

SCIENCE.

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COMMENT AND CRITICISM.

THE CALIFORNIA TROUT (*Salmo iridea*), which inhabits a restricted geographical range on the west coast, has been extensively introduced into the streams of the eastern and middle states through the agency of the U. S. fish commission. In the spring of 1880, ten thousand eggs of this species were allotted to the Missouri fish commission. These were hatched out at the state hatchery, and the fry planted in the head waters of the Gasconade, Osage, and other streams of south-west Missouri having their sources in the clear, cold, large, flowing springs that abound in the Ozark Hills. Three thousand were planted in the head waters of Spring River, a tributary of the Arkansas. A careful inspection of the stream, made in the summer of 1885, by the commissioner of fisheries for Missouri, and others, who were familiar with the rainbow trout, showed the presence of at least three generations resulting from the original plant. The largest in size weighed between four and five pounds; those of the second size measured from fifteen to seventeen inches in length; while the immediate sources of the stream swarmed with thousands of the young trout from four to five inches in length. Accepting the indications of success thus afforded, the U. S. commissioner of fisheries is now maturing plans on an extensive scale for introducing the rainbow trout into the head waters of all the streams of Missouri, Arkansas, and the Indian Territory, which have their sources in the Ozark Hills. The area to be colonized is more extensive than the famed Adirondack region of New York, which is now the paradise of sportsmen. The streams are clear and cold, the temperature of the waters not rising above 58° F. in the heat of summer. They have every characteristic of good trout-streams, and experiment has shown their eminent adaptation to this purpose. We wonder that nature has neglected so inviting a field, yet we are informed by the state commissioner of Missouri that no native species of trout is found in any of the streams that rise in the Ozark range. The explanation will probably be found

when we know accurately the history of the development of the surface features of the interior of the continent during the post-pliocene. Be this as it may, it seems to have devolved upon the U. S. commission to enter upon and utilize nature's neglected opportunities.

LIEUTENANT DYER of the U. S. hydrographic office has compiled from the 'Monthly pilot charts' a hundred or more accounts by sailors of the use of oil to lessen the dangerous effects of the 'combing' of heavy seas during gales of wind. The hydrographic office has so far only aimed to record the experiences of mariners as reported at that office, and has not taken any decided ground as to the merits of the controversy. The mass of evidence collected is sufficient, however, to warrant the careful testing of this claim of the efficacy of oil in stilling troubled waters, and the government should at an early day detail some officer, and supply him with a vessel, that proper experiments may be made. So far as the sailors' yarns go, it appears that mineral oils are not so effective as vegetable or animal oils; and it is interesting to note that their evidence has led some of the insurance companies and steamship lines to insist upon the use of oil when occasion should require.

RELIGION IN COLLEGES is a subject at present attracting considerable interest from the attitude which Harvard has assumed regarding it. In an animated discussion between Presidents Eliot and McCosh, at the last meeting of the Nineteenth century club, the former took the view that the unsectarian college was the most useful, but by no means the only useful kind in a country with no established church and no dominant sect; while Dr. McCosh argued in favor of the retention of religion in colleges on account of both public and individual benefit. Against the sectarian institutions, said President Eliot, objection is urged first on the ground that they perpetuate class distinctions, that they foster intolerance and narrow-mindedness, and that they do not inculcate strength of character. These objections will, of course, apply strongly only to the positive class, where of all the teachers and students is required a rigid conformance with the

religious observances. The far larger number of institutions, however, occupy a position intermediate between this positive, thorough-going denominationalism and unsectarianism; and the objection brought against such is that their position is doubtful and uncertain, and their ambiguity a positive evil. The advantage of the unsectarian school, such as Harvard, is that its position is unmistakable, and a voluntary activity in religious matters is stimulated, while no attack is made on the student's faith. The officers and teachers are appointed without reference to denomination, and students are free to go to church or not. It has the disadvantage of not possessing the entire support of any denomination, and hence suffers a loss of power. It appears to be indifferent to religion, though in reality it is not. On the other hand, Dr. McCosh argued that morality could not be taught effectively in an institution without the aid of religion; that when religion is not honored in a college, agnosticism will prevail among the students; that religion gives higher aims and nobler ambitions, while its absence destroys zeal and activity. He also held that the period of college life was that in which moral and religious guidance was most needed. He knew that it was possible to retain a lively interest in religion without sacrifice of tolerance and religious freedom.

THE EXTENSION OF COPYRIGHT.

THE eighth clause of the eighth section of the constitution of the United States grants to congress the power "to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries." The effort now making to revise the copyright law looks to an enlargement of the operation of this clause. Heretofore, by 'authors' the law has meant only 'citizens of the United States, or residents therein.' It is now proposed in effect to strike out this limitation, and give 'exclusive right' 'for limited times' to all authors who may comply with the conditions of the statute pertaining to copyright.

At a recent hearing before the senate committee on patents, I offered what seemed to me the simplest, most direct, and most reasonable practical solution of the problems involved in international copyright, and a careful consideration of all the plans proposed has only confirmed my confidence in the method which I outlined. This method supposes the present law, now applicable to citizens

of the United States only, to be extended to any alien who will accept the conditions under which an American author lives. The American author must enter the title of his book in the office of the librarian of congress; he must publish his book in this country, recording upon every copy the fact that he has taken out copyright; and within ten days of publication he must deposit two copies of his book in the library of congress. Then only is his title in his literary property complete.

I would ask nothing more and nothing less of the foreigner. I would require him to record his title, to publish his book here, and to deposit his two copies in the library of congress within ten days of publication, and then I would give him all the protection which the law gives to the American author. No one should be allowed to print his book except his own agent, and no copies from other countries should be allowed to come in to interfere with the edition copyrighted and published here.

Probably none of the advocates of international copyright would seriously object to this method as regards the entry of the title and the deposit of the two copies. There are some, however, who claim that the foreigner shall not have imposed upon him the condition which rests upon the native author, of publication in this country. Why not? It is said that we have been unjust to the foreign author, and that now this injustice is working the greater injury to the American author. It is to repair the wrong that we now propose an amendment of the statute. The only rational reparation is one which will put the two authors on an equality. We ask that the English author shall accept the conditions of the American author in America. We are perfectly willing to concede that the American author shall submit to the conditions of the English author in England.

This solution of the copyright problem is not more based upon theoretical fitness than it is upon practical experience. In the absence of any international legal arrangement, there has grown up of late years, between England and America, an international business arrangement. An American author to-day may secure protection for his book in England by publishing there twenty-four hours earlier than he publishes in this country. An English author may secure a quasi protection for his book on this side by publishing here at the same time as he publishes in his own country. The distinction in the two cases must be noticed. By English custom, fortified, I think, by a decision of a minor court, an American author's book which has appeared in England a day earlier than in the author's coun-