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WASHINGTON AS A CONVENTION CITY.

It is a notable fact that the recent holiday week has been made the occasion for the gathering of at least four great national scientific societies at the national capital, besides several important ecclesiastical conventions, to say nothing of an army of more than fifteen hundred school teachers coming in two parties from New York and New England. This is certainly an interesting sign of the times. The advantages of such a winter meeting place are obvious; among them being the general attractions of the locality, the accessibility by railroad, the hospitality of the citizens, and above all the facilities furnished by the immense libraries and museums. The scientific bodies thus meeting have been the American Economic Association, the American Historical Association, the Forestry Congress, and the Geological Society of America. Three of the societies met simultaneously under the roof of the Columbian University; thus enabling members of any one body to drop in occasionally to witness the transactions of the others, and in this way to broaden their ideas and quicken their sympathies with various phases of modern culture.

Notwithstanding the diversions of the holidays, and the fact that Congress continued in session, the attendance upon the meetings was unusually large and enthusiastic and a great deal of hard work was actually done. Several hundred papers were read and the discussions to which they gave rise were of great value, not only from the immediate interest excited, but as showing the progress made in historical, scientific, and practical research. It has been decided to hold similar meetings of some of these bodies at Washington next August, in which month will also be held there the annual meeting of the American Association for the Advancement of Science, and likewise the International Geological Congress. The timely suggestion was made by some of the public-spirited citizens that it would be well to urge the erection of a suitable convention hall, with committee rooms and all needful appointments; as a means of ultimately concentrating in the locality at least the winter meetings of the various national associations, as well as furnishing facilities for important gatherings of a political and commercial nature.

THE AMERICAN FORESTRY CONGRESS.

The startling fact that, before the woodman's ax, fires originated by hunters and by sparks from numerous railroads running through all parts of the country, the native forests of America were rapidly disappearing, until, perhaps, only from ten to fifteen per cent of the original woods remained, stirred up the minds of those interested in this subject to take active measures for the prevention of such wanton destruction; and also for replacing by tree-planting what had already been destroyed. The work began in Nebraska for economic purposes eighteen years ago. The very first year it was officially reported that 12,000,000 trees had been planted; and now, in that one State, it is known that over 600,000,000 trees have been planted by human hands. In pursuance of this good work, the American Forestry Association was organized nine years ago, to promote the preservation, the management, and the renewal of our forests, by the gathering in of statistics, the securing of appropriate timber acts, and by the suitable education of the rising generation in this regard. The total membership, as reported at the recent Washington meeting, is now 224; and among the beneficial results already secured is the actual establishment of special national reservations, such as the Sequoia tract of 350,000 acres in Tulare County, California, the Yellowstone and Yosemite, and other national parks. Concerning this part of the work, the Forestry Association has now passed resolutions in favor of withholding from sale all forest lands under national and State control; largely extending the boundaries of existing parks (so far as may be desirable), approving the recent request made by the Secretary of the Interior for companies of cavalry to protect the same; and the exclusion of railroads from such parks, and the indorsement of all public and private efforts for the preservation of the Adirondack forests in New York, and those in the White Mountain regions in New Hampshire; regulating the sale of wood supplies under a system of licenses, so as to satisfy the various needs of those in the lumber business, and to superintend the proper manner of cutting so as to secure reforestation. The officers elected at the meeting, which was held in the Agricultural Department, were: President, William Alvard, of Cleveland; treasurer H. M. Fisher; recording secretary, N. H. Egleston; corresponding secretary, E. A. Bowers.

Among those present and participating in the papers and discussions were Secretary Willets, Dr. F. B. Lovering, Col. Henry Strong, Prof. W. W. Folwell, Hon. B. E. Fernow, Mr. Gifford Pinchot, and Hon. B. G. Northrop, and many others.

To Mr. Northrop the nation is especially indebted for what is known as "Arbor Day," an idea suggested by him eight years ago, at the meeting of the association in the city of St. Paul, and since then so efficiently carried out by him as chairman of the committee appointed for the purpose, that thirty-seven

States have adopted the day. As illustrating the work accomplished by Arbor Day, it is reported that in Pennsylvania during the past seven years 300,000 trees have been planted by the school children; and in the State of New York 50,000 have been planted during the past two years. The importance of this peculiar work, together with his establishment of successful village improvement societies in various parts of the country, entitle Mr. Northrop to be regarded as a national benefactor.

THE GEOLOGICAL SOCIETY OF AMERICA.

The second annual gathering of American geologists was held in the chemical lecture room of the Columbian University at Washington, D. C., during the holidays. In the absence of Professors Dana and Newberry, who were detained by ill health, the duty devolved upon Professor Alexander Winchell of replying to the cordial address of welcome made by Dr. Welling, president of the University.

He spoke briefly of the organization of the society, which in its original form was the predecessor of the American Association for the Advancement of Science, and which for fifty years formed one of its most active branches. He claimed for geology that it lies at the foundation of the multiform culture of modern life. Stupendous and costly enterprises of national importance have been undertaken in the development of the practical results of geological investigation. He spoke of the ethical influence of this particular science in promoting conscientious study, and claimed that if its methods prevailed in every-day affairs, the consequences would be highly beneficial. The study of geology in our public schools should be encouraged because it develops the imagination, the powers of generalization, and indeed every faculty of the human mind, so that it is a crime against the youth of our land to exclude it from any grade of their school life.

Although the conditions of fellowship in this society are exacting and somewhat expensive, it has already enrolled 202 members, most of whom are in professional work. It has published one volume of its bulletin, and another will shortly appear. It has also begun an excellent work in the collection of rare and original photographs illustrating gorges, chasms, dikes, bosses, buttes, mines, cataracts, and the like.

The officers elected for the coming year are: President, Alexander Winchell, of Ann Arbor, Michigan; vice-presidents, G. K. Gilbert, Washington, D. C., and T. C. Chamberlain, of Madison, Wisconsin; H. L. Fairchild, secretary; H. S. Williams, of Cornell University, treasurer; editor, W. G. McGee, of Washington, D. C. During the three days' session which was held morning, afternoon, and evening, more than 50 papers were read, some of them of very considerable length, all of which go into the hands of the executive council to be published in full or by abstract in the proceedings, at their discretion.

Among the papers of more general interest may be specified an illustrated address by Prof. T. C. Russell, concerning the expedition sent out last summer under the joint auspices of the United States Geological Survey and the National Geographical Society, to explore the region lying between the Yakutat Bay and Mount St. Elias, in Alaska. Examples of both the Alpine and continental types of glaciers were studied. The former exist in great variety in every cañon and valley, amid the mountains, some of them ending in sea walls of solid ice, others situated on steep slopes with no well-defined limits, while others, again, flow out from the mountains through broad valleys as great rivers of ice that unite to form a vast plateau of ice that has forced back the sea. Such plateaus are termed "Piedmont glaciers." A glacier of this nature between Yakutat Bay and the south base of Mount St. Elias, known as the Malospina glacier, has an area of 500 square miles; and west of that mountain there is an extension of the same ice field whose limits are unknown. These fields are similar in many respects to the great Laurentide system. Along the coast bergs are continually breaking off and floating away. Toward the interior the character changes, the region being indented by profound crevasses, while other portions form plains overlaid by soil, so that the phenomenon is presented of a luxuriant floral growth and groves of considerable size flourishing above beds of ice varying in thickness from 500 to 1,000 feet.

Professor G. F. Wright, of Oberlin, O., gave the results of two months' field work amid the extensive lava beds of the Snake River region, in Idaho, having in view the determination of the age of several remarkable lava deposits. His observations began at Soda Springs in the valley of the Bear River, extended thence northward to Beaver Canon, eastward to the Yellowstone Falls in the National Park, southward to Jackson's Hole, and westward crossing Teton Mountains to Market Lake, thence down the valley to Huntington, Oregon.

In connection with Professor Wright's paper, Professor George F. Becker, of San Francisco, described well authenticated discoveries of highly finished ab-

original implements in the auriferous gravels underlying the basaltic deposit on the summit of Tuolumne Table Mountain. His remarkable statements were confirmed by the affidavits of the workmen who discovered the implements. He was followed by Professor Cope, and Thomas Wilson, curator of the Smithsonian Institution, and others, the outcome of it all being that fully 300 specimens of the sort have been found in a formation usually regarded as Pliocene. The discussion of these extraordinary facts bearing upon the antiquity of the human race was so absorbing that it lasted until nearly midnight, the final impression seeming to prevail among those that took part in it that the glacial age on the Atlantic side of the continent must have long antedated the glacial age as developed on the Pacific coast. Of course a discussion of this kind brought up to view the little image found in boring, also the famous old Calaveras County skull, and similar debatable matters, but the whole discussion was carried on in the greatest spirit of fairness and good feeling.

Prof. W. N. Davis, of Cambridge, Mass., described two fossil-bearing belts found in the Triassic formation of Connecticut. This formation, as interpreted by the dislocation of the trap sheets, is found to be divided by oblique faults into a number of blocks with displacements, varying up to 2,000 ft. All the known fish-bearing shales have been correlated as the disjointed outcrops of only two shale belts. It will certainly be a surprise to the general reader to be told that, following these indications, Dr. E. O. Hovey found last summer fossil fish in the vicinity of New Haven.

Among other notable papers read were those describing the glacial lakes of Canada, the coal-bearing rocks of Montana, the geology of Georgia, the phosphate deposits on the island of Nevassa, the nickel and copper deposits of the Sudbury district in Canada, the occurrence of Medina sandstone on the summit of the Blue Ridge at Harper's Ferry, etc.

We have the promise for early publication of Prof. N. H. Darton's description of the formations characterizing the region immediately around the city of Washington, D. C., which, of course, will have more than a purely local interest.

By the courtesy of the authors we are also able, in the SCIENTIFIC AMERICAN SUPPLEMENT of this week, to publish Prof. Orton's remarkable account of a finely preserved megalonyx found within the past month by Mr. W. S. Hanna, of Millersburg, Ohio; and an exceedingly interesting paper by Prof. Henry McCally on the "Coal Fields of Alabama."

THE NEW COPYRIGHT BILL NOW BEFORE CONGRESS.

The copyright bill which passed the House December 3, 1890 (H. R. 10,881) contains nearly all of the objectionable features of the original Senate bill. It is now before the Senate, and there is opportunity for amendments. We hope strenuous efforts will be made in this direction; but the most satisfactory way would be to postpone the matter until the next session of Congress; thus giving chance for further and more deliberate discussions than the limited time now permits. The subject is one of paramount importance to the public, deserving the most careful study and cautious action on the part of the national legislature.

We had occasion some time ago to discuss the merits of a bill substantially similar to this one, and perhaps we cannot do better than repeat in substance some of the principal points then presented.

The bill has for its ostensible motive the grant of book patents to foreign authors; but it is well understood the real object of the bill is to facilitate, by aid of Congress, the formation of book trusts, by which the prices of books will be advanced throughout the country, the rich publishers made richer and the printers of cheap literature driven out of business. Under the law as it stands, only the books of American authors and of foreign authors resident here can be patented; all others are free, and there is no mode by which the people can be deprived of cheap books, or those who make them deprived of occupation. But if this foreign copyright bill passes, all books can be patented, the rich publishers will purchase the patents and put up the prices, and only those who control the patents can continue in business.

Probably there are few who will dispute the propriety of granting copyright patents, in some form, for a limited period, to foreign authors; but in doing so every care should be taken to preserve existing advantages and to prevent injury to established industries. The present bill appears to be lacking in these respects, and is open to other objections.

The bill in substance provides that on and after July 1, 1891, book patents shall be granted to foreigners; they may hold these monopolies for forty-two years; the assigns of foreigners may also obtain such patents. The Postmaster-General and the Secretary of the Treasury with their aids and assistants throughout the United States are constituted pimps and ferrets for these foreigners; it is made their duty to spy out and seize all books going through the mails that infringe the copyrights of foreigners; if an American citizen coming home from abroad brings with him

a purchased book on which he has already paid royalty to the author, it is to be seized on landing unless he can produce the written consent of the man who owns the copyright for this country, signed by two witnesses. Who the said owner may be, in what part of the world he lives, the innocent citizen must find out as best he can, or be despoiled of his property.

The bill also provides for book patent reciprocity with other nations—a very taking idea, but without real merit. Is it desirable to saddle the people of the United States with a mass of 42 year book patents because other countries do so?

These are some of the strange provisions of the Senate bill, which, it is obvious, needs amendment.

The period allowed for these monopolies, namely, forty-two years, is altogether too long. The ordinary patent for an industrial improvement, such as the sewing machine, the planing machine, the telegraph, the telephone, or any other invention, however wonderful or vast its benefits to the people, is only granted for seventeen years. The patent then expires, the monopoly ceases, and the people are at liberty freely to copy and duplicate the invention.

It would be much more satisfactory to the public if the term of the foreign copyright were reduced to five or ten years, and we trust an amendment to this effect will prevail. At the time the House was engaged in passing this objectionable bill the Grangers, then in session at Osceola, were discussing a resolution demanding that all patents should be limited to ten years, and it was only by a narrow vote that it was not made a prominent plank in the platform. The popular feeling is unquestionably adverse to the grant of patent monopolies of any kind for so long a period as 42 years, and it will be well for our statesmen to respect this feeling.

In considering the question of changing the statute, we ought not to overlook the benefits that have accrued to the country from the law as it now stands, and which has worked satisfactorily for more than fifty years. It would be folly to change for the worse.

Under the influence of the present copyright laws, our home publishers have for years been enabled to fill the country with the choicest books and periodicals at the lowest prices. The educative effects of this vast supply of standard literary matter have been astonishing. We have become the greatest reading people in the world.

Says Mr. Andrew Carnegie in his "Triumphant Democracy": "It is estimated there are twenty-three thousand school libraries in America, containing forty-five million books—twelve million more than all the public libraries of Europe combined. Other educational establishments increase this number by two and a half million volumes, and thirty-eight State libraries contribute over a million more. The Congressional library, the Astor, the Boston City, the Philadelphia, the various mercantile libraries, the Watkinson reference at Hartford, and many others will raise the grand total to much more than fifty million volumes—a book almost for every man, woman, and child in the United States. More than three hundred libraries contain ten thousand volumes each, twelve contain more than a hundred thousand volumes each, and two contain four hundred thousand volumes each. Even this statement but feebly shadows forth the truth as to the books and periodicals of the country, as compared with those of other lands, for the American is not only a reader, but he is above all other men a buyer of books. Circulating libraries are not so generally used as in Europe. It is when you enter the home of the American farmer or artisan that you are struck with the number of books and magazines you see—the two or three shelves and often far greater number filled with them.

"Triumphant Democracy is triumphant in nothing more than in this, that her members are readers and buyers of books and reading matter beyond the members of any government of a class, but in this particular each system is only seen to be true to its nature. The monarchist boasts more bayonets, the republican more books."

It is not unreasonable to assume that the greatest impulses toward the attainment of our present position in respect to popular education, intelligence, and native authorship have been derived, directly or indirectly, from the existing copyright law, which excludes foreigners and encourages American citizens. Independently of these advantages, the law has helped to develop some of the largest industries. It has created enormous establishments for the manufacture of paper, chemicals, types, printing presses and engines. It has called to employment multitudes of operatives. It gives volume to the mails, helping to freight and support the railways, steamers, telegraphs, and other adjuncts of civilization.

Upon the American author the copyright law, as it stands, confers important benefits. It secures to him the exclusive right to his writings for forty-two years. No citizen who can produce anything worth reading lacks for employment or emolument. It is agreed on all sides that no country was ever blessed with so many able authors as the United States. They ought to be well rewarded, and under the law as it stands they are.

It would be easy to give many examples; a few must suffice. Of "Uncle Tom's Cabin," by Mrs. Stowe, some two millions of copies have been sold; of "Ben Hur," by General Wallace, 250,000 copies; of Roe's works, hundreds of thousands of copies. Some of the story papers, filled with copyrighted tales, sell four hundred thousand copies of each issue, aggregating many millions per year. Mark Twain is said to have made five hundred thousand dollars clear profit within five years from his copyright patents. He receives a handsome royalty on every volume sold. Mr. Blaine has derived a great fortune in the same manner. Mrs. Grant is reported to have received three-quarters of a million dollars as her share of proceeds from the sale of the great general's book, and the copyright patent has forty years still to run.

The money paid to American authors remains within the country. The extension of copyright monopoly to foreigners will enable them to draw millions out of the country.

To this it may properly be answered, if we grant copyright to foreigners, then foreign nations will in duty be bound to allow similar rights to Americans; and so the money will come back. But we fear there is little equality in the matter. American readers and book buyers are as five to one, the world over. The financial result of the patent book extension would be in the same ratio adverse to the United States.

Everybody wants a patent, especially every book publisher. The real though hidden object of this bill—the negro in the fence—is to increase the price of books, and thereby swell the profits of publishers. But the "hurrah" on which the bill was carried in the House was "the natural right of every man to the enjoyment of his own property." It was claimed that when a man invents a new thing or writes a new book, it is his property, in which he has an inalienable personal, exclusive, natural, divine, perpetual property right. But this is fallacious. No man has a natural right to any species of property. His person, his time, his efforts, his productions, all belong, by natural law, to the community of which he is a member; this natural law requires that every individual shall, at all times, employ his best powers of body and mind for the benefit of the community. In so doing he promotes his own welfare as well as that of his fellows. The bosh and nonsense of the book patent people, who claim divine patents and property rights for authors, and denounce others as thieves, has been exposed on various occasions by the Supreme Court of the United States; for example, in *Dable v. Flint* the court said:

"To the argument of the plaintiff's counsel, that the statute is unconstitutional, as depriving the inventor of his property without compensation, there is a two-fold answer. *The patentee has no exclusive right of property in his invention, except under and by virtue of the statute securing it to him, and according to the regulations and restrictions of those statutes.*"

The object of our statesmen should be to encourage and promote the printing of books as much as possible, secure reasonable rewards to authors, and protect them from the grasp of greedy publishers. This might be accomplished by making a few simple amendments to the present law, among them the following:

"Sec.—No assignment of a copyright by the author shall be valid, but the copyright shall remain vested solely in the author, or in his wife or children if he be dead; and any persons desiring to publish a copyrighted work may do so on payment to the author of a royalty not exceeding ten per cent on the lowest price at which said work is sold by said publisher."

An amendment of this kind would be likely to prove beneficial to the public. It would not seriously interfere with free printing. It would promote rivalry between publishers in their endeavors to supply the people with the best editions at the lowest prices; this everybody wants; it would also secure to authors, native or foreign, a reasonable reward for their labors; and this also would give general satisfaction.

Col. Wm. H. Paine.

We regret to announce the death of Col. Wm. H. Paine, which occurred in Cleveland, O., on December 31, 1890. He was born in Chester, N. H., in 1828. He was from early life a surveyor and engineer. He won his reputation in the army by his exploits in the engineering corps during the civil war. He went into the field in advance of the Northern army and obtained dimensions for the construction of bridges where the Confederates had destroyed the old ones. His connection with the Brooklyn bridge, where he was assistant engineer from the beginning of the work to its completion, made him well known in this city. He studied the cable system of traction, and it is his system of grip that is used to-day on the bridge. The 125th Street cable road in this city was built from his plans.

At the time of his death he was in charge of the construction of the cable road in Cleveland, as he had come to be recognized as an authority on cable traction.