ductor of the current, the effect must be instantaneous; while, if the phenomenon resulted from some secondary action, it would probably go on increasing up to a certain point with the duration of the illumination, and it would also probably continue for a time after the light had been cut off. His method of making the test was equally simple and ingenious. The light was interrupted at rapid intervals by means of a rotating disk with holes or slits, and he placed a telephone in circuit with the battery. It is, then, obvious, that, if the effect is instantaneous, the telephone will produce a note corresponding in pitch to the velocity of the disk; if otherwise, there will be silence. There was silence. A make and break in any other part of the circuit could be heard, but not in the beam of light: hence we must seek for some secondary action on the surface of the plates to explain M. Hallwach's experiments."

THE ELECTRO-CHEMICAL EQUIVALENT OF SILVER. — A very important electrical constant — one often used in the measurement of electric currents — is the amount of silver deposited in a given time by a given electric current. Determinations have been made by Kohlrausch, Rayleigh, and Mascart, the results of the last differing from those of the first two by as much as one part in four hundred. Recently Pellat and Potier have repeated the experiments, using to measure the currents an electro-dynamometer constructed by M. Pellat, and taking every precaution to insure accuracy. The result obtained gives 1.1192 milligrams of silver deposited by one ampère in a second. The previous results are, Kohlrausch, 1.1183; Rayleigh, 1.118; Mascart, 1.1156; Pellat and Potier, 1.1192. The mean is very near to Rayleigh's value.

THE VOLTAIC CURRENT OBTAINED WITH BISMUTH IN A MAGNETIC FIELD. — The following experiments are due to Dr. G. P. Grimaldi. A wide U-tube contained a solution of bismuth chloride in hydrochloric acid. In the two limbs of the tube dipped two wires of chemically pure bismuth very carefully polished. One limb of the tube was placed between the conical pole-pieces of a Faraday electro-magnet of medium size in such a way that the surface of the liquid was in the most intense part of the field. The two wires were joined up to a very sensitive Thomson astatic galvanometer. On closing the galvanometer circuit, a current was observed which at first varied rapidly, but which finally reached a permanent value. This was compensated by means of a shunt containing a standard element, and the galvanometer was brought back to zero. If then the electro-magnet was excited by a powerful current, a permanent deflection of the galvanometer was observed; if the magnetizing current was broken, the galvanometer returned to zero. The current produced by magnetism, which the author calls the galvano-magnetic current, is independent of the intensity and direction of the current first observed in closing the galvanometer circuit before the magnet circuit is made. The latter is variable; the former is always in the same direction, — in the galvanometer circuit, from the magnetized bismuth wire to the non-magnetized one; and in the liquid, from the non-magnetic metal to the magnetic one. The intensity of the galvano-magnetic current depends on the state of the surface of the metal, and to get regular results it is necessary to carefully polish the bismuth wires. To give an idea of the magnitude of the electro-motive force of the galvano-magnetic current, the author states that in the various experiments hitherto made under good conditions with various wires, and in various modifications, it has varied from $\frac{1}{12000}$ to $\frac{1}{2400}$ of a Daniell cell, the magnetic field being produced by a Faraday magnet of ordinary size, excited by a current of eight to twelve ampères, and with conical poles seven millimetres apart. With less powerful magnetizing currents, the results are smaller; and, with a current of two ampères, the galvano-magnetic current is scarcely appreciable. The direction of the galvano-magnetic current is independent of the direction of the field: its intensity sometimes varied a little when the field was reversed, and sometimes remained constant.

NOTES AND NEWS.

THE fourth annual meeting of the Science Club of the University of Kansas, Lawrence, was held Friday, May 17. The following is a list of the papers read: "Proximate Analysis of the Mountain Sage," by L. E. Sayre, John Scott, and E. Morris; "On the Action of Various Organic Acids on Calomel," by E. H. S. Bailey and W. B. Hilton; "Blue-Printing," "Columns of Uniform Strength," and "Maximum Bending Moment in Beams and Arch-Ribs," by E. C. Murphy; "Notes on the *Lanidæ*," and "Notes on Bird-Migration, Spring, 1889," by V. L. Kellogg; "On Some Corrections on the Thomson Calorimeter," by L. I. Blake; "Development of the *Luccinea* and the *Planorbias*," and "The Nervous System of Some Invertebrate Types," by Gertrude Crotty; "The Psychology of Counting," and "A New System of Derived Units," by W. S. Franklin; "A Case of Atavism," by E. E. Slosson; "On the Quality of Commercial Potash and Soda," by George F. Weida; "Coals of Kansas," by E. H. S. Bailey and L. T. Smith; "Methods of Stating the Results in Water-Analysis," by E. C. Franklin; "The *Mallophaga*," by V. L. Kellogg; "The Mode of Respiration of Salamanders," and "Curve of Daily Mean Temperatures for Twenty-one Years," by F. H. Snow; and "Proximate Analysis of the Fruit of the Pawpaw (*Asimina triloba*)," by L. E. Sayre and B. L. Hill.

— At a recent meeting in New York of the American Institute of Mining Engineers, Mr. Oberlin Smith of Bridgeton, N.J., read a paper on the making of nails of good quality from tin-scrap. This process undertakes to use this material just as it is, without trying to separate its constituents at all, and to use it, moreover, for a purpose in which the qualities of both these constituents — namely, the tensile strength and ductility of the iron, and the resistance of the tin to corrosion — are directly employed with advantage. The nail was invented, in its original shape, by Mr. George H. Perkins of Philadelphia, and has been developed, through various forms, until it has almost reached a commercial stage, the machine in which it is to be made in marketable shape being nearly completed. Mr. Smith has been associated with Mr. Perkins in its development. The machine now under construction has been very much simplified, and made enormously strong and heavy. It is adapted to cutting, crushing, griping, and heading the nails at one operation, and can be run as fast as an expert operator can feed the material. Its feed probably varies, with jagged, irregular scrap, from thirty to ninety nails per minute, although straight strips of sheet metal can be fed by hand into a machine running as high as 240 strokes per minute. During the course of their experiments, various forms of nails have been tried. Among others were straight cylindrical nails with conical points, straight square nails with pyramidal and with wedge-shaped points, hexagonal nails, etc. The most practical form seems to be the square taper nail with about the same shape as the ordinary cut nail, but is somewhat stronger and a good deal tougher. The economy of this system of nail-making is obvious. The scrap can be bought for about seventeen cents per hundred pounds, and a boy can make perhaps a hundred pounds of nails per day. The most economical system of manufacture will probably be to run one or more nail-machines at each large "tinshop," set as close as possible to the presses which produce the scrap, so as to avoid the expense of unnecessary handling, and the extra tangling-up incident thereto.

— The bearing of chemistry upon construction is thus illustrated by the *Lumber Trade Journal:* It is safe to say that no two varieties of wood possess the same essential chemical characteristics, and, the instant one possessing much alkali is placed near another that gives acid in its re-action, it will invite rapid dissolution and decay. What is true with reference to wood applies with all the force to the other materials used in structures. Two uprights, the main-stay of a quite large country bridge, rotted off at the ends when bolted together with an iron bolt. New ones were put in, and fastened by wooden pins of the same variety; and ten years have elapsed, and still they stand. In the first instance, beech, which is known to contain much acetate, was used, and the iron soon oxidized, transmitting the rot to the wood, and, though the rest was perfectly sound, the wood about the splice soon rotted off; while in the latter case the same wood from the same tree was used, but the wooden pins did not rust, and the joint remains firm and sound at this writing, and it is now nearly ten years since the renewal was made. Now, if a wood like ash or oak, having less acetate in its composition, had been used, instead of rotting or oxidizing, it would have tended to preserve the iron, hence would last

longer than if fastened with pins made of its own species of wood, or any, for that matter.

— Charles Lamb was possibly not far wrong, says *The Horological Journal*, when he conjectured that Adam had a sun-dial in Paradise. Dials are probably older even than alchemy. The Babylonians had them; though the Egyptians, that wondrous people who knew most of the things the moderns have rediscovered, seem not to have used them. The Babylonians gave them to the Greeks; the Greeks, to the Romans; and the Emperor Trajan is credited with an epigram upon the art of dialing. Naturally dials are most frequent in lands where the sun shines, as a matter of course, and not as a rare complacence. French and Italian gardens are full of them. To the walls of sunny *châteaux* they are fixed in hundreds. In the old days, when there was time for sentiment, and room for it, sun-dials were favorite gifts from great personages to one another, — from people to princes, and from princes to people. Cosmo de' Medici, whose fitful humors so angered Benvenuto Cellini, gave one to the Florentine students of astronomy; and on the wall of Sta. Maria Novella it still marks the time of day. But even in our own cold land of fibre and complexion there are dials not a few. In Mrs. Gatty's book some eight hundred inscriptions are set down; and, as some favorite legends are common to many dials, the recorded number is probably close upon a thousand.

— Mr. G. T. Shepley, the architect of the Leland Stanford, jun., University, states in the San Francisco *Building Advertiser* that the work on the large dormitory in connection with the university has been commenced. The buildings completed, or nearly so, number fourteen, and consist of lecture-rooms, reception-rooms, laboratories, and all the requisite departments for a complete educational course. The dormitory will be situated about a thousand feet from the other buildings. It will be 275 by 145, four stories high, presenting a very imposing structure. The material used is San José stone. The building will accommodate two hundred students. Single rooms will be 18 by 26, and double rooms 24 by 26. Altogether there will be from one hundred and twenty-five to one hundred and fifty rooms. There will only be one dining-room for the two hundred students, and this will occupy the central portion of the lower floor. The kitchen, laundries, etc., are in the basement; but, as the dining-room is raised considerably above the floor on which it is situated, there will be plenty of light and air afforded for the basement. All the fifteen buildings will be heated by steam and lighted by electricity from one central station placed in the rear of the quadrangle. The university will not resemble any of the Eastern universities to any great extent. All the old colleges are built around quadrangles, and in this one point the Leland Stanford, jun., University will resemble them, but in no other. There will be a magnificent view from all the sleeping-rooms of the dormitories.

— M. J. Violle has been investigating the alloy of the standard international kilogram, says *Nature*. The alloy of platinum and iridium in the proportion of ten per hundred, prepared with the greatest care by M. Matthey, is here found to be still somewhat defective. M. Violle's researches show that an alloy of nine parts platinum and one iridium yields more uniform and accurate results, both as regards density and specific heat. The density thus obtained is an absolute constant, incapable of further modification under cold hammering, annealling, or any other severe test.

— In the *Canadian Record of Science* for April, in a paper on the glaciation of eastern Canada, Robert Chalmers, of the Geological Survey of Canada, maintains that the investigations hitherto made in regard to the glaciation of eastern Canada show, that instead of its having been caused by a continental ice-sheet moving over the region from north to south, as has been supposed, local glaciers upon the higher grounds, and icebergs or floating ice striating the lower coastal and estuarine tracts, during a period of submergence, were agents sufficiently powerful to produce all the phenomena observed. The latter theory, with some modifications, is the one so long maintained by Sir William Dawson, who has studied the glaciation of this country for forty years or more. A number of other observers have of late years been at work, however, and Sir William's views are now, Mr. Chalmers holds, about to receive abundant confirmation. The large mass of new evidence obtained, and now available for co-ordination and study, is, however, so scattered through the reports of the Geological Survey and various scientific periodicals, as to be somewhat difficult of access. A good deal of unpublished material, too, relating to this subject, is now in the hands of the Geological Survey staff. The object in this paper, therefore, is simply to collect and correlate all the main facts within reach relating to this important question, briefly summarizing the results, and referring the student for fuller details to the reports and publications alluded to.

— The following recommendations are given by the Forestry Division of the Department of Agriculture in regard to the cheaper coatings for keeping moisture out of timber: Never apply paint or any other coating to green or unseasoned timber. If the wood was not well dried or seasoned, the coat will only hasten decay. Good coatings consist of oily or resinous substances which make a smooth coat capable of being uniformly applied. They must cover every part, must not crack, and possess a certain amount of plasticity after drying. Coal-tar, with or without sand or plaster, and pitch, especially if mixed with oil of turpentine and applied hot (thus penetrating more deeply), answers best. A mixture of three parts coal-tar and one part clean unsalted grease, to prevent the tar from drying until it has had time to fill the minute pores, is recommended. One barrel of coal-tar (three to four dollars per barrel) will cover three hundred posts. Wood-tar is not serviceable because it does not dry. Oil paints are next in value. Boiled linseed-oil, or any other drying vegetable oil, is used with lead or any other body, like powdered charcoal, which will give substance to it. Immersion in crude petroleum is also recommended. Charring of those parts which come in contact with the ground can be considered only as an imperfect preservative; and unless it is carefully done, and a considerable layer of charcoal is formed, the effect is often detrimental, as the process both weakens the timber and produces cracks, thus exposing the interior to ferments. Lastly, in communities where durable timber is scarce, it will pay to establish a plant for impregnating timber with antiseptics by the more costly process described in "Forestry Bulletin," No. 1.

— At Reinickendorf, a village near Berlin, it is reported by *Building*, a consumptive sanitarium is to be erected on a novel plan, utilizing the supposed therapeutic influence of association with certain animals. A large cylindrical building will be occupied in the upper part by the patients, while the ground floor will be given up to the accommodation of large numbers of milch cows, the exhalations from which will be conducted to the apartments above. A whey and buttermilk diet will also be contributed by the under boarders.

— The iridium anti-friction metal is now being introduced into England. This metal has undergone some very successful tests in America, Professor Thurston having compared the behavior of a brass made of this alloy with one of the Pennsylvania Railroad Company's standard phosphor-bronze bearings. The tests extended over eight hours, the mean speed of revolutions being 400 per minute. The pressure at starting on each brass was 200 pounds, which was increased by an additional 200 pounds at the end of every two hours. The behavior of the two alloys was, it is stated, practically identical. The iridium metal contains no iridium, the term apparently being used simply to indicate that the material is a hard alloy, though it has a low melting-point, and can be cast round journals in place in the same way as babbitt-metal. If desired, however, it can be cast and machined in the same way as ordinary gun-metal.

— A generous gift of $150,000 was made recently, says *The American Geologist*, to the University of Minnesota by Ex-Governor and Regent John S. Pillsbury of Minneapolis. It was conditioned only on the pledge by the Legislature that the university should not be weakened by the division of the funds that now constitute its endowment, but that the so-called agricultural land-grant (under the law of Congress of 1861) should remain inseparably connected with the university proper. This pledge the Legislature gave. The gift will be used, as intended, to complete and furnish the new Science Hall. At the university of California the

Lick Astronomical Observatory was the result of a large private donation. At Madison, Wis., the Washburn Observatory was largely the gift of the citizen whose name it bears, and citizens of Michigan erected and furnished the Detroit Observatory at the University of Michigan. The donation of Gov. Pillsbury, however, seems to be the first of importance to a State university in behalf of what are generally known as natural sciences.

— A correspondent of the *Revue Scientifique* vouches for the following story: For about twenty years he was in the habit of visiting two or three times each year a farm where was kept a flock of geese, numbering from thirty to thirty-five in the early part of the winter, and in the spring four or five, left for breeding purposes; these also generally being killed a few months later, after the new broods had attained their growth. In the month of July, 1862, on a feast day, the farmer and his men being absent, the geese were forgotten, and were attacked by dogs, which killed the most of them. The next evening at twilight the farmer thought they must have been attacked a second time. He found them flying about in their pen, much frightened, but the dogs were nowhere to be seen. The next day this terror re-appeared at the same hour, as it did on the following day and from that time on. The correspondent of the *Revue* had forgotten this fact, when, ten years later, he chanced to be on the farm one evening, and heard the cackling of the apparently frightened geese. When he asked for an explanation, he was told that this had been kept up from the time they had been attacked by the dogs, that there had been no repetition of the attack, and that the flock had been renewed in the mean time at least three times. If this story is well authenticated, we have a case of the transmission of terror to the third generation in a family of geese.

— Loss and gain of nitrogen, M. P. P. Dehérain has determined by the experiments carried on at Grignon from 1875 to 1889, according to *Nature*. A general survey of the results of these experiments leads to the conclusion that all soils containing considerable quantities of nitrogen in combination, say two grams to the kilogram, lose, if cultivated without manure, far more nitrogen than is absorbed by the crops, but in proportions varying according to the nature of those crops, — more with beet-root, less with maize grown for fodder, still less with potatoes and wheat. But when the ground has thus been impoverished, no longer containing more than 1.45 or 1.50 grams to the kilogram, the loss ceases, and the ground begins, on the contrary, to recover a certain proportion of nitrogen, the gain being much greater on grass-grown than on tilled lands.

— The Swiss Federal Council has invited the European governments to be present at a conference to be held in Berne next September. The object of the conference is international legislation in regard to labor. The council suggests the following points for the consideration of the conference: the prohibition of labor on Sunday, or at least rest on one day out of seven; a fixed minimum age for the admission of children into factories; the maximum length of a day's labor for young working-people; the prohibition of the employment of young men and women in pursuits especially injurious to the health or dangerous; and the restriction of night-work for young men and for women.

— To-morrow the first working detachment of the Nicaragua Canal Company will leave this port for Greytown. The party is in charge of Lieut. Usher, United States Navy. A large number of friends interested in the success of the enterprise has been invited to accompany the expedition down the bay to wish it *bon voyage*.

— It is proposed to hold an international novelties exhibition in the Great Central Hall, London, commencing May 29. The exhibition, according to the prospectus, has been undertaken for the purpose of introducing and bringing before the public the many meritorious novelties in the arts, sciences, and manufactures which have been invented and produced in recent years, not alone in Great Britain, but also on the Continent and in the United States. The Central Hall contains 26,000 superficial feet floor-space, and is situated in the very heart of London. The hall is lavishly decorated, and has been designed with special attention to the requirements of an exhibition. Of the space at the disposal of the executive, 5,000 superficial feet have been guaranteed to the commissioners representing the exhibition abroad, who are now selecting the most recent and eligible inventions and novelties produced in their respective countries. A certificate has been obtained from the Board of Trade, protecting any unregistered patents and designs which may be shown at the exhibition.

— A new adulteration of coffee has been recently discovered in Germany. M. Stutzer of Bonn states that this artificial coffee is made from burnt farina, afterwards agglutinated by the aid of dextrine or some similar substance. In Cologne there are two factories which turn out these coffee-beans.

— The fourteenth annual meeting of the American Association of Nurserymen will be held in Chicago on June 5 and 6. The programme shows that addresses on an unusually wide range of topics may be expected from speakers well qualified to give instruction. These meetings have proved of great value, both from an educational and from a business point of view, and the nurseryman who neglects to attend them fails to live up to his privileges.

— Engelmann of Leipzig has undertaken the republication of a number of classical memoirs under the editorship of Professor W. Ostwald of Leipzig. The first memoir is the well-known paper of Helmholtz on "The Conservation of Energy," first published in 1847. Other memoirs of Jauss and of Dalton will follow at an early date. The title of the series is "Die classiker der exacten Wissenschaften."

— The Council of the Geological Society of America recently held a meeting at Washington, according to *The American Geologist*. Nominations for fellowship were made to the society of about fifty candidates, all of whom had expressed a desire for election. Professor C. H. Hitchcock was designated to make arrangements for an excursion from Toronto, and another attempt is likely to be made in favor of the Huronian region. He was instructed to correspond with the local committee at Toronto, and with the officers of the Canadian Survey. The programme of the meetings of the society at Toronto was ordered to be independent of that of the association. The committee on revising the constitution held a meeting, and decided on several important matters relating to the constitution. The committee on plan of publication, through Mr. W. J. McGee, secretary, made a voluminous report embodying facts concerning the manner and success of publications by various leading scientific societies in Europe and America. This committee will render a final report, making recommendations of its conclusions to the council at its next session, probably at Toronto.

— Work has just begun on a new building for the Massachusetts Institute of Technology, Boston. The building, which is to include five stories and a basement, will measure 148 by 50 feet, being built of brick with sandstone trimmings. It will be designed after the order of mill-construction, and will cost about $70,000. The basement and the greater part of the first two floors are to be occupied by the department of mechanical engineering. Cotton machinery, hydraulic testing-machines, shafting tests, and testing-machines for the strength of materials, are to be put in here. The light-running machinery is to be located on the second floor, and above this the department of civil engineering is to be situated. The new building will probably be completed about the first of next winter.

— According to an English provincial paper, a Mr. Cash, a board schoolmaster, and Mr. Pringle, a solicitor, were out photographing, and a plate was exposed on a river-view near Ipswich. When the plate was developed, "there was plainly revealed, in the foreground of the picture, the figure of a woman apparently floating upright in the water, as it is declared that drowned bodies sometimes will, after immersion for a certain length of time. The face and head are clearly outlined; the arms are hanging straight by the side of the body, which is clad in ordinary female attire, and is visible to the waist; and the portrait generally appears to be that of a tall and comely young woman." The schoolmaster and solicitor, apparently thinking there was some peculiar phantom in the river invisible to the eye, but able to impress the plate, took a chief

of police into their council; and the collective wisdom of the three took the form of trying to capture the phantom by dragging the river. In commenting on this, *The Photographic News* expresses the opinion that possibly by this time Messrs. Cash, Pringle, and the chief of police have learned that phantom images on gelatine plates are not extremely rare, as a minute hole in a drying-cupboard or box will often cast an image on a plate. Again, such phantom images occasionally arise from a minute hole in the camera, plate-box, or even the dark slide. Most likely a little inquiry will serve to identify the original of the phantom portrait.

— At a late meeting of the Minnesota Academy of Natural Sciences, Mr. A. D. Meads of the Minnesota Geological Survey read a description of the Stillwater (Minn.) deep well, we learn from *The American Geologist*. It was begun in June, 1888; and the work has continued, with little interruption, up to the present time, when the depth has reached about 3,400 feet. Gas, probably local accumulations of marsh-gas along the shore of Lake St. Croix, led to the drilling; but a spirit of laudable curiosity to know what is below the city, on the part of several of the citizens who pay the costs, has taken the place largely of all expectations of finding gas, and is now the principal motive for continuing the work. The well starts at about 740 feet above the sea, and after passing through 701 feet of drift, white, friable sandstone, and green shales, belonging to the St. Croix and so-called Potsdam of the North-west, enters a series of dark-red and brown shales and brown felspathic sandstones, which exhibited a thickness of more than 1,500 feet. These gradually assume the characters of a volcanic detrital tuff, — "amygdaloidal," calcitic, kaolinic, still brown, slightly silicious,—and finally, at the depth of about 3,300 feet, unmistakable beds of trap-rock were encountered, alternating with sandstone beds. At this depth some grains of native copper were seen in the drillings. Water was found in the sandstones near the top of the drill, and down to the depth of about 740 feet. Small quantities of salt water were obtained at about 1,950 feet, and at the depth of 2,250 feet a small amount of gas was said to have been noted in connection with another stratum giving brine. Mr. Meads's main conclusions were as follows: 1. The Stillwater well is wholly below the Trenton limestone. 2. From 717 feet to the bottom of the well is Keweenawan. This thins out or runs deeper toward the south, not appearing at the depth of 1,160 feet at Hastings. 3. The Keweenawan rocks at Stillwater are almost identical with those at Keweenaw Point. 4. The well may be of some value as a source of water-supply; but as a source of gas the prospects are poor—or we might say there are no prospects whatever. 5. The well is of great value to geologists, as it fixes the place of the Keweenawan below the light-colored sandstones of the North-west, and hence effectually removes them from the mesozoic age. In several places the brown shales and sandstones that here are shown to overlie the traps, have been pierced by wells in Minnesota, but not penetrated, and hence the question was left open as to the age of the traps. This question is, therefore, no longer a debatable one.

— Mr. Robert Damon of Weymouth, England, the well-known naturalist and geologist, died suddenly on Saturday, May 4, from heart-disease.

— The following resolution of the government of Bombay, which has just been published, tells its own story, and, as *Nature* believes, adds another to the already numerous examples of the well-judged munificence of the Parsee community of Bombay. The resolution is entitled "Scientific Medical Research." "(1) The sum of Rs. 75,000 having been placed at the disposal of his Excellency the Governor by Mr. Framjee Dinshaw Petit, for the purpose of erecting and fitting a laboratory for scientific medical research, on a site which has been approved by the donor in the immediate vicinity of the Grant Medical College, the governor in council has much pleasure in accepting the offer, and, in doing so, desires publicly to thank Mr. Framjee Dinshaw Petit for his munificence in supplying an institution the want of which has long been felt by those most interested in promoting the cause of higher medical education in this presidency; (2) the governor in council is pleased to direct that the institution shall be called 'The Framjee Dinshaw Petit Laboratory for Scientific Research;' (3) instructions for the preparation of the necessary plans and estimates for the proposed building have already been given."

— Last winter the Vienna Medical School was attended by one hundred and fifty British and American medical graduates, among whom were many Edinburgh men. As many medical students, on their arrival at Vienna, do not know German, the Vienna *Weekly News* has opened a special "medical inquiry office" near the hospital, where information as to lectures, lodgings, etc., is given without charge to British and American medical men. The same journal publishes weekly a list of forthcoming courses of lectures at the Universities of Vienna and Berlin.

— At the Academy of Sciences, April 29, we learn from *Nature*, M. G. Lippmann read a paper on "A Means of Obtaining Photographs of True Chromatic Value by the Use of Colored Glasses." By the judicious employment of green, yellow, and red glass in the way he explained, excellent results have been obtained even with present plates, notwithstanding their greater sensitiveness to blue. The impressions are described as clear, and free from brown patches; the green foliage, the red or yellow draperies, instead of yielding brown tints, being reproduced in delicately modelled design, as in a well-executed engraving.

— The British consul-general at Patras, in his report for the past year, referring to the Corinth Canal, says that the managing committee has decided to defer payment of interest due to the shareholders. The canal was to be completed within 1888, at a cost of 30,000,000 francs; but this is not possible before 1891, at a cost of double the estimated expenditure. The canal is nine-tenths of a mile in length. According to the original plan, it was reckoned that 8,000,000 cubic metres of earth should be extracted at the cost mentioned, which included 5 per cent interest per annum to shareholders. A committee having been appointed by the government to inquire into the difficulties which have arisen, it was informed that the period for completing this work should be extended, and that the angles of slope should be reduced, and the sides protected by walls to prevent any earth-slips. On account of these alterations, the period for completing the work is extended to November, 1891, the amount of cubic metres of earth to be extracted is increased to 10,000,000, and the cost to 60,000,000 francs.

— According to the latest educational report of 1884, only 1,466,913 of the 15,000,000 children in the Russian Empire attended schools. About 90 per cent, therefore, of young Russia receive no instruction at all. In 60 governments there is only one school for secondary instruction to every 18,000 boys and 22,000 girls. Only 63 per cent of the boys of an age to attend a public high school can be accommodated. For girls, the number of such schools is even more insignificant. The schoolmaster cannot be said to be abroad in Russia yet.

— A novel idea has been put into execution in the machinery hall of the Paris Exhibition, with a view of facilitating the circulation of visitors in the vast building. Two travelling platforms sixty feet long, and capable of carrying ten tons each, are mounted upon the latticed iron girders that connect the columns carrying the shafting. Visitors will be admitted on payment to these platforms, which will be caused to traverse up and down the machinery hall by electric transmission. Access to the platforms will be obtained by elevators placed at each end of the machinery hall.

— The committee appointed to arrange the meeting of the International Congress of Geologists for 1891, according to *The American Geologist*, met in Washington April 20, and elected the following officers: permanent chairman, Professor J. S. Newberry; vice-chairman, G. K. Gilbert; secretary, H. S. Williams. The committee also added to its number the following gentlemen: Dr. T. Sterry Hunt, Professor E. D. Cope, and Dr. Persifor Frazer. Provision was made for three sub-committees,—(1) on the scientific programme of the congress, (2) on excursions, and (3) on arrangements in Philadelphia. The committee adjourned to meet at Philadelphia in November at the time of meeting of the National Academy. A majority of the committee were present at the Washington meeting.