

TIDAL-POWER PROJECT ON THE RIVER SEVERN

Development Is Proposed By Engineers on British Tidal Stream

The mechanical potency of a tidal stream has long been known, engineers have gazed with covetous eyes upon the almost infinite energy of the tides and schemes of all degrees of practicability have been proposed for the utilization of a modicum of that energy for the work of civilization. The first work to be undertaken was the construction of a reinforced concrete dam extending literally from each shore as far as the central channel, and then turning upstream along its sides and terminating in a single large enough to accommodate any vessel. In the lateral parts of this dam it is the intention to hang automatic sluice gates, opening inward when the tide presses against them, and then closing to prevent the escape of impounded water. Built into the dam paralleling the channel are the power plant itself, equipped with a huge battery of vertical mixed-flow turbines, 10 ft. in diameter, the channel serving as their race. These will have a working period of seven hours, beginning with high tide and ending with low tide, with a possible drop of 10 ft. in one hour, then diminishing until there is a period of no operation at all. With this changing head, the turbine speed would vary between 40 and 1,000 r.p.m. Direct-current generators of separately excited type will be driven through helical gearing at 300 to 500 r.p.m. and will develop a constant output of 525, with a varying current

output controlled either automatically or by an attendant. The current will be used to drive large rotary converters, delivering alternating current at 330 volts, and this will be stepped up by transformers to 60,000 volts for transmission. Not less than 1,000,000 hp. will be the maximum output of this plant.

Ten miles from this huge installation is the proposed location of the secondary plant, of over 500,000-hp. maximum capacity. It is on the bank of the river Wye, a Severn tributary, near Tintern Abbey, and its main feature is a concrete dam across a neighboring valley, forming a gigantic storage reservoir at a considerable elevation above the river mouth. Between this artificial lake and the Wye, a tunnel of 40 ft. diameter is to be driven through solid rock for more than a mile. The plant equipment, as planned, consists of a bank of 13,000-kw. alternating-current motors, of a type operating as generators. Of these machines, 90 per cent will be of the induction type, and the remaining 10 per cent synchronous. They will operate at a speed of 275 r.p.m., at 3,200 volts pressure.

This enormous group of electrical machines will absorb all the current the primary plant generates in excess of the first 500,000 hp., which will be distributed for industrial purposes. Thus at the peak of the tidal head, when the estuary plant is producing 1,000,000 hp. or more, the powerful motors of the secondary plant on the Wye will be running to full capacity.

DEATHS OF CHILDREN ARE INCREASING IN BUDAPEST

PARIS, Jan. 30.—(Correspondence Associated Press).—A startling increase in the number of deaths of children in Budapest in the past year is shown by official reports of the Budapest health department received here. The figures of 1914 which showed that the number of births exceeded the deaths by 208,000, were approximately reversed in 1920. Forty-five per cent of the deaths were of children under seven years, while 37 per cent were of children from the homes of the poorest people.

"This proves," the health department states, "that infant mortality in Hungary is due chiefly to miserable conditions in general and particularly to underfeeding."

FAMOUS SCIENTISTS IN APPEAL FOR CHILDREN

Those of Austria Subnormal on Account of Their Terrible Undernourishment

VIENNA, Jan. 28.—(Correspondence Associated Press).—Three internationally known Austrian physicians have joined in a statement to the effect that Austrian children will remain permanently stunted in growth unless adequate relief is given immediately. The physicians are Dr. Eiselsberg, Vienna brain specialist and one of the leading surgeons of the city; and Drs. Lorenz and Pirquet, the latter inventor of the tuberculin test and for two years professor at Johns Hopkins university.

The statement which has been made by request says: "We the undersigned, wish to bring to the attention of the world that recent statistics gathered in Vienna show Austrian children subnormal both in weight and height. Recent examination of apprentices in Vienna revealed that boys of 17 years of age have an average height of five feet, two inches, instead of the normal height of five feet, six inches, and that their weight averaged 101 pounds, instead of a normal weight of 144-152 pounds.

"Altogether we may state that at the end of juvenile growth the average boys of Vienna are about four inches below normal height and about 16 pounds below normal weight. Girls are correspondingly stunted.

GOLDSBORO ROTARIANS HAVE BANQUET AND SHORT TALKS

(Special to The Star)
GOLDSBORO, Feb. 19.—A banquet Tuesday evening was given by the Rotary club to the wives of the members. It was in charge of four bachelor members of the club—Emmett Robinson, Kennon Borden, Charles Thompson and Herman Well. Rev. A. R. Freeman made an interesting talk on the Chinese relief work. He showed the necessity of having a campaign for the North Carolina committee now engaged in raising the relief fund, and explained that the Rotary clubs of this state were engaged in this work, and received a handsome contribution from those present. The members with their wives and other friends present then partook of a splendid supper. After the supper, Kenneth C. Royall, O. A. Hamilton, George S. Dewey, Dr. Wm. Smith and others made short addresses. Various amusements were furnished, and a most enjoyable time spent by all those present. The Goldsboro Rotary club is young in years, but alive and always busy.

Misses Sallie, Lucy and Elizabeth Dorch, Florence Jones and May Johnson, constituting a delegation from the Raleigh chapter of the Red Cross spent Tuesday here inspecting the cafeteria of the Goldsboro Woman's club, and got information on its operation and management, the Raleigh Red Cross having in view the establishment of a cafeteria.

There will be a community song service at the Messenger opera house Sunday afternoon at 4 o'clock. Mayor S. S. McIninch, of Charlotte, will be guest of honor and deliver an address. Professor Russell, of New York, will direct the singing. There was a delightful square dance at the community building Thursday night. The Thursday night dance has become a feature every week, and large crowds attend.

W. D. Morris is confined to his home in Ash street by illness. Mrs. Arnold Borden is visiting friends in Richmond, Va. E. M. Land and Thos. O'Berry are spending a few days in Richmond. R. E. Elk gave an entertainment to his fellow members of the Loyal Bible class of the First Christian church at his home Thursday evening.

AMERICA'S BIGGEST APPLE TREE IS 8 FEET AROUND

GREENSBORO, Ga., Feb. 19.—Georgia believes it has probably the largest apple tree in the United States. It measures eight feet in circumference at its base, is very tall and has a spread of limbs measuring 48 feet. W. J. Bryan, who soon will celebrate his 80th birthday, planted the tree 52 years ago in Greene county and it is still bearing a crop of luscious apples annually.

CLASS RULE IN RUSSIA IS A BRUTAL SYSTEM

Lenine and Trotzky Live on the Fat of the Land While Others Starve

BERLIN, Feb. 1.—(Correspondence Associated Press).—There is a class system in Russia more rigid than in what the bolsheviks call the "capitalistic countries," and it even extends to the manner in which soap is rationed, says M. Schwartz, the San Francisco socialist who recently was released from prison in Moscow and sent with his dying wife to the Esthonian border.

"Before I went to Russia and saw the soviet government at close range, I believed Lenine and Trotzky were really trying to do away with the class system," said M. Schwartz in telling many interesting details of his sojourn in the land of the soviets, supplementing the statements which he made immediately upon his arrival here.

"I soon found out in Petrograd and Moscow and other Russian cities and villages that the class system under the bolsheviks is more fixed than in capitalistic countries," he went on. "This system is administered with utter disregard for human rights and the teachings of modern civilization.

"Lenine and Trotzky and their associates at the top of the scheme enjoy the greatest luxury. There is plenty of food for the commissars, but the folks further down the scale are rationed according to their attitude toward the government.

"Even the soap is graded according to the class system. The commissars have good toilet soap. Slightly less desirable soap is given to their immediate subordinates and there are third and fourth grade soaps for those further away from the Kremlin crowd. The fellow who gets the fourth grade soap must have a terrible time scrubbing up with it for it is about like pumic stone.

"I can't see why laboring people the world over should support another kind of class government in Russia, a class government which is ruthless, brutal and unjust to a degree that would overthrow any set of rulers not supported by a gigantic army," said Mr. Schwartz. "My fellow workers in England and America have been hoodwinked, many of them, by such men as John Reed and other communists who didn't know the Russian language.

"I found the opposition to the government universal. Men, women and children of all classes with whom I talked told me of the horror of the situation. And hear in mind that these people talked at the peril of their lives. If I had repeated what they said to any official of the government they would probably have been shot. But their misery is so great they are indifferent to their fate and they can't refrain from talking to a stranger."

Mr. Schwartz was born in Germany, but was taken to Russia by his parents when he was still an infant and grew up in Odessa and Kiev. He attended a Russian university and became an officer in the old army. When about 27 years old he went to America, where he became a citizen and has lived for 27 years. He first worked in America as a street railway employe and then became a labor organizer.

JAPAN MUST HAVE LARGER SPACE FOR HER MILLIONS

TOKIO, Jan. 20.—(Correspondence Associated Press).—Japan's economic future demands more territory as an outlet for her increasing population, in the opinion of Professor Horiya of Kelo university, in a discussion of the economic conditions of the empire. He said: "Whatever justifiable cause there may have been for the wars modern Japan has fought there can be no doubt that this consciousness of territorial limitations have played no small part in bringing them to successful issues.

"With Formosa, Korea, and also practically a part of Manchuria added to the empire, is the nation now free from all economic apprehension? The answer is of course 'no.' Should Japan then look about for a fresh acquisition of territory? What about emigration? Japan proposed and failed to put through the principle of racial equality at the recent peace conference in Paris. The proposal deserved approval if its aim was to establish an abstract principle, but was wrong in its motive if it was intended to afford a solution of the immigration problem.

"Again, to send people abroad in order to profit by their savings is a mean way to enrich a country. And it is only natural that a country of higher civilization should object to such emigrants. Such a solution of the problem of over-population is unworthy of Japan which claims to be a great power, besides being quite impracticable under present day international conditions.

WANTS LAWS IN THE GERMAN

ROME, Jan. 31.—(Correspondence Associated Press).—The German municipalities in Trentino which were taken from Austria by Italy as a result of the war have refused to receive the laws of Italy when printed in Italian. Copies of the laws sent to the German communities by the Italian government have been returned, in some cases with the comment written on them, "We are Germans." Others wrote, "Please send us a translation. We don't know what all this is about." Newspapers of Rome urged the government to have the laws printed in German, pointing out that Switzerland publishes her laws in three languages.

The word "school" is derived from the Greek "schole," meaning leisure.

SOUTHERN CHILE HAD BAD CASE OF 'QUAKE

One Hundred and Ninety-Two Earth Shocks Were Regis- tered in Six Days

SANTIAGO, Chile, Jan. 10.—(Correspondence Associated Press).—One hundred and ninety-two earthquake shocks were registered in six days in the zone affected by the seismic and volcanic disturbances in the mountainous region of the provinces of Valdivia and Cautin, in southern Chile, a few weeks ago, according to belated advices to the ministry of interior. So far as is known there was no loss of life.

The official reports now available, supplementing the earlier information forwarded by cable, lay stress upon the violence of the shocks and the changes in the conformation of the country which resulted. The disturbance is believed to have been due to an explosive eruption of the snow-capped volcano Villarrica, 2,000 feet high, which is near the town of Pucon, in Valdivia. It is thought the crater of the volcano became plugged during the periods of inactivity and that the mountain blew its head off with the accompaniment of the violent earthquakes. The volcano is said to be of the type that, as a rule, does not emit molten lava, but ejects pumice and volcanic ash.

The shocks began shortly before midnight December 9 and for three hours were almost continuous, terrifying the population, most of which are Indians. The most violent quake lasted 20 seconds. The whole region vibrated intermittently during the next five days. Entire hills were razed and many cattle were killed by falling trees. Much damage was done to small buildings in the town of Pucon, which is a port of entry from Argentina; parts of the international highway to Argentina were destroyed; two lumber mills were wrecked and a third was totally buried under a mass of earth and rock.

Lake Villarrica rose five feet, later subsiding, while Lake Caburgua is reported to have sunk 15 feet. The Turbio river, which had its source on the side of Mount Villarrica, disappeared entirely and the Tanicura river, which flows in the valley bearing that name, shrank to half its normal flow.

The district affected is one of the most picturesque in Chile. Latest advices said Villarrica had quieted.

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