRITICISM.

DR. ALBERT SHAW of the Minneapolis *Tribune*, always a writer worth reading on economic subjects, prints in the current issue of the *Contemporary review* a very practical article, entitled 'The American state and the American man.' The article was suggested by an incidental remark made by Mr. George J. Goschen, now chancellor of the British exchequer, to the effect that *laissez-faire* is the practical rule in the United States, and state interference the rare exception. Dr. Shaw discusses and combats this assumption. He says, first, that Mr. Goschen's opinion is not only generally entertained in England, but will be allowed to pass unchallenged by the vast majority of intelligent Americans. To begin with, *laissez-faire* is in harmony with our independent, self-reliant character as a people. It is the doctrine imbibed by the young men of the country in school and college. But while professing to hold *laissez-faire* doctrines, the American does not fashion his practice in accordance with them. "He studies his political economy in a text-book of abstractions, and not in the history of nations or the concrete conditions about him. Consequently he manages to keep his economics and his practical politics as separate as some men do their religion and their business, and he is just as naively unconscious of it." Two further observations are preliminary to Dr. Shaw's main discussion. We cannot properly estimate the extent of state interference in a western state by checking off correspondences on a catalogue of the various functions that have been assumed by the British government. Circumstances must be considered in estimating the extent to which the state invades the domain of the individual. And, secondly, it is not the functions of the general government, which touches the average citizen in so few points, that should be taken as the basis of computation, but rather those of the state and local governments.

Dr. Shaw then examines the legislation of the Minnesota state legislature during the sixty-day

session of 1885. The number of laws that may be classed as instances of state interference is not only astonishingly large, but the laws themselves deal with the greatest variety of subjects. Prominent among them are the 'granger' laws concerning railroad and elevator supervision and control. Then come state loans of seed-grain to farmers whose crops had been ruined by grasshoppers. Agricultural fairs were subsidized and one hundred thousand dollars appropriated for a state fair-ground. Liberal exemption laws enable the farmer to avoid the payment of a portion of his debts. Dairy laws protect the butter-makers against artificial products, such as butterine. New laws regulate almost every detail of the cattle industry. Even brands are registered and protected by the state. Logging codes of minute detail regulate the lumbering trade. Insurance companies, savings banks, pharmacy, medicine, dentistry, and the oil trade are supervised and controlled. The fish and game laws are minute and exhaustive. One enactment specifies the maximum toll to be exacted by a custom mill for grinding wheat; another states when a dog may be slain with impunity; another prescribes in detail the character of the waiting-rooms which all railway companies must maintain at their stopping-places. The part played by the state in the matter of education is too well known to need mention. A bill was introduced, and found considerable support, which actually went so far as to forbid persons of opposite sex to skate together in a skating-rink, or even to be on the floor at the same time.

Dr. Shaw emphasizes the fact that bills of this character are passed by men who profess adherence to *laissez-faire* principles. But no connection exists between their political philosophy and their votes. The proper cure for this anomaly the writer finds in unlimited state interference. "Let it be understood that it is within the legitimate province of the state to do any thing and every thing." The result would be more scientific law-making. Each new proposition would be carefully scrutinized, and would have to stand or fall on its own merits. Whether Dr. Shaw's proposed remedy is the best and speediest may be

fairly questioned, but the careful observer of current politics must have noticed the increasing tendency to turn to the legislature for any thing and every thing. It is time to call a halt, and it is the duty of our students of political science to determine for us how this may best be done. The question is worthy of their most careful study.

THE FAITH-CURE and the mind-cure are at the present time attracting a great deal of popular attention; and almost daily, cures are announced, under this treatment, of persons who have, under all other methods, remained chronic invalids. It is not to be wondered at, that physicians denounce this treatment as charlatanism, but it was hardly to be expected that one of the most potent arguments against the validity of its claims should come from one of the clergy. In a recent sermon on this subject, Rev. E. C. Ray of Hyde Park, Ill., says, "Apparent cures are often followed by a relapse, temporary improvement by permanent decline. From reported cases of cure we must deduct many of unreported relapse: it is not in human nature, when a wonderful cure has been published abroad, to follow it up with an account of the relapse coming afterward. Mistaken diagnosis accounts for many supposed cures. Physicians often, patients more often, mistake the nature of a disease. Temporary swellings are called malignant tumors or cancers (thus cancer-doctors get their reputations); hysteria simulates almost every other disease, so as to deceive even the most elect of doctors; dyspepsia produces symptoms of heart-disease or other deadly illness. There can be no question that a large proportion of faith-cures and mind-cures, and a considerable proportion of cases under ordinary medical treatment, are cases of mistaken diagnosis, the disease being less serious in its nature than was supposed. Mistaken prognosis accounts for many cases; mistake as to what would be the outcome of the disease if no curative methods were employed. It is a truth seldom recognized by patients, though well known to physicians, that in most cases not hopelessly fatal from the start, there is from the start a strong tendency toward recovery. Dr. Austin Flint, Sr., than whom perhaps no abler physician has lived in this land, always urged upon his students the truth that not drugs, but *vis medicatrix nature*, the healing-power of nature, is the means of recovery. The wise physician and nurse seldom attempt more than

gently and humbly to assist Nature in her curative processes. Let me add the statement of a conviction derived from some years of such close scrutiny of medical practice of various schools as a pastor has good opportunity for, — a conviction agreed to, I think, by most physicians. The benefit of medicine is often not its direct action upon the disease or upon the body, but its action upon the mind, and through that upon the nervous system and the whole body, stimulating faith, hope, expectation of recovery, good cheer, which are probably nature's mightiest remedial assistants."

THE FIRST EDITION of Dr. Orton's preliminary report on natural gas and oil in Ohio was exhausted in a few months, and the publication of the final or complete report on the oil and gas of Ohio having been still further, though, considering the rapid developments still in progress, perhaps not unwisely, delayed by legislative action, Professor Orton has just issued a second edition, with a supplement, showing the marvellous results accomplished during the last year (1886). The extreme activity in drilling deep wells in all portions of the state, and especially in western Ohio, will make this year always memorable in the history of Ohio geology. The explorations of no single year hereafter can make additions of equal value to our knowledge of the stratigraphy of the state. The leading facts have now been established; and we know the order from one thousand to two thousand feet below the surface in every portion of the state as well as we do the arrangement of the strata on the surface. The vital relation of the production of oil and gas to the geological structure is well exemplified in the facts now thoroughly established, — that throughout western Ohio and eastern Indiana every important gas-well has pierced the Trenton limestone at a depth not exceeding four hundred feet below sea-level, and that every successful oil-well has reached the same horizon at a point less than five hundred feet below tide: in other words, the contours of the Trenton limestone are the all-important element to be considered in locating new wells, and they can only be determined by drilling. It has been demonstrated that the Trenton limestone, which has been heretofore supposed not to come to the surface in Ohio, is actually exposed in the bed of the Ohio River above Cincinnati. In northern Ohio the Utica and Hudson River shales have the normal character and thickness of those

formations in New York ; but toward the south they become gradually more calcareous, and the Utica also becomes thinner, and fails to reach the Ohio River ; the Hudson River series overlapping it, and reposing directly upon the Trenton. The lower Helderberg series, which has been heretofore assigned a total thickness of one hundred feet, is proved to measure five hundred, possibly six hundred feet, and to include all the beds in Ohio formerly referred to the Salina and Oriskany groups. The Cincinnati uplift, formerly supposed to have a north-easterly trend, is shown to run almost due north in northern Ohio, and to send off an important branch through north-eastern Indiana ; and it is along this branch that the important discoveries of oil and gas in Indiana have been made. The best gas-wells of north-western Ohio are now yielding from five million to fifteen million cubic feet each daily, and the oil-production for the entire field exceeds fourteen thousand barrels daily at the present time. The extent and rapidity of the development of the new districts are well shown in the statement that the Lima field alone now contains four hundred and twenty-four producing oil-wells, an average of more than one new well per day since the first discovery.

THE SUGGESTION of Captain Bartlett, chief of the U. S. hydrographic office, that an international convention be called for the purpose of assigning different portions of the ocean to each maritime nation, will probably be favorably considered by congress. It is believed that this would prevent casualties at sea by ships running into floating derelicts. Captain Bartlett says in his report, "Each nation would patrol its own portion of the ocean for the purpose of towing in or destroying all obstacles. Frequent reports are received of ships running into these derelicts, and the number lost from this cause may be considerable. If shipmasters felt that every attempt was being made by civilized governments to clear the ocean of these dangers, their anxieties, which are sufficiently great from purely natural causes, would be materially relieved."

THE POSITION OF EMIN PASHA.

It was in July, 1881, that Mohammed Achmed of Dongola, a carpenter, who had lived for some time as a hermit on the Island of Aba in the White Nile, declared he was the 'Mahdi,' the prophet whose arrival is expected by the Mohammedans

about this time. The number of his adherents increased rapidly, and belief in him was strengthened by the failure of several Egyptian expeditions to capture him. In an encounter with the Egyptian troops he braved their guns, and so the belief in his invulnerableness was established. The Egyptian government failed to understand the seriousness of this movement, though it was frequently warned by Emin Bey, the governor of the equatorial province. The Arabs and Dongolans, who had been masters of these countries before they were conquered by the Egyptians, joined the fanatic adherents of the Mahdi, and soon the movement had spread over the whole country. The government, which had only by the greatest efforts succeeded in subduing the revolt of Soliman Pasha in 1878-80, was powerless against the Mahdi. He retreated before an expedition sent from Khartum, to the southern parts of Kordofan, and in December, 1881, vanquished the mudir of Fashode. At this time the serious disturbances caused by Arabi-Pasha threatened to overthrow the Egyptian government, and delayed further action against the Mahdi. Thus the number of his adherents increased rapidly, and within a short time he commanded a large army. It is not necessary to dwell upon such events as the destruction of the Egyptian army, Gordon's defence of the Sudan, the final fall of Khartum, and Gordon's death.

In 1878 Emin Pasha was appointed governor of the equatorial province by General Gordon. When he entered upon his duties, the country was in a general state of war. Only the banks of the Nile beyond Lado, the district of the Mvutan Nsige, and the country inhabited by the Shuli, were quiet. Nubian slavers invaded the country and captured slaves without meeting resistance. Emin succeeded in driving them out of the country and gathering the scattered natives into their villages. Under his peaceful government many roads were built, and the cattle, the most valuable possessions of the district, increased in number. He introduced new manufactures and the culture of new plants, and thus improved the province, which in 1882 yielded an income of \$40,000, derived from taxes, while formerly it had an annual deficit of from \$100,000 to \$200,000.

At a time when the Egyptian government did not understand the seriousness of the disturbances caused by the Mahdi, Emin called attention to the imminent danger, but his warnings were disregarded. In April, 1882, during his visit to Khartum, he offered to treat personally with the Mahdi, and to use his personal influence and his acquaintance with the persons to bring about a *modus vivendi* between the parties. His offers