

followed, and his *Grundzüge der physiologischen Psychologie* (Fourth Edition, 1893) is the standard compendium. The volume of Prof. Wundt's writings is almost as remarkable as is their value. He has published large works on physiology, physics, logic, ethics and philosophy, and has in preparation a treatise on anthropological and sociological psychology.

PROF. WUNDT established, in 1883, an *Archiv Philosophische Studien* for the publication of researches in philosophy and psychology, which is now in its twelfth volume. Last year Prof. E. Kraepelin, of Heidelberg, established a similar archiv and now a third archiv, *Beiträge zur Psychologie und Philosophie* has been begun by Prof. Götz Martius, of Bonn. The first number of the first volume contains a preface and an introduction by the editor and four papers all concerned with the brightness of colors. It may also be mentioned that Prof. Münsterberg has published his contributions to psychology in the form of *Beiträge*, and that there is in Germany an excellent *Zeitschrift für Psychologie u. Physiologie der Sinnesorgane*, edited by Prof. Ebbinghaus, of Breslau, and Prof. König, of Berlin. Ten large volumes of this journal have been issued since its establishment in 1890. These contain full reviews of psychological literature and many important papers, those on vision being probably of greater value than all the papers combined that have been published elsewhere on this subject.

THE number of the *Zeitschrift für Psychologie* issued on January 14th contains an index of psychological literature for the year 1894. The index appears somewhat late, but is very complete, especially in regard to publications on the senses. The *Psychological Review* issued, at the beginning of February, a supplement containing a bibliography of the literature of psychology for 1895, compiled by Dr. Livingston Farrand, of Columbia University, and Prof. Howard C. Warren, of Princeton University. The index contains 1394 titles, distributed as follows: General, 136; genetic, comparative and individual psychology, 238; anatomy and physiology of the nervous system, 205; sensation, 125; consciousness, attention and intellect, 180; feeling, 91; movements and vo-

lition, 81; abnormal and pathological, 338. This index is also about to be issued in France as part of *L'Année Psychologique*, edited by MM. Beaunis and Binet.

DISCUSSION AND CORRESPONDENCE.

CERTITUDES AND ILLUSIONS.

TO THE EDITOR OF SCIENCE: In your issue of February 21, in an interesting paper on 'Certitudes and Illusions,' Major J. W. Powell has repeatedly referred to an illusion which he describes as a certain tendency to 'reify void'—an ancient, and, as Major Powell has very well said, a disastrous tendency of the human mind. This is the tendency to recognize mere abstractions as realities, and, in consequence, to explain phenomena by referring their source to 'essences' or to some sort of 'substrate,' defined as 'some occult existence unknown and unknowable, which gives to bodies their likeness or unlikeness.' Major Powell very justly condemns this tendency, exemplifies it in a number of cases, suggests explanations for its existence, and rightly declares its inevitable outcome to be a bad metaphysic. So far the present writer cordially agrees with Major Powell.

But, as a humble student of the history of philosophy, the present writer is very sorry to find that Major Powell, influenced by some singular historical 'illusion,' repeatedly refers to one of the best known of modern thinkers, Hegel, as a prominent example of precisely this sort of bad metaphysic. "As the substrate of matter, or reified nothing, is entertained in the minds of some as an entity, so some thinkers make essence a property of this substrate—a nonentity of a nonentity. Chuar (Major Powell's entertaining Indian friend), Hegel, and Spencer reason in this manner."

Major Powell is no doubt an absolute authority as to the views of his Indian friend, and he appears in this particular case to be in no wise unfair to Spencer. But to put Hegel in the same category, to define that lifelong opponent of the 'unknowable,' that merciless dialectical dissolver of all the 'essences,' 'substrata,' and similar entities of traditional metaphysic, as one who, at least in *this* sense,

'reified the void,' well, from the point of view of the student of the history of philosophy such a way of assailing Hegel is in its accuracy similar to a way of assailing Luther's theological views which should hold the reformer up to scorn as a defender of the wicked doctrine of 'justification by works,' and as a blasphemous opponent of 'justification by faith.' One might want to condemn Luther's views; but it would hardly be accurate to talk of 'Luther and the other Papists.' And even so, one is welcome to regard Hegel as a mischievous thinker; but one must not give as a reason that one classes him with those other believers in 'an occult, unknown and unknowable substrate.'

As a fact, by no means all, but certainly a number of Major Powell's own assertions in this valuable paper are theses which every student of Hegel knows to be defended with great energy by the latter thinker. Major Powell well says: "What is the meaning of the word *this*? It may be applied to any constituent of matter, to matter itself, to any body or to any property, and to any idea in the mental world, and its meaning is derived from the context; it has no definite meaning in itself." This is a part of the thesis of Hegel's famous opening chapter of the 'Phänomenologie des Geistes.' And of this thesis in the sequel Hegel makes a use closely analogous to Major Powell's. That to make essence an abstract 'property' of 'the substrate of matter,' is to make essence a 'nonentity of a nonentity' is a thesis so repeatedly maintained by Hegel, in his 'Phänomenologie' (in the third chapter on 'Kraft und Verstand'), in his larger Logic in the second volume, where this 'Bewegung von Nichts durch Nichts zu Nichts' is elaborately discussed, and elsewhere, that Major Powell's failure to recognize the relation of Hegel to this thesis can only be due to a failure to study the habits of Hegel, as our anthropologist would prefer to study those of Chuar, namely, in the 'native wilds' of the thinker himself. The Hegel of whom Major Powell speaks is a product of somebody's 'inner consciousness' and, whoever may be responsible for the dream, all the 'eloquence of the dreamer' cannot make this Hegel an historical person.

Of course, one must beg pardon for laying so

much stress upon the mere accidental fact of history in a case like this. Major Powell's general philosophical construction in this paper seems to the present writer despite some minor doubts, essentially sound, and admirably stated. But, as Major Powell himself obviously holds, the history of philosophy is, at least in one aspect, an anthropological study. It is undesirable that even a minor error should, through a chance misstatement, stand upon record as receiving the support of so eminent an anthropological authority as Major Powell.

JOSIAH ROYCE.

CAMBRIDGE, MASS., February 22, 1896.

PROF. C. LLOYD MORGAN ON INSTINCT.

EDITOR SCIENCE: In an account of a discussion on instinct given in SCIENCE of February 14th, Prof. Morgan is reported thus: "He described his own interesting experiments with chicks and ducklings, and held that these and other evidence tend to show that instincts are not perfected under the guidance of intelligence and then inherited. A chick will peck instinctively at food, but must be *taught to drink*. [Italics mine.] Chicks have learned to drink for countless generations, but the acquired action has not become instinctive."

In one of a series of papers now in the press on 'The Psychic Development of Young Animals and its Physical Correlation,' I have given in detail an account of a study of the pigeon and the chick. It so happens that this very question of drinking by chicks has been especially noted, and I find a record of one observation to the effect that a newly hatched chick pecking at the drops on rim of a vessel containing water accidentally got its beak into the liquid, whereupon it at once raised its head and drank perfectly well in the usual fashion for fowls. Was this by teaching or by instinct?

Later the chicks seem to peck and drink, sometimes on seeing the mother do so. The act seems to be in such a case a sort of imitation so far as its inception is concerned. But will any one contend that that first act of drinking referred to above was other than instinctive? Again, when a chick first drinks on its beak being put into water, can the act be considered as the result of teaching? Is the