

of only 724 pages, all told. The imprints read, "Carlisle: From the Press of A. Loudon (Whitehill) 1808," and "Carlisle: From the Press of Archibald Loudon, 1811." Of this book the Harrisburg Publishing Company proposes to reproduce an edition, limited to one hundred copies, for subscribers, at ten dollars per set. Subscriptions sent to Charles L. Woodward, 78 Nassau Street, New York, will be numbered, and will be good until the list is full. — Mr. Charles T. Strauss has published a condensed translation of 'Spelin,' a universal language, by Prof. George Bauer. The character of this new language may be understood from its name, which is derived from *s* (the prefix designating 'collectiveness'), *pe* (meaning 'all') and *lin* ('language'). It is founded on principles similar to those of Volapük, but is claimed to be more euphonious, and simpler. — The Second Geological Survey of Pennsylvania has just published the second part of the 'Atlas of the Eastern Middle Anthracite Field.' This part contains eight sheets relating to portions of the Lehigh basins in Luzerne, Carbon, and Schuylkill Counties. The cross-sections contained in this part form portions of a series begun in the first part, and to be continued in a third instalment.

— From a reading of Darwin's biography, an Englishman has compiled the following list of authors and books which Darwin mentions as having given him the most pleasure and stimulus: Thompson's 'Seasons,' Byron, Scott, Shakspeare, 'The Wonders of the World,' White's 'Selborne,' Reynold's 'Discourses,' Humboldt's 'Personal Narrative,' Herschel's 'Introduction to the Study of Natural Philosophy,' Wordsworth, Coleridge, Milton's 'Paradise Lost,' Gray, Shelley, Scott's novels, Miss Austen, Mrs. Gaskell, George Eliot's 'Silas Marner,' and Tennyson's 'Enoch Arden.' It was White's 'Selborne' that first set him to watch the habits of birds, and Humboldt and Herschel who first "stirred up in me a burning zeal to add even the most humble contribution to the noble structure of natural science."

— The importance of the study of dialects and mixed languages is well appreciated nowadays, and essays on these subjects are fortunately becoming more numerous. The Canadian Institute of Toronto is paying considerable attention to the French dialect of Canada, as its recent numbers show; and studies of the Negro French of Louisiana have been published in the *Journal of American Folk-Lore*. The tenth bulletin of the Portuguese Geographical Society contains a very interesting study of this character, — a grammar and vocabulary of the Portuguese dialect of the Cape Verde Islands, by A. de Paulo Brito, edited by the well-known student of the Romance languages, A. Coelho. One of the most interesting features of this study is a list of proverbs, conundrums, and songs. Among the latter we mention the 'batuque,' a series of improvised songs sung at certain entertainments. A group of young men and women form a circle around a fiddler, beating time by clapping their hands, singing at the same time. Suddenly one of the group improvises a verse, which he or she sings, joined later on by the chorus. It is a matter of congratulation that studies of this character become more numerous, as the levelling influence of civilization sweeps away the remains of ancient lore and ancient customs.

— The Clarendon Press has added to its list of valuable books 'A Class Book of Elementary Chemistry,' by W. W. Fisher. The author has attempted nothing especially novel in the scheme of his book, but has given as briefly as possible some account of the most important chemical phenomena, actions, and changes, with the laws of chemical combination and the theoretical explanations of those laws commonly accepted. The book will prove a valuable textbook for high school or college.

— The fourth part of J. Macoun's 'Catalogue of Canadian Plants' has just been issued by the Geological and Natural History Survey of Canada. It forms the first part of the second volume of this valuable work, and contains the *Endogens*. The foregoing parts were issued in 1883, 1884, and 1886 respectively, and include the *Polypetala*, *Gamopetala*, *Apetala*, and *Gymnosperms*. Since the publication of the third part, extensive collections have been made by James M. Macoun on the shores and islands of James Bay, by the author on Vancouver Island, and by Dr. G. M. Dawson on the

upper Yukon on his great expedition. That part of this additional information which is applicable to the *Endogens* is included in the present part. The work will be completed by two further parts treating the cryptogamous plants.

— C. Wellman Parks, Rensselaer Polytechnic Institute, Troy, N.Y., has undertaken the preparation of an exhibit of American periodicals for the Paris Exposition of 1889, and requests help to make it complete. He will provide wall space for copies of the various publications and group photographs of the editorial staffs, and tables and chairs for the use of those who care to examine the periodicals. Publishers are requested to send their publications to him in Paris as soon as issued, that the latest possible number may always be on file.

LETTERS TO THE EDITOR.

*.*Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.

Twenty copies of the number containing his communication will be furnished free to any correspondent on request.

The editor will be glad to publish any queries consonant with the character of the journal.

Pseudo-scientific Humbuggery.

THE more mysterious a thing is, the more do ignorant people think they know about it. The learned man alone recognizes the limitations of his knowledge. On our maps the thoroughly explored regions have strict boundaries: only the *terra incognita* shade off into infinity.

Now, of all the uncertain subjects at present passing under scientific scrutiny, the etiology of infectious and contagious diseases is probably the most occult; but, for this very reason, it offers irresistible attraction to all sorts of rash theorizers. At the same time, the excitement occasioned by the visit of an awful plague, like yellow-fever, discloses a ready soil of credulity for the reception of every wild dogma, and starts into life the germs of superstition everywhere lying dormant in men's mental substratum.

If you care to see how charlatans take advantage of such a concatenation of circumstances, you have only to walk through upper Broadway, and drop in at the headquarters of a certain 'microbe-killer,' which you will have no difficulty in finding. Even if the proprietor's explanation of his wonderful invention does not strike you as being altogether lucid and ingenuous, you will surely be impressed with his apparent knowledge of and faith in human nature, as shown in the certainty with which he reckons upon a paying market for his extraordinary nostrum. This is evinced also by the fact of his occupying a conspicuous place of business, for which I suppose he has paid a good rent, and, perhaps even more indisputably, by his having risked the expense of a two-column advertisement in one of the daily papers a few weeks ago. The astonishing effrontery of that advertisement is manifested, not only in the ingenious nonsense put forth as a history of the alleged discovery, but also in the impressive pictures with which the highly imaginative article is adorned. These profess to be likenesses of the "deadly microbes" for which the infallible "killer" has been providentially provided. Of course, there is not a microbe among them. They are, however, with one exception, rude reproductions of photographs of diatom valves. The exception is a representation of a part of the tracheal system of a butterfly or moth.

This use of diatoms as catch-penny wonder-workers is nothing new. Some years ago, an enterprising genius conceived the brilliant idea, that, if wheat or any other cereal were fed with diatomaceous earth, the plant would take up the siliceous shells bodily and build them into its cuticle with great economy of energy. Accordingly he "invented" a fertilizer, which was extensively advertised, both here and in Europe; and into his advertisements he too introduced drawings. These claimed to show diatoms, not as they existed in his fossiliferous fertilizer, but as they were said to have been obtained from the cuticle of straw by the disintegrating action of nitric acid. But in his illustrative plate he was so indiscreet as to figure not only siliceous diatom-valves, which would withstand the power of acid, but also a certain entire diatom in a form in which it could exist only in a living state, with its soft and perishable envelope in place; and to these he had added sponge-spicules

and other objects not diatomaceous, and even a calcareous foraminifer. Notwithstanding these little discrepancies, the fertilizer received gratuitous indorsement from several of the leading scientific journals of England and America. In one of the latter a college professor gave it a splendid "send-off" in an article of very learned appearance, entitled 'Silica of Grasses and other Plants carried up as Diatoms or other Siliceous Grains, and not in Solution or as Soluble Silicates,' which was accompanied by the paradoxical plate above referred to.

In the cases I have mentioned, both the wholly uninformed masses and the broadly educated few were confidently calculated upon as easy victims to fraud when the recognition of some of the commonest of microscopic forms was involved. Diatoms exist on every hand, and, in both the living and the fossil state, are among the most plentiful of organisms; their indestructible remains constituting strata from three to thirty feet thick, extending through several of our seaboard States, while any Croton-water faucet will, in a moment or two, furnish abundance of living specimens of wonderful interest and attractiveness. Besides this, they have a considerable commercial importance, at least one New York firm making a trade specialty of the diatomaceous earths and the silicates made from them. And yet only a few weeks ago one of our daily journals devoted valuable space to sarcastic editorial comment on the examination papers used in the College of the City of New York, because they contained the supposed impractical and nonsensical question, "What is a diatom?" It now seems that it would be money in the pockets of some poor invalids if they only knew the difference between a diatom and a microbe.

It is the greatest shame of these impositions under the guise of science that professional men of some reputation at times lend them their countenance and aid. And, even when the thing recommended is not itself fraudulent, the mode of indorsing it often becomes so. An example of this came under my notice not long ago, when, in looking over a newspaper, my eye was caught by the word 'microscopical' occurring in a rather prominent advertisement of a certain soap, and upon examination I found that a gentleman of scientific claims had undertaken to give a certificate to the merits of the article advertised. Now, soap seems to be a thing about which comparatively little can be said from a sanitary point of view, except that a free use of it is desirable. But in the testimonial of which I am speaking there was manifested a wide-awake disposition to make the most of the passing public interest in infection and contagion. With remarkably lame logic, the scientific attorney of the manufacturer declared, in substance, that, having submitted the soap to microscopical examination, and having found it free from disease-germs, he was prepared to recommend it for its detergent qualities.

While we do not wonder to see a Wiggins rush forward, upon the very slightest excuse, as he did but lately, with a sixteenth-century astrological theory of yellow-fever, we cannot but feel both astonishment and mortification when a good chemist publicly dispenses bad microscopy, or an eminent physicist plunges headlong into hygiene and therapeutics, as one did the other day. A man may have almost superhuman insight as to the laws of electricity and yet be as ignorant as the rest of us about the how and why of a bacillus or a spirillum. It was not very strange that a gentleman hitherto absorbed in physics and mechanics should prove to be uninformed as to the unsuccessful endeavors that had been made to isolate and identify the microbe of yellow-fever, for he had come across lots into a scientific region of which the literature and even the language was unfamiliar to him. For the same reason, how was he to know that what would kill an ant would not necessarily kill a bacterium or a vibrio?

The trouble is, that a large part of the people who are most ready to discuss the new phase of biological science have not the faintest idea of what a microbe is. Most of them seem to fancy that merely a new name has been invented for what used to be called a spore or a germ; and of course every one knows what a germ is, for he has only to look at the seed of any well-known plant! This seems to be the difficulty with a famous military commander who has recently taken up the weapon more powerful than the sword, and, by means of it, given to the world, through one of our magazines, his *a priori* exposition of the mode of origin and spread of epidemic

diseases. He may fairly claim experience in keeping yellow-fever out of a community, but, after reading his article, we may well doubt whether he really has much information as to how it gets in.

In short, pseudo-scientific humbuggery is very prevalent just now; but I suppose we may console ourselves by regarding it as a popular tribute to the worth of true science, since we are told that "hypocrisy is a sort of homage that vice pays to virtue."

CHARLES F. COX.

New York, Nov. 20.

New York Archæology.

THE Bureau of Ethnology has been doing some work in western and central New York, the results of which will soon appear; but researches quite as important and exhaustive have long been going on without public aid. If the State, or individuals in it, would take the lively interest in preserving accounts of its perishing antiquities that is shown in other things, valuable results would be certain to follow. In carrying on my own investigations, I have been surprised to see how many are working in various places on similar lines, and in the way of comparison these quiet seekers have helped me much.

The leading feature in all this is the connection of relics with sites. All use maps; and on these all local sites are indicated, and a record is made of their extent and character. All articles are numbered or labelled with reference to these sites, so that the cabinet generally shows whence the relic came. This is not always possible, but in most cases it can be done. A good antiquarian who has thrown unexpected light on one group of sites has but one arm, and yet makes drawings of the more interesting forms. I draw and describe all in my own collection, and obtain figures of large numbers of those in others. Without such a comparison, I could not have arrived at some sound conclusions.

•In all these cases precision has been aimed at, and the general agreement is the more surprising when we find there has been no consultation in the matter. A large county map or atlas is used for the sites, when it can be had; and this allows of an exact record of the town, lot, farm, and even part of a farm, when desired. In making records, however, the Smithsonian code of signs is almost useless in New York, and is very little employed. The historical societies aid a good deal in the preservation of relics, but there is less aid to the scientist from their collections than might be expected. A few articles are labelled in a general way, sometimes very oddly; but care is seldom taken to connect them with the sites from which they came. Their value would often be tenfold greater were this done. It should therefore be urged upon all societies and individuals to make records of sites and relics in this way.

For scientific purposes there is frequently a deficiency in the collection of the ruder articles, as flat sinkers, chipped celts, grooved and hammer stones, but in a number of instances care has been taken of these also. Some of these are still in use in New York. It is well known, however, that some common articles in other parts of the land are very uncommon here. This is the case with the grooved axes; and the absence of early small wampum west of the Hudson River is so noticeable, that I quite agree with early writers in their statement that it was little used until the Dutch made it.

A collection of sites and relics has thrown much light on the early Indian migrations in northern and western New York, bringing out curious facts in regard to the routes chosen and the origin of the travellers or residents. It has dispelled much of the vagueness attending the occupation of the Iroquois territory, and enabled us definitely to connect historic with prehistoric times. That the facts brought out by field-workers have not always agreed with the theories of students is not surprising, but theories must always be regarded as but a temporary convenience.

In connection with this, I may call attention to a branch of ethnology which needs speedy attention, and has already received some. New York embraces within its limits a portion of the noted Six Nations, who still preserve some of their old customs, ornaments, and implements; but all who frequently visit their reservations are aware how rapidly the old is giving place to the new. To gather up the fragments is all that we can now do. Whoever un-