the death of 19,740 persons in addition. The Rev. Father Barry argues for a "Gospel for the Century," claiming that the church, like the age, must be progressive. Walter Frewen Lord describes the life and writes of Henrik Ibsen, the Norwegian dramatist whose works are exciting so much attention in England. Lord Brabourne replies to Mr. Gladstone's article on the Irish union in the July number, in a paper in which he takes the great statesman to task for not accounting for the actual condition under which the cruelties he censured so severely were practised. Lord Ribblesdale has a light though interesting study on the "Art of Conversation," relating his own experience in acquiring that difficult accomplishment. Mr. Gladstone neglects politics this month, and returns to his classical studies in a paper on the "Phoenician Affinities of Ithaca," a much argued question among Greek scholars, which he endeavors to answer. Professor Geffcken contributes a paper on "The French in Germany," reviewing the history of French treatment of Germany and Germans in the last few centuries. Germany, he claims, has suffered more in that time from France than she did from the war of 1871, and he therefore argues that the treaty of Frankfort should be regarded as final. Frederick Greenwood presents an interesting essay on love and men and women, entitled "Wool Gatherings;" and John Morley, W. S. Lilly, R. E. Prothero, Sir Frederick Bramwell, H. G. Hewlitt, Frederic Myers, and the Hon. Hallam Tennyson review some noticeable books. The number closes with a rejoinder on female suffrage, by Mrs. Creighton, and a long list of signatures to the protest against suffrage printed in the June number.

— The Clark Electric Company, 192 Broadway, New York, have issued a new catalogue of their arc light apparatus. In this is given, with illustrations, some account of their arc dynamo, with a view showing the interior field and others of the armature, automatic regulator, etc. The single and double arc-lamps are described. The pamphlet closes with a description of their new automatic regulator.

— The current number of the *American Journal of Psychology* is strong in four original papers. The first, by Dr. William Noyes, contains a further account of an interesting paranoiac described by him in an earlier number of the journal (May, 1888). The patient, an artist of talent and originality, has continued his painting, and latterly busied himself with the composition and illustration of a manuscript book of two hundred pages. The six plates accompanying this article reproduce nearly fifty pictures, of which three are taken for comparison from his pre-asylum work, and two-thirds of the rest are pen-and-ink drawings from the book. Considerable extracts, both of prose and verse, are given, the latter especially showing the same mixture of facility and imperfect finish that characterizes his pictures. It is rare that an alienist has the opportunity of observing a case where the disordered mind has such varied and delicate means of expressing itself. The next article is an experimental study, by Dr. C. F. Hodge, of the effect of electrical stimulation upon ganglion cells. The outcome of these careful experiments is a method "by which changes due to functional activity can be as easily and certainly demonstrated in a ganglion as in a gland." Electrical stimulation noticeably decreases the size of the nucleus, makes it jagged in outline, obscures its reticulation, and makes its stain darker. In the cell protoplasm it causes vacuolation and slight shrinkage, and makes its stain less readily. The nuclei of the cell capsule are also shrunken. These changes are figured in an accompanying plate. In the third article, Dr. E. C. Sanford concludes his series on personal equation, taking up especially the amount and cause of personal differences under the simplest conditions of observation. He brings together the contributions of the astronomers and physiological psychologists, and considers the theories of Bessel, Wolf, and others. A bibliography of a hundred titles or more is appended. Dr. W. H. Burnham furnishes a very interesting paper on the illusions and hallucinations of memory, or, as the phenomena have been termed, paramnesia. An example of a single class is the not uncommon feeling of strange familiarity in totally unfamiliar circumstances. Other kinds are rarer, but by no means unknown. Important contributions have come from the alienists, notably from Kraepelin, whose classification Dr. Burnham follows. The author has been fortunate in collecting a number of illustrative cases (such tricks of memory seem frequent in dreams, with some people at least), which parallel in normal life the grosser cases of the insane. The subject has also a practical bearing; for Hughlings-Jackson, while admitting that the feeling of reminiscence above mentioned does occur in normal people, would regard its frequent occurrence as a confirmatory symptom of a certain form of epilepsy. In persons of somewhat defective memory and judgment, as children and old people, a skilful lawyer can, by proper manipulation, create, entirely without the consciousness of the witness, a memory of events that never happened; and, like Professor Royce, the author would account for many cases of presentiments, telepathy, etc., reported by trustworthy people, as cases of pseudo-memory. The number contains, as usual, reviews and abstracts of literature on the nervous system and experimental and abnormal psychology, besides miscellaneous notes. In the abnormal section is included also a paper of practical suggestions to physicians in asylums, hospitals, etc., for the observation of patients suffering from mental and nervous diseases, by Dr. H. H. Donaldson. The suggestions are accompanied throughout by references to the literature.

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.*

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

Twenty copies of the number containing his communication will be furnished free to any correspondent on request.

Sunset Glows.

WE have just been enjoying a re-appearance of sunset glows like those following the Krakatoa eruption of 1883, though much less bright. The phenomenon was first noticed here after sundown of July 13. On the 14th and 15th it seemed to increase in intensity. After this it declined, and I think could not be clearly distinguished after the 20th.

I noted a whitish glow around the sun, occupying a space of about fifteen degrees' radius, as in "Bishop's ring." The outer colored ring characteristic of that corona seemed to be entirely lacking.

I have remarked the following peculiarities in which these differ from the Krakatoa glows: they are very much less bright, perhaps like those after a lapse of several months.

A notable difference is in a beautiful tertiary glow. This consisted of a rich and delicate rosy flush occupying a tract of sky in the west, say of sixty degrees horizontally, and from five down to ten degrees of altitude. At the edges this melted into purple upon the clear blue of our North Pacific sky. A faint purple tint extended along the horizon quite to the south: no color in the north. There are islands a little north of west, intercepting reflections. This third glow failed to gather down and deepen upon the horizon like those preceding it. I think its tint the most beautiful I have ever seen in the heavens, like that of some rare and perfect jewel.

A very marked peculiarity is the early time at which the primary and secondary glows take place. The primary glow gathers soon after the sun is down, and is at its height while daylight is yet strong. Hence it is less conspicuous, although its broad streaming radiations of glowing surface are very remarkable.

The secondary glow promptly follows, and makes the grand display. It is nearly finished before any stars are visible. The Krakatoa secondary began in a somewha t darkened sky, — as dark as when the late tertiary appeared, — and lingered until after full darkness, slowly settling down into a low, dense, blood-red stratum, which simulated the reflection of a remote conflagration.

That strange dull-red glow was entirely absent from the late appearances. The secondary gathered and settled away in a bright orange glow. Both at its close and throughout its course, this secondary substantially resembled the Krakatau primary as seen several months after the eruption. Like that, it presented at its close a well-defined and serrated upper edge, bordered by dark sky. The serrations of the latter, however, were small and numer-

ous, apparently the inverted shadows of cumuli upon a very remote horizon. In this, on the contrary, the serrations are large, as if caused by the intervention of cloud-masses upon a near horizon.

It seems evident that the reflecting stratum of haze in these late glows was very low down as compared with the Krakatoa haze. The shadow of the horizon was projected upon a haze-canopy quite close at hand. Hence also the early production of the primary glow, and the rapid following of the secondary. For the same reason, the extent of lower atmosphere traversed by the sun's rays during the repeated reflections was greatly reduced; less of red was consequently shown, the other colors being only partially intercepted. Again, the twice reflected rays still retained force for a slight but definite third reflection, in which a pure though faint red appears.

We have as yet no cable, though in strong hope of one soon. No foreign mail has reached us since the 6th instant. One is due to-morrow, and we hope to hear of some adequate cause to which this remarkable phenomenon may be owing.

SERENO E. BISHOP.

Honolulu, July 25.

"Suggestion."

A FEW evenings ago I went to a friend's house to hear the phonograph. It was reproducing with fidelity the music of a band. To promote the illusion, I closed my eyes. Presently an air was played that sounded familiar, though I failed to recognize it. Neither did I strive to, for my attention was concentrated on the quality of the sound. As I listened, however, I became conscious of a set of surroundings: a pair of eucalyptus trees opposite, a large domed building to my left, a street of white flat-roofed houses on which I looked down, even a familiar sign-board caught my eye (the inscription ought to have been "Biblioteca Pública"), the strains of the military band in the plaza coming through the star-lit night. Involuntarily my eyes opened, and I caught my breath at sight of the lamps and assembled company of a drawing-room; for I had been listening, from the *azotea*, or roof, of my former residence in the little Mexican city, to a favorite *danza* air played by the regimental band in the neighboring plaza. The change was so very startling that it made my heart pump. I closed my eyes, and though I did not again lose consciousness of where I was, the Tepic picture materialized again as vividly, and with all the detail that could have been present to the eye of sense. I requested that the air (the *danza*) might be again put through the instrument, and while it played, I still held the picture, and had wandered off into a brown study, a thousand Mexican images and incidents rising of their own accord and passing before the imagination. While this was going on, and without my becoming conscious of any change in the source of suggestion, the picture became blurred, faded, and indistinct, and the train or procession of incidents broken and desultory. This led to my consciousness that a different air — a German one — that I had never heard from a Mexican band, was now proceeding from the apparatus. W.

San Francisco, Cal., Aug. 10.

Minute Aeronauts.

DURING the year 1875, while engaged in some scientific investigations in Contra Costa County, Cal., my attention was attracted to the numerous webs floating in the air. Some were wound together so as to resemble small pledgets of cotton, others were long streamers. After having made several inquiries as to their cause but gaining no satisfaction, I sat about an investigation. I started up a high hill from which all these webs seemed to have their origin. During my ascent I noticed that my hat and clothing began to be covered with webs, and finally I discovered a small spider spinning a web from my hat brim to the ground. When it reached *terra firma* I sat down to watch it and to study its movements. It immediately searched out a slender stalk of a weed and made its way to the top. It remained there for a few moments perfectly still, as if it was taking observations. Then it began spinning web, and by a peculiar motion of its legs it would roll or gather the web in a mass, and when enough had been accumulated in this manner to carry the little creature, it would let the flaky mass flow out to the winds. When it had thus formed a little parachute, or balloon, it would swing itself out in the air and sail in obedience to the winds. Continuing my journey up the hill I noticed scores of these spiders rigging their aerial ships preparatory to visiting some distant place. When near the top of the hill I was surprised to see webs sailing hundreds of feet above the summit. I turned my field glass in a direction toward the sun, where I could best discern them, and as far as my aided eye could reach I could still see them. They probably came from a great distance, as they were five or six hundred feet above the crest of the hill. When these little aeronauts came near the ground in their travels, they would descend on a web and abandon their balloon. I watched these spiders for hours, and none of them ever made a mistake as to the quantity of the web that would carry them. They could in this way travel hundreds of miles in a day.

R. I. BROMLEY, M.D.

Queries.

47. WHAT BIRDS ARE THESE? — (1) Head and back, black; breast and belly, rich reddish brown; length, seven inches; from tip to tip of extended wings, ten inches; sides of bill, slate; legs, black; Insessorial; bird seen in orchard. (2) Breast, yellow; back, yellowish olive-green; throat of male, black; male larger than female; bill, conical; length, medium or rather long; size of bird described above or smaller; song similar to bird described above. Nests in orchard, top of tree; nest composed of grass, not placed in fork of branches, but suspended, — in which it deposits three cream-colored eggs, black-blotched at the larger end; food, worms. (3) Breast of male, yellowish with black spot; back, dark brown and white; striped or mottled; bill rather large, short, conical. Of two nests seen, one was in a meadow, about eight inches from the ground, supported by the grass, and the other three feet high, in a roadside hedge: both contained four blue-green eggs. Size of wood-pewee; song, short; seen in fields; female rather smaller and duller colored, and lacking the black spot on breast. There is a yellowish stripe above the eye. L. W. N.

Answers.

47. THE first and second birds described are orchard orioles (*Icterus spurius*), the brown and black one being an old male; the yellow olive one with black throat the male in its first year. The last bird is the black-throated bunting or dichcissel (*Spiza americana*.

INDUSTRIAL NOTES.

The Union Electric Car Company.

CARS operated on the system controlled by the Union Electric Car Company of Boston, Mass., will soon be running between the towns of Beverly and Danvers, Mass. One of this company's cars was run on the West End Railroad in Boston for eighteen months, never failing to do what was expected of it. This company uses dynamos and motors of the United States Electric Light Company's make, and intend to use either the storage, overhead, or conduit system, or a combination of all three, as may be found expedient. One of the peculiar features of the Union company's system, for which they hold a patent, is the charging back, while using a series motor, into the battery or line, while stopping the car or holding it back in going down grade, the motor being converted into a dynamo for the time, deriving its power from the momentum of the car.

Another feature of this system, also patented, is the use of a peculiarly formed cut gearing for transmitting motion from the motor to the wheel-axle. The gearing is inclosed in a dust-proof case, partly filled with oil, so that the gearing runs in an oil-bath, insuring thorough lubrication and decreasing the friction and wear of the gear-teeth. The company claims that this one feature saves a large percentage of power besides greatly increasing the life of the gearing.