of plates as against every other previous system not only makes their introduction a distinct era in electrical science, but opens up an increasingly wide field for their use in every-day life. As accumulators built in this form have been working, notably in Paris, for several years, their durability and efficiency are placed beyond doubt. Not only will they be of the greatest service in connection with electric lighting installations, but their high efficiency and light weight render it probable that sooner or later, in some form or other, they will render electric traction over ordinary roads not only a possibility, but a commercial success. It is probable that along the lines of this discovery still further improvements may be made, and each step in advance will probably open up increasingly wide fields for electrical application.

LETTERS TO THE EDITOR.

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

On request in advance, one hundred copies of the number containing his communication will be furnished free to any correspondent.

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

THE SYSTEMATIC POSITION OF DIPTERA.

IN connection with the discussion that has been had on this subject in the columns of *Science*, Prof. John B. Smith has suggested that I send you some ideas of my own, as expounded in a lecture before the Brooklyn Institute last February, which was substantially the same as one previously given before the Lowell Institute at Boston, in January, 1892. It was on the general subject of social insects, and after showing that the insects treated were among the more intelligent of the insect world, I concluded with a statement of my own views as to the nature of this intelligence, and urged that we can never properly appreciate or bring ourselves into sympathy with lower creatures until we recognize that they are actuated by the same kind of intelligence as we ourselves. I drew attention to the significant fact that, just as among the mammalia, the higher intellectual development, as in man, is found physiologically correlated with the longest period of dependent infancy, and that this helpless infancy has been, in fact, a prime influence in the origin, through family, clan, tribe and state, of organized civilization; so in the insect world we find the same physiological correlation between the higher intelligence and dependent infancy, and are justified in concluding that the latter is in the same way physiologically correlated with brain development, and, at the same time, the cause of the high organization and division of labor. I then alluded to the discussion as to the systematic position of the different orders of insects, and especially to the claims that had been made for the Diptera as being of the highest rank. I argued that such claims were not justified, and pleaded for the Hymenoptera, not only on some of the grounds indicated by Dr. Packard, but particularly on the ground that the highest degree of intelligence among insects is exhibited by the social species in this order. There is a great deal that is vague and unmeaning in the discussion as to what is "high" or "low" in the relations of organisms to each other. If specialization of external structural parts is to be looked upon as an index of high position, then very many animals must be admitted to outrank man, whose bodily characteristics are in many respects embryological and non-specialized; while the parasitic forms among insects would have to be placed among the very highest, since, in a majority of instances, they exhibit the most perfect adaptations and specializations. Yet these last are almost universally admitted to be degraded forms, while few men will willingly allow that the genus Homo does not stand at the apex of the mammalian class. His superiority, however, is just as uniformly conceded to be by virtue of his intellect.

In the same way I urged that the order Hymenoptera, containing, as it does, the more highly developed social and intelligent insects, should, by virtue of these facts, rank above all other orders. This question of rank is meaningless, except as an indication of relative complexity of structure, the organisms best deserving to be ranked above all others in development being those which have acquired the greatest complexity. Nor must this complexity be confined to mere external structure, but must include nervous organization and brain development—in other words, must include psychical as well as physical characteristics. There is probably no more complex animal organ than the human brain, just as among insects there is probably no more complex hexapod organ than the brain of the ant or of the bee.

Such are substantially the ideas I set forth, the plea being that intelligence should no more be omitted from any discussion of the question of development or rank among insects than among vertebrates.

C. F. RILEY.

Washington, D. C.

BOOK-REVIEWS.

Vagaries of Sanitary Science. By F. L. DIBBLE, M. D. Philadelphia, J. B. Lippincott Company. 462 p., 8 vo.

IMPRESSED with the imperfections, misstatements and inconsistencies of vital statistics in general, and of the reports of boards of health in particular, the author of the above-named work undertook a systematic study of Sanitary Science as practised by its votaries, and from being a believer in the same he has become a bitter antagonist, raising a protest most bitter in tone against all the accepted rulings. The book is outrageous in its sweeping challenge of cleanliness, and the author has certainly laid himself open to criticism in his championship of dirt and filth; but yet there is a certain well defined point of value in that it sounds a note of caution at a time when we are all rushing headlong into an unscientific acceptance of sanitary promulgations. Attention, too, is called to the character of the men who have taken up this branch of work, and, though the general statements are a slur upon the many earnest and scientific workers, still the statements are too often true of the members of many of our city boards.

The origin of the movement is described in the "Introductory" chapter as "a kind of disorderly agitation that suddenly seized the people of Great Britain following an inquiry into the condition and manners of living of the poorer classes of that country." In our own country the origin is ascribed "more to a fondness and habit of imitating the English than to any other cause." The movement is likened to a fanatical religious awakening, and the science to a false religion, whose priests have held whole continents in terror, and who, to gain stability, persistently summon up some new danger to frighten the people, and then caress them into tranquility by the announcement of their discovery of the antidote. The book is recommended by the author—"not for those of life-long prejudice, or who fear to sink into depravity in listening to the innocence of nature's metamorphosis, but for those timid people who have been plagued for the past thirty years by the increasing procession of sanitary terrors, and for those who love truth for truth's sake."

In chapter I, the history of "Sanitarians—Ancient,