tributes an article on 'The Makers of New Italy,' and John Trowbridge writes on 'Economy in College-Work.' —— The issue of *The Youth's Companion* for November contains the article, written expressly for that periodical by Mr. Gladstone, on 'The Future of the English-Speaking Races.' —— *Outing* for November contains, besides other notable features, the commencement of a series of articles on the 'Outdoor Life of the Presidents,' from the pen of John P. Foley; and the 'Progress of Athletism,' by Charles Turner. —— The November *Century* begins the thirty-seventh volume and nineteenth year of the magazine; and the number is made notable by the beginning of several new series, or magazine 'features.' The most important of these is the first instalment of *The Century* 'Gallery of Old Masters,' engraved by T. Cole, and described by W. J. Stillman and by Mr. Cole himself. The engravings in this series were made in the presence of the original pictures themselves. They are actual copies, and unique in the history of art; for such careful copies have never before been made on wood. Another series begun in November is Mr. Cable's 'Strange True Stories of Louisiana.' After a preface by Mr. Cable himself, comes the extraordinary story of 'The Young Aunt with White Hair,' from an old French manuscript. Among the leading contributions to this number are instalments of the 'Life of Lincoln' and of George Kennan's papers on the Siberian exile system. The guilds of the city of London are described by Norman Moore. Other contributions include 'Bird Music: The Loon,' by Simeon Pease Cheney; 'Mammy's Li'l' Boy,' a negro dialect crooning song, by H. S. Edwards, illustrated by E. W. Kemble; 'Memoranda on the Civil War;' Open Letters by George Kennan, Rev. T. T. Munger, Richard Hoffman, and others; etc.

— Dr. John C. Branner, in the first volume of the Proceedings of the Lackawanna Institute of History and Science, gives an interesting sketch of the effects of glaciation in the Lackawanna-Wyoming region, his principal object being to attract special attention to a detailed study of these phenomena. He also publishes a list of localities at which glacial striæ have been observed in that region, for the guidance of those who may take up the work where he was obliged to leave it on being appointed director of the Geological Survey of Arkansas.

— The Boylston medical prize of four hundred and fifty dollars has been awarded by Harvard University to Dr. George H. F. Nuttall of San Francisco, for a dissertation entitled 'A Contribution to the Study of Immunity.'

— The *Journal of Economics* for October opens with a paper by James Bonar on the Austrian economists. Their principal work has been on the theory of value, which they profess to present in an entirely new light; but Mr. Bonar shows that their view, though expressed in new terms, is not so different from that of the English writers as they seem to suppose. Their discussion of 'subjective value' is in his opinion their principal contribution to economics. Another theoretical article is that by Stuart Wood on 'A New View of the Theory of Wages.' The author starts with the fact that in some employments a certain work can be done either by labor or by capital; and from this he deduces the law that in such cases the price paid for a given amount of labor will be equal to the interest on the capital that can be substituted for it. Then the rates of interest and wages thus established will also prevail in all other employments. According to this theory, wages depend on interest; but what interest itself depends on, the author neglects to say. Professor Dunbar's paper on Alexander Hamilton shows that in his sinking-fund scheme, and in establishing the Bank of the United States, Hamilton followed English precedents, though with some variations; but that his plan for establishing the national credit on a firm basis was so comprehensive and so successful as to entitle him to rank as a great financial statesman. The article on 'The Australian Tariff Experiment' is a comparative exhibit of the effects of free trade in New South Wales and of protection in Victoria. The general outcome is to show that manufactures have prospered as well in the free trade colony as in the protected one, while in commerce and in growth of population the former has taken the lead. Wages are essentially the same in both; so that in this case, at least, protection has not raised wages. The acts given in this paper have been published in different forms elsewhere; but, in the present state of our own tariff question, this new presentation of them will attract attention, and doubtless be useful.

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.

Dream Excitation.

THE direct influence of slight sense-stimuli upon the flow and make-up of our dream consciousness is a well-known fact, which can be proved by artificial experiment (see MAURY, *Le Sommeil et les Rêves*, p. 132, etc.), but which it is difficult to confirm under ordinary circumstances, since we seldom waken after a well-marked dream experience in time to catch the stimulus, or without altering the stimulus by movement, etc. On the night of Oct. 22 I had a dream which perfectly fulfilled the conditions of this experiment. I fell asleep about eleven o'clock, and found myself with a companion in a wood, watching a number of wood-cutters at work. After looking at them for some time, one of the workmen drew my attention quite suddenly by giving forth a strange sound, half musical and half speech, by which he seemed to be trying to express something to his neighbor; and the sound came with every blow of his axe in regular rhythm. The sound seemed to me distinctly familiar and yet very strange, and I turned to my friend and said, "What an apology for conversation!" Just as I spoke, I awoke, and the sound of the peculiar tone of a clock down stairs striking twelve broke in upon my consciousness. The four remaining strokes of the clock preserved exactly the rhythm of the wood-chopper's axe; and not only so, but the sense of familiarity which had puzzled me in the dream was relieved with a glow of pleasure as I recognized the sound of the clock.

This experience illustrates also the remarkable swiftness with which new sensations are assimilated to the character of a previous dream consciousness. Before the clock began, the men were simply cutting, without order or distinction. But when the sound broke in, it was at once *accommodated* to the scene by important modifications. One workman is singled out: he begins to ply his axe in the regular time of the clock-beats, and to give forth a sound which preserves in its general character the peculiarities of the real sound. Now, since I experienced in the dream no less than four beats, as the rhythm was perfectly established and clear in my consciousness, and there remained four beats after I awoke, this whole accommodation must have taken place in the interval between the first and the fifth beat (for it was then twelve o'clock). I have since measured the interval between the strokes of the clock, and find it to be two seconds. The whole time from the first to the fifth beat was therefore eight seconds. From this should be taken the time occupied by the dozed state between dreaming and waking, — say, at least one interval of from two to four seconds. There remains a period of four to six seconds as the time of accommodation. This may be called, in a very rough way, the reaction time for a complex case of constructive imagination; for the constructive imagination is nothing more than the free play of images in forms of ideal composition, due to the influx of additions from the sensorium. There is no direct way of measuring this time in the waking state, since the attention interferes with the process.

MARK BALDWIN.

Lake Forest, Ill., Oct. 23.

Chemical Action between Solids.

APROPOS of Messrs. Spring and Hallock's controversy (*Science*, xii. p. 184), I think that the re-actions between silica and the metallic oxides at temperatures far below the melting-point, not only of both components but even of the silicate itself, have generally been regarded as occurring directly between solids. When certain mixtures of lime and silica are strongly heated, though there be not the slightest indication of fusion, yet some chemical action seems to occur, for the silica now separates in the gelatinous state when acted on by hydrochloric acid (PERCY, *Fuel*, p. 46, 1875).

HENRY M. HOWE.

Boston, Oct, 28.