

generally speaking, to be true that his mind has worked chiefly intensively. From that time on I suppose it to be true that the mind should work chiefly extensively. The point at which one method of thinking passes over into the other would be hard to trace. One can do extensive thinking in school and must do intensive work after assuming the work of life. None the less, generally speaking, I believe that the training of young manhood looks to the extension of thought in maturer life. You are not primarily going on to get facts out of books and out of the laboratory and out of the experience of others into your mind. You are to begin to take the facts which that mind has digested and to work them out into useful forms and into productive service. You have been perhaps the beneficiaries hitherto of the things which have been created and of the thoughts which others have worked out in the crucible of their own mental processes. You are now to become in a sense creators and to think both for yourselves and others. You have been one may say absorbers; you are to become producers. Your value as men depends on what the product shall be.

The country is not so greatly concerned, I venture to believe, with the amount that a man knows as it is with the use he makes of what he knows. It does not want the man who, while his body may live, still keeps his mind in a mental churchyard. One of the great phrases of the Old Testament says: "Thou hast taken me and Thou hast set me in a large place;" and what the world needs is men who can think in great areas. It is necessary but it is not sufficient to get the facts. One who would do a man's job in the world must through those facts serve his fellows.

Think, if you please, what the symmetry of life should be. It should not be narrow; it should not be crooked. It should be

straight and square. It should be high, to keep out of the dust and mire. It should be broad that it may rest securely. It should be deep based on the eternal verities. It must not be low, for living things grow upward into the light. I would have you question all your life long whether this or that or the other form of alleged truth which is presented to you be so or not. If it is found not to be the truth I would have you reject it without regret and without fear of inconsistency, for there is some force in the statement that consistency is the virtue of weak minds. Truth is progressively revealed and one must readjust himself in thought and action to the greater knowledge of truth that we ought continually to gain. The man who at fifty thinks as he thought at thirty has mentally ceased to grow. If one's mind is open to the light whencesoe'er it may fall, if one's steps are guided by that light whithersoe'er it may lead, there is little to fear either as to treading the path safely or as to the place in the world to which it shall conduct one.

WILLIAM C. REDFIELD

MINERAL PRODUCTION IN 1915

"THE mid-year finds the mineral industries of the United States generally prosperous and enjoying a revival of active development." With this statement the director of the United States Geological Survey opens an official review of mining conditions as reported to him by the government geologists and statisticians working on this subject. "This revival is particularly true of some of the metals for which increased demands have been noted during the past six months. This country has been first thrown upon its own resources for mineral products required and, next, given the opportunity to supply the needs of foreign countries who have offered us their trade. Comparative freedom from foreign competition and, in some important cases, increase of foreign markets

have stimulated production and a general mining advance has set in." Summarizing the special reports at hand, Director Smith continues his review:

The six months' record in iron is reassuring in that hopes at the beginning of the year have been realized. Ore shipments from the Lake Superior mines have begun well, May, 1915, showing a 30 per cent. increase over May, 1914. The pig iron output is also promising in its steady increase month by month, so that a reasonable prophecy is for a greater total pig iron production for 1915 than for last year. Enlargement and extensions at the iron and steel plants furnish unmistakable evidence of returning business confidence.

The half year period just completed has witnessed great changes in the copper industry and in every particular the improvement has been notable. Prices, output and wages have shown an upward trend, and prosperity is the word in the copper districts of the United States.

The demand for spelter and lead, with the present high prices, have given a double impetus to mining in the zinc-lead districts. In the Joplin region old mines are being reopened, new shafts are being sunk, and prospecting is most active. Smelters are pushed to capacity operation. The six months' period has been altogether favorable for zinc mines and smelters, and the June advance in the price of lead makes the outlook bright for all lead mining.

In the minor metals, the first American mine to be extensively operated for molybdenite has been opened in Colorado; a tin smelter is reported as being built in New Jersey; and the Colorado tungsten mines are working full handed on full time; an antimony smelter in California has resumed operations and a new one has been erected in the same state to work California ores; and antimony ores have been shipped from Nevada and Alaska. The demand for quicksilver has increased with the result that the California, Nevada and Texas producers are expected to work at top capacity.

An unusual feature affecting coal mining has been the loss of bunker trade at the At-

lantic ports, which is only partially offset by increasing exports. Reports from the west on the other hand show an increase in coal production over last year and in the east the coke output has increased considerably of late, thus showing at last the effect of the recent activity in iron and other metals.

The petroleum production for the six months just closed is believed to exceed that for the corresponding period last year. Unfortunately for the producers, this increase has not been in response to a demand expressed in higher prices. On the contrary the persistent flood of oil from the Oklahoma fields and from the new pools in Louisiana and Texas has prevented any permanent advance in price.

Reports from the survey's western offices are in the main optimistic. Colorado already shows an increase in gold output over the same period in normal years, and while the six months has shown no increase in tonnage for other ores, there has been a large increase in value and the present high prices give the promise of increased mining activity during the rest of the year. Utah is expected to reach a record output and Nevada mines are being operated at usual capacity, with new activity on the old Comstock. The lead and silver production of Idaho has only recently been stimulated, but a large increase in zinc output has already been shown. In Montana, the copper mines have about reached normal condition, the zinc production already shows a notable increase, and the gold output will be larger. New Mexico reports increases in gold, silver and zinc, while lead production has fallen off. The six months' output of copper in New Mexico was probably equal to one-half last year's output, so that there is good expectation of a better total for the year. Arizona, as a copper state, has shown the usual improvement during the six months, while the gold mines promise a record-breaking year. No large increase in Arizona's output of lead or zinc is expected in 1915 over other years. In California some gain in gold yield is reported and copper conditions are much improved over last year. Oregon shows a slight

increase in gold output; while in Alaska the outlook is good for increased output of copper as well as gold. More Alaska mines are on a producing basis this year and more dredges are in operation.

THE PACIFIC COAST MEETING OF THE AMERICAN ASSOCIATION

Times and Places of Meeting.—The opening session of the Pacific Coast meeting of the American Association, for the presentation of the addresses of welcome and the response thereto, for announcements, and for the president's address, will be held in San Francisco at 10:00 o'clock, Monday morning, August 2, in the Scottish Rite Auditorium, corner Sutter Street and Van Ness Avenue. The social reception to visiting scientists and their friends will occur on Monday evening in the reception rooms of the California Host Building, Exposition Grounds. The general sessions of the association, including three lectures on Pacific region subjects, will be held in San Francisco in the Scottish Rite Auditorium on Tuesday, Thursday and Friday evenings. There will be no session or lecture on Saturday evening. The sessions of the association and of the affiliated societies on Wednesday, August 4, will be at Stanford University. It is expected that a special train will leave San Francisco at a convenient hour Wednesday morning for Palo Alto and return to San Francisco late in the afternoon. All other sessions of the week will be held at the University of California, in Berkeley.

Registration and Information Offices.—The general headquarters of the association during convocation week, August 2 to 7, will be in the Hearst Mining Building, on the campus of the University of California, Berkeley. Secondary offices will be maintained: in San Francisco from Saturday noon, July 31, to Friday noon, August 6, in the Palace Hotel; in San Francisco on Monday forenoon, August 2, in the Scottish Rite Building, Sutter Street and Van Ness Avenue; and in Stanford University on Wednesday, August 4. Members will secure badges and programs upon registration. Mail addressed in care of the Hearst

Mining Building, University of California, will be delivered as promptly as possible to those who have registered.

Hotel Headquarters.—Local representatives of several of the affiliated societies have announced selections of hotel headquarters as follows:

American Astronomical Society and the American Mathematical Society, Hotel Claremont, Berkeley.

American Physical Society, Hotel Claremont, Berkeley.

Geological Society of America, Paleontological Society of America and Seismological Society of America, Hotel Shattuck, Berkeley.

Botanical Society of America, Hotel Carlton, Berkeley.

Zoological Society of America and the Biological Society of the Pacific, Hotel Carlton, Berkeley.

Entomological Society of America, Hotel Claremont, Berkeley.

American Anthropological Association, Hotel Carlton, Berkeley.

American Genetic Society, Hotel Claremont, Berkeley.

American Psychological Association, Hotel Plaza, San Francisco, Post and Stockton Streets.

Archaeological Institute of America, Hotel Bellevue, San Francisco, Geary and Taylor Streets.

Railway Tickets.—Round trip special Exposition railway tickets at greatly reduced rates are available from all points to San Francisco, Los Angeles or San Diego as the destination. The price of tickets from points east of the Rocky Mountains is the same whether the destination be San Francisco, Los Angeles or San Diego. The trip going and returning may be by the same route or by different routes, but the routes described on the tickets must be followed. Tickets from Chicago and farther east are valid going or returning via New Orleans. Tickets via Portland, Seattle, etc., involve a supplementary charge, concerning which the local railway representatives should be consulted. The baggage of those who intend to stay in Berkeley should be checked directly to Berkeley, California (by either the Southern Pacific or Santa Fe routes) instead of to San Francisco. All round trip tickets require validation for the return trip,