from it we learn what Münsterberg, Ribot, Jastrow, Prince, Janet and Bernard Hart mean by the subconscious. That such a work serves a useful purpose may be gathered from the fact that, as the master of the symposium states in his introduction, there are six recognised meanings of "the subconscious":—

(1) That portion of consciousness which for the moment is outside the field of attention.

(2) Split-off or dissociated ideas, such as automatic writing.

(3) A subliminal, secondary, subconscious "self" constituted and elaborated from such dissociated ideas.

(4) A combination of dissociated and forgotten ideas.

(5) The subliminal reservoir of consciousness from which ideas are drawn into phenomenal consciousness.

(6) Certain neural processes unaccompanied by any mentation whatsoever.

Most of the writers take the view that subconscious phenomena are physiological and not psychical processes, the underlying reason in all being that they are not memories, ideas or anything else of which mentation is composed.

Janet, of course, limits the subconscious to such abnormal states as are encountered in hysteria and psychasthenia, and Bernard Hart considers that the marginal elements of phenomenal consciousness (the *subconscious* of Stout), dissociated portions of phenomenal consciousness (the *co-conscious* of Morton Prince and the *subconscious* of Janet) and the non-phenomenal conceptual *unconscious* of Freud all form part of the material of psychology and not of physiology. It need scarcely be said that a symposium by such writers is above criticism; they criticise each other.

*Mikroskopische Untersuchungen über die Übereinstimmung in der Struktur und dem Wachstume der Tiere und Pflanzen.* By Dr. T. Schwann. Edited by F. Hunseler. Pp. 242+iv Taf. (Leipzig: W. Engelmann, 1910.) Price 3.60 marks.

AT a time when the accumulation of the facts of animal and plant structure threatened to prevent a clear conception of their true value, this famous memoir by a distinguished pupil of Johannes Müller converted histology into a rational branch of science. Schwann, who effected this profound change, based his method on development. He pointed out that "there is a common principle of development for all the elementary parts of the organism," and in so doing founded (with Schleiden) the cell-theory upon which modern physiology and pathology are based. The cellular nature of animals and plants had already been demonstrated, but there was no general hypothesis to "colligate" the facts. This Schwann supplied. He not only confirmed facts of cellular structure, but, in a refreshingly broad way, and moving with the ease of genius amongst a multiplicity of data that would have bewildered a lesser mind, he brought forward the evidence for the origin of the tissues and enunciated clearly his views on the nature of life.

To Schwann the organism is a beehive, as Huxley said in his famous essay on this very treatise. Its activities are the expression of the myriads of cell-changes, each independent of all the rest. To Schwann, and almost against his better judgment, the organism was, indeed, the product of its cells, and its cell the result of the crystallising of a "cytoblastema." Though in some ways we have outgrown this essay, its influence will probably always be felt, and when histology, as to-day, has become incapable of large views from the overburdening load of descriptive data, we realise the need of another Schwann; let us be thankful for the physiologist who by his developmental hypothesis put the subject-matter into a definite problem and offered a feasible answer.

*Determinación de la Latitud por la Observación de Distancias Cenitales de la Estrella Polar.* By C. Puente. Pp. 227. (Madrid: Observatorio Astronomics de Madrid, 1910.)

THIS is a monograph on the method of determining the latitude of a place from observations of the zenith distances of Polaris, at a known time. There is nothing new in this method, which proceeds on the ordinary lines of developing the latitude in a series of ascending powers of the polar distance, but the author has put the discussion out with great clearness and considered very carefully the terms that must be taken into account, according to the degree of approximation needed, as well as the most suitable formulæ for use when Polaris is near the upper or lower culmination. The methods of observing by means of theodolites, the instrumental adjustments, and the precautions necessary to be taken to ensure accuracy are detailed with very great care, the instructions being evidently intended for those who have had little practice. Numerous examples are worked out by different methods, and we have the ordinary curiosity of a latitude determined to the hundredth of a second when the microscopes read only to half seconds, and the time is observed no nearer than a second. Some of the results are so accordant that the ordinary observer must despair of attaining a similar accuracy. The greater portion of the book contains auxiliary tables for accelerating the reduction. Some of these have been extended from Albrecht's "Formeln und Hilfstafeln für geographische Ortsbestimmungen." and are available only within the limits of the Iberian Peninsula.—The more important of the tables include values of $\frac{2\sin^2\frac{1}{2}t}{\sin 1''}$, $\log\frac{2\sin^4\frac{1}{2}t}{\sin 1''}$, also $\frac{\cos\phi\cos\delta}{\sin(\delta\pm\phi)}$ where $t$, $\phi$, and $\delta$ have the ordinary signification.

*Calculus Made Easy. Being a very simplest Introduction to those beautiful Methods of Reckoning which are generally called by the terrifying names of the Differential Calculus and the Integral Calculus.* By F.R.S. Pp. viii+178. (London: Macmillan and Co., Ltd., 1910.) Price 2s. net.

THE author of this little book writes as if it were the first of its kind, and in encouraging his readers he continually jeers at the professional mathematician in what might be regarded as reckless nursery language. In spite of such faults, we have no doubt that the book will be useful to schoolboys who need the ideas of the calculus in their study of physical science. The young engineer or the clever schoolboy will think it illogical and slipshod to leave $(dx)^2$ *out of consideration, as it is inconsiderable* in comparison with the other terms of $(x+dx)^2$, and he will say that there is only a pretence in the proof of the differentiation of $x^n$; he will probably look upon the introduction of the expansion of $(1+1/n)^n$ when $n$ is indefinitely great, as not quite playing the nursery game.

*Einführung in die Biologie. Ein Hilfsbuch für höhere Lehranstalten und für den Selbstunterricht.* By Dr. W. Schoenichen. Pp. viii+215. (Leipzig: Quelle and Meyer, 1910.) Price 2.60 marks.

IT is difficult to understand to whom this little book is intended to appeal. It might almost be described as a scrap-book of illustrations, borrowed mostly from other text-books, and strung together with a minimum of letterpress. The subject-matter is treated from the point of view of physiology rather than that of comparative anatomy, but there is a short section dealing with cells and tissues, and some extremely