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in San Domingo, and he was also associated with hydro projects in Puerto Rico. Another early task was the designing of the Madden Dam in the Panama Canal Zone, which he described as "a large structure to supply water to the locks as well as electric power."

His favourite work is the gigantic Boulder Dam (recently renamed the Hoover Dam) and the power plant there, one of a number of stupendous power structures in America designed by him and his engineers in the 15 years before he began to travel abroad. Incorporated in the Boulder Dam were several striking developments in dam building which were the result of research carried out by the Bureau. It was necessary, for instance, to produce a crack-free mass of concrete during a construction period of two years, and Dr. Savage and his experts devised a system which could accomplish in a few months, the same amount of cooling without cracks, which in the past would have taken more than 100 years. This method is now in general use.

TVA

HE designed the Grand Coulee Dam, the biggest in the world, the Shasta, Norris, Wheeler, Owyhee, and other giant dams, and supervised the designing of many smaller ones. He has also been in charge of the designing of hundreds of canals and irrigation works, and is still a consultant to the Tennessee Valley authority. In this connection, he said, "The TVA Bill gave the Board of Directors power to take any man they wanted, and Arthur E. Morgan, the first director, tried hard to commandeer me. But Boulder Canyon was still in the picture, and I stayed with them."

TVA was another piece of evidence, for him, of the good that dam builders can do for the world. For decades the Tennessee Valley's 42,000 square miles were unproductive lands. Floods devastated the lowlands and rains eroded the deforested hills. There was little industry, and the malaria-ridden people were as impoverished as the soil. Twelve years later TVA had transformed it into one of the wonders of the New World. Dams, turbines, reforestation, and agricultural improvement had made the valley richer and greener than ever before. The clear river, which had once run brown with top-soil, was harnessed and controlled by 28 dams (with two more under construction), and TVA's electricity had brought new industries and sent up the average income of the valley dwellers by 73 per cent. "When I first went to Knoxville," Dr. Savage said, "every bank was closed and I hardly saw an automobile on the street. It was the dulllest place I ever saw, and it's quite a city at that. Now it's a thriving centre of over 100,000, and expanding rapidly."

DAMMING THE YANGTZE

IN 1944," he continued, "I spent six months on the Yangtze inspecting the site of a dam which many consider will be the biggest project in the world for the rest of time. We planned to dam the river just above Ichang, in the gorge about 1,000 miles inland. The resources there are tremendous, and on my recommendation the Chinese Government made a contract with the Bureau of Reclamation for designs. This was suspended when the war with the Communists broke out, but we got far enough to determine what power the Yangtze Dam could generate. It should produce fifteen and a-quarter million

kilowatts of electric power, as well as controlling floods and providing irrigation for ten million acres. The dam itself will be more than half as big again as the biggest dam now in existence, the Grand Coulee. The Grand Coulee contains 11,000,000 cubic yards of concrete—the Yangtze will contain 18,000,000 cubic yards.

"It will be a long time before it is completed now, of course," he added, "although fortunately the project lends itself to stage development, and could be made productive almost immediately."

Later he talked about the scheme he is working on to dam the River Jordan

and pump water into the Dead Sea from the Mediterranean. This scheme, he explained, which had also been interrupted by war, involved the pumping of water 100 feet up from the Mediterranean and across country about 50 miles by open-cut canal to the Dead Sea Valley, where it would plunge down 1,300 feet into the Dead Sea itself. (He drew a plan of the water's course to show the tremendous power which could be generated by such a fall.) The power generated by the hydro plants on the shore of the Dead Sea would be used for industrial purposes, while the second part of the scheme involved the

damming of the River Jordan and the diversion of its waters for irrigation. This would also prevent the level of water in the Dead Sea from being upset by the inflow of salt water from the Mediterranean. Harnessing the River Jordan would involve the construction of large storage dams, some of them in Lebanon, he said, so that the completion of this project (which would benefit both Jews and Arabs) would involve international agreements. As soon as his New Zealand visit was concluded, Dr. Savage said, he would be going back to Israel to do further work on this scheme.



HEAD OFFICE staff, station managers and district engineers of the NZBS who attended the Service conference in Wellington recently. Executive officers of the Department seated in the front row are (from left): J. H. Hall (Supervisor of Talks), I. K. Mackay (Supervisor of Programme Organisation, Commercial Division), G. H. Stringer (Assistant Secretary), M. H. Holcroft (Editor of "The Listener"), J. H. E. Schroder (Assistant Director), William Yates (Director), L. J. Greenberg (Secretary), W. L. Harrison (Chief Engineer), B. V. Beeby (Supervisor of Production), W. J. Crowther (Accountant), A. B. C. Young (Supervisor of Programme Organisation, National Division)

BROADCASTING CONFERENCE

Station Officers Meet in Wellington

STATION managers, district engineers, and Head Office executives of the New Zealand Broadcasting Service recently attended the first staff conference held since Mr. William Yates took over the position of Director of the NZBS. The principal aim of the conference, which took place in Wellington and lasted for three days, was to discuss broadcasting policy and development, modern trends, and the progress that will be possible when various stations begin transmitting on higher power during 1950. It is intended next year to widen the listeners' choice of programmes considerably, and it will then be possible to consider confining some stations to specific types of programmes, such as those appealing to

followers of variety, those presenting more substantial material, and those offering something between the two. As soon as the power increases are completed, the technical staff of the NZBS will conduct a survey of reception conditions throughout New Zealand, and collect data for programme officers so that satisfactory variation of programmes from different stations can be achieved.

During the conference each station manager was given an opportunity to discuss problems affecting his own station and district, and new appointees exchanged views with the more experienced officers. At convenient times during the conference, members of the Engineering and Commercial Divisions held meetings to talk over work in their own specialised fields.

It was explained to the conference that there are vacancies in the announcing, technical, programme and clerical departments for people with the necessary qualifications, and means of filling these positions were discussed. An outline was given of progress made this year with lecture courses under the recently formed staff training scheme, together with details of the programme for 1950, when the scheme will be expanded.

Reports were presented by Jean Combs, officer-in-charge of the Broadcasts to Schools Department, who recently returned after some months of study at the BBC on a bursary awarded by the Imperial Relations Trust, and by Winston McCarthy, sports commentator for the NZBS, on broadcasting in South Africa.