solar rotation period of the northern sun-spot belt on the sun.

Evidently the active region on the sun's surface has persisted for more than seventy-five years.

It has been suspected for many years that there was a persistent region of high solar activity, but the apparent impossibility of the existence of such a region on a globe of incandescent gas and the difficulty of determining the rotation period of the hypothetical spot before daily sun-spot records were available rendered the acceptance of such a phenomenon very doubtful.

Professor C. A. Young, who in his book, "The Sun," page 148, has discussed the possibility that sun-spots appear repeatedly at the same point on the sun, concludes that "owing to the uncertainty of our knowledge of the true period of the sun's rotation the evidence is not sufficient to establish it. If it should be shown to be true hereafter, it would compel an entire revolution of the received view of the constitution of the sun."

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THE ANNELID WORM, POLYDORA, AS AN OYSTER PEST

WITH the aid of a grant from the American Association for the Advancement of Science through the South Carolina Academy of Science, a study is being made of one of the numerous pests to which the commercial oyster, *Ostrea virginica,* of the Atlantic Seaboard, is subject and whose activities result in considerable financial loss to oystermen.

This particular pest is a small annelid which causes a "mud blister" in the oyster. This is a small, irregular, often pear-shaped, blister of mud, formed on the surface of the inside of the valve. The oyster covers this daub of mud with a layer of nacre. Within the blister one finds the annelid, which has access to the outside through two tunnels opening along the edge of the shell. This worm has been identified by Dr. Olga Hartman as *Polydora ciliata* (Johnston). Although *Polydora* is well known, its occurrence in such abundance as to become an oyster pest seems as yet unreported in the United States.

The worm upsets the normal life of the oyster by restricting its living space and generally weakening it. Infested oysters, although not unfit for food, are not readily salable because of their unsightly appearance.

I have had these worms and the blister they cause under observation since 1935. Indications are that the worms were prevalent in South Carolina even in precolonial days. An examination of numerous samples of South Carolina oysters shows that approximately 30 per cent. of the oysters in the state are infested with *Polydora.* The important point of the present investigation is to discover the possible underlying causes of its prevalence and its possible increasing abundance, and to determine means for its control.

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ALFRED B. NOBEL AWARDS IN SCIENCE

THE Alfred B. Nobel Prizes in five activities have been awarded since 1901. The 1939 winners were recently announced. Comparative ratings of the different countries whose citizens have received these distinctions have been made at various times, but such comparisons usually have not taken into account the relative populations of the various countries. Such comparisons are manifestly unfair since they give too low a placement to those countries of small population and too high to those of large populations.

In order to present a fairer estimate of the different countries' attainments in the sciences—chemistry, medicine and physics—they are here figured on a population basis, and where the prize was awarded to more than one person, each has been counted as a unit rather than as a fraction. Since the awarding committee could make no distinction between the winners, it seems unfair to the laureates and to their respective countries to count them otherwise than as separate winners. Counted in this manner there have been 128 laureates in the sciences listed under 16 different countries. The only Hungarian winner (in medicine and physiology in 1937) has been included with Austria since they were in that country previous to the Versailles Treaty. India and Russia have not been placed in the tables since the former has had but one prize winner and the latter only two. India would be rated last in Tables I and III; Russia next to last in Table I and last in Table II (she has had no prize winner since 1908). Dr. Charles D. Snyder in an article entitled "The Real Winners in the 1936 Olympic Games"[1] set forth the results in the Olympic Games in this manner.

The ideal quota is obtained by finding the sums of

TABLE I

CLASSIFICATION OF NOBEL WINNERS IN THE SCIENCES (1901–39) FOR COUNTRIES BASED ON POPULATION

Country	Number of winners	Ideal quota	Per cent. attainment	Comparative rank	Date of last award
Switzerland	5	1.2	417	1	1939
Denmark	4	1	400	2	1926
Holland	9	2.6	346	3	1938
Sweden	6	2	300	4	1929
Germany	37	20	185	5	1939
Great Britain ..	21	12	175	6	1937
Austria	6	5	120	7	1937
France	15	13	115	8	1935
Canada	2	3	67	9	1923
Belgium	1	2.6	40	10	1919
United States ..	15	40	38	11	1939
Italy	3	13	23	12	1938
Spain	1	8	13	13	1906

[1] *Scientific Monthly,* 372, Oct., 1936.

TABLE II

COMPARATIVE RATING FOR FIRST 29 YEARS

Country	Number of winners	Ideal quota	Per cent. attainment	Rank
Denmark	4	0.83	500	1
Sweden	6	1.4	423	2
Holland	7	1.8	400	3
Switzerland	3	1	300	4
Germany	27	15	180	5
Great Britain ...	14	8.4	167	6
France	13	9.3	140	7
Canada	2	2.3	87	8
Austria	3	3.7	81	9
Belgium	1	1.8	55	10
Italy	2	9.3	21	11
United States ...	5	27	18	12–13
Spain	1	5.4	18	12–13

the postwar populations of the countries in each table and dividing this sum by the total number of prize winners for that period. This gives the population corresponding to one prize winner. The post-war population of each country divided by the prize winning population gives the ideal quota for the respective countries.

The results calculated in this manner are tabulated in Tables I, II and III.

TABLE III

COMPARATIVE RATING FOR LAST 10 YEARS

Country	Number of winners	Ideal quota	Per cent. attainment	Rank
Switzerland	2	0.43	465	1
Holland	2	0.92	217	2
Great Britain ..	7	4.0	175	3
Austria	3	1.8	162	4
Germany	10	7.4	135	5
United States ..	10	13	78	6
France	2	4.5	44	7
Italy	1	4.6	22	8

The true leaders in the sciences now appear since the smaller countries are no longer handicapped by their small populations. Four of the smaller countries lead in Tables I and II. Great Britain and Germany have had very uniform records. In the last ten years the United States has shown a distinct improvement. Her performance is four times as high as it was in the first twenty-nine years.

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THE WITCH OF ANDOR

IN a letter to SCIENCE (Lancaster, Pa. and/or Garrison, N. Y.) of September 13, 1940, it is stated that "The use of the form 'and/or' in legal practice is well established." So is the expression "to-wit," if we mean widely rather than wisely established; but, if both these expressions can be restricted to legal usage, the English language will be better off. With a little better grasp of language, the original perpetrator would have avoided the fractional form (which as read aloud may be either "and over or" or "and-orths"). Accepted English practice is to place an alternative term in parenthesis, as "and (or)." The chief abuse, however, is not in using the expression awkwardly and inaccurately but in using it at all. We have far too much of such writing as "You may have sugar and/or cream in your tea and/or coffee, and/or pepper and/or salt on your meat and/or potatoes." When really necessary, the idea is best conveyed by saying "or either" or "or both."

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SCIENTIFIC BOOKS

THE GEOLOGY OF CHINA

The Geology of China. By J. S. LEE. xv + 528 pp., 93 figs. London: Thomas Murby and Company. New York: Nordemann Publishing Company. 1940. $9.00.

THIS book grew out of lectures by the author in British universities during 1934–35 under the auspices of the Universities China Committee in London. It contains much valuable material, especially for those who want a rapid oversight of China's geology before studying intensively from sources of detailed information. For the geologist, the book is too brief, too inconclusive, too speculative. For the layman, it is far too full of technicalities, many of which are not needed to convey the meaning clearly. The book could be used in China as a text for students who have had their general physical and historical geology.

By far the most serviceable portion is the tenth chapter; a summary of the stratigraphy of China by regions, defining the formations and listing their chief fossils. All who are interested in the geology of Asia will welcome this chapter, which extends through 100 pages.

A lack which every geologist will immediately feel upon reading the book is the absence of a brief chapter on the history of geology in China. Strangely enough, the author gives a history of China as a nation, plausibly defending his course by claiming to show "the influence upon human geography of the natural regions which have been defined." But his history is political and cultural, and his interpretation of history—to say the least—is his own.

Lacking an account of the development of geology in China, the book gives no picture of the work of such men as Pumpelly, Richthofen, Obruchev, Loczy, Willis, Blackwelder, Fuller, Clapp, Andersson, Ting, Grabau, Wong, Berkey, Black, Teilhard—to give only a partial list. These men are casually referred to for local details; the reader must learn from other sources