

THE *Academische Revue* states that the University Extension Movement in connection with the University of Vienna is meeting with much success. The first courses now being given number twenty-four, and in the first week 1,916 auditors were registered. The largest attendance (350) is in the course in anatomy, offered by Prof. Zuckerkandl. Each course is composed of six lectures, and the fee for attendance on the course is only about 20 cents. A small appropriation (about \$2,000) has been made by the government toward the expenses of the movement. Vienna is the first German University, with the possible exception of Berne, to inaugurate University Extension.

IN May of the present year the Universities of St. Petersburg, Moscow and Kieff replied to an inquiry from the Minister of Education unanimously favoring the establishment of laboratories of psychology in all of these universities. A committee of eight professors from the University of Kieff have petitioned for about \$3,000 for the establishment of a laboratory of psychology, and a yearly appropriation of \$300.

PROF. E. OTIS KENDALL, since 1855 professor in the University of Pennsylvania, has resigned his position of Flower professorship of astronomy, but remains the nominal head of the department of mathematics and honorary dean and vice-provost.

PRESIDENT HILL, of Rochester University, has consented to postpone until the first of January his resignation from the presidency. His action is due to an address adopted unanimously by members of the faculty, urging him to retain his position.

DR. HERBERT NICHOLS, formerly instructor in psychology in Harvard University, has been appointed lecturer in psychology in Johns Hopkins University.

CARLETON COLLEGE, Northfield, Minn., has received \$8,000 bequeathed by James H. Carleton, among other charitable bequests which now take effect on the death of his sister.

A NEW University, entitled *Université Nouvelle*, with power to confer degrees in all faculties, has been established in Brussels under the control of socialistic leaders. Among the professors are the geographer Prof. Elisée Reclus and the

jurist Prof. Enrico Ferri, both of whom were unable to hold positions in their own countries. The opening address of the Rector Professor Janson urged that property should only be acquired by labor and that the State should be the only heir. Sixty students were matriculated at the opening of the University, the future of which will be followed with interest.

PROF. RUTH has been appointed professor of geodesy in the Technical High School of Prague and Dr. v Rudzki assistant professor of mathematics in the University of Krakau. Dr. Kempf and Dr. Wilsing, astronomers at Potsdam, and Dr. E. Buchner, a chemist of Kiel, have been appointed to professorships. Dr. C. von Twardowski, privatdocent in the University of Vienna, has been elected assistant professor in philosophy in the University of Lemberg.

CORRESPONDENCE AND DISCUSSION.

A LAST WORD ON ERECT VISION.

I SAY 'last word' because I hope it may be the last I shall say on this subject at present, fearing that I have already occupied too much space, and not in the sense of a final solution. In the latter sense the last word is never said on any scientific question, much less on this question which has been discussed for two centuries and will probably be for two centuries more. But I wish, if possible, to state clearly the question as it seems to me, so that I shall not be misunderstood.

I agree with Prof. Minot that erect vision is *acquired by experience*. Yes, but *not by individual experience*. For the individual it is undoubtedly an inherited capacity—an endowment. It is acquired by experience, true; but by experience along the whole line of the evolution of the animal kingdom, and especially of the eye; and more and more fixed in brain structure or mental structure; until finally it is thoroughly inherited as any other capacity. This is, it seems to me, proved by cases of operation for congenital blindness from double cataract in persons sufficiently old to have acquired definite ideas of position in space by means of other senses. I refer now to only one carefully observed case recorded in the *Revue Scientifique*, Vol. 50, p. 571, 1892. An intelligent child,

blind from birth by double congenital cataract, was operated on at the age of six years. After removal of the bandages she saw at once, and without learning by experience, all things in their proper positions. Perception of *direction* and *position* was immediate, but not so the perception of the *relative distance* of objects. The former is a primary gift of sight, the latter a judgment and must be acquired by experience.

In this controversy we have again repeated the three old views on this subject. 1. The *nativistic theory*: It is a direct endowment of the eye or the brain, and there an end. This is the usual popular view. 2. The *empiristic theory*: It is acquired by individual experience, as we acquire the proper manipulation of the glass slide under the microscope. This is Prof. Minot's view. 3. The *metaphysical theory*: It needs no explanation at all. There is no such thing as up and down for the soul. This last we put aside as not a scientific solution. As to the other two, they are completely reconciled and the question, it seems to me, solved, as so many other vexed questions are solved by evolution. It is acquired—yes, but not by individual experience. It is inherited—yes, but not without experience.

Now, as to the legitimacy of my own explanation. A similar acquisition of ideas of direction or position in space by ancestral experience inherited and fixed in structure has taken place in all the senses, but especially in senses of touch and sight. Is it not legitimate to reduce these or their physical concomitants to a common law? Prof. Cattell (*SCIENCE* for Nov. 15, p. 668) objects that the different sensations are wholly *disparate* and, therefore, they cannot be explained the one in terms of another. This is true of *sensations proper*, such as light, color, sound, contact, etc., but it is not true of *direction* and *position*. These are not sensations; they are not peculiar to one sense. These are ideas underlying all the senses, gradually grown up in the mind as the result of deliverances of all the senses. They are not disparate for different senses. These ideas of direction and position in space are indeed purely psychical, true; but ought we not, if possible, to reduce their physical concomitants to law? This is what I have attempted to do.

I do not, of course, hope to settle this question

to the satisfaction of all. I only wish to show that my explanation is not illegitimate as Prof. Cattell thinks, nor unnecessary as Prof. Minot thinks.

In conclusion I confess I do not quite see the relevancy of Prof. Minot's parenthetic remark. I do not see in what way the turning back of the retinal fibres to end in the rods and cones in vertebrates—though not in invertebrates—can affect the question of reference back along the ray line.

JOSEPH LE CONTE.

BERKELEY, CAL., November 29th.

MOUNTAIN CLIMBERS AND THE PERCEPTION OF DISTANCE.

TO THE EDITOR OF SCIENCE: I do not know that the attention of psychologists has been sufficiently called to the experience of mountain climbers as bearing on the problem of the perception of distance. Both Sir Martin Conway in his recent book, 'The Alps From End to End,' and M. Bonvalot in his book, 'Across Thibet,' have some suggestive remarks of the same general tenor on this subject, but I will quote only those of M. Bonvalot, as they seem on the whole the most pertinent. Speaking of the highlands of Thibet, he says: "It is difficult to imagine how hard it is to find one's way among these highlands, where a man loses all sense of perspective, his eye wandering over immense spaces without seeing, at given distances, either trees, houses, human beings, animals, or edifices the height of which is known to him. It is by the incessant and unconscious comparison of such objects as these that he has learned to form an idea of distance. Here in the desert we have in a few weeks lost this sense of distance which we had gained by the experience of our lifetime. All that one sees is so alike; one hill is like another; according to the time of day a frozen pool either sparkles in the sun or disappears, so that one does not know whether it is large or small; a little bird fluttering its wings upon a clod of earth looks like a wild animal which has been lying down and is getting up; a crow flying away with its prey in the morning mist seems to be a gigantic condor carrying off a lamb in its claws, while at sunset this same crow, cleaning itself on the