

Treasure Hunting in the Twentieth Century



SOME two hundred and fifty years ago, Henry Morgan and his crew of free-booters sacked and burned Panama City. There are fairly well authenticated legends that the inhabitants, forewarned, buried their wealth in tunnels, cisterns and wells, which to-day are located among ruins covering hundreds of acres. Numerous attempts to locate the hidden treasures of Panama have been made, but beyond the recovery of a few pieces of plate and some ancient household utensils, they have proved unsuccessful.

Radio Apparatus Successful where Others have Failed

hydrophones were useless. By experiment it was demonstrated that metallic substances submerged in salt water acted like batteries and could be detected by magnetometers or magnetic needles, which would indicate the presence, approximate size, and approximate depth of the submerged metallic substances.

By making a magnetic survey of a body of water in the vicinity of a spot where a large metallic object was supposed to be submerged, and by plotting the isodynamic lines, it was possible to discover variations from the normal and plot the approximate location of the submerged object. It is obvious that this method was too slow and exacting to be practical for war-time use, but Lieutenant Williams became convinced of its usefulness for peace-

beachcombers had all tried to locate the hidden wealth of the ruined city, but none had met with any great success.

Leaving his employment with the salvage company, Williams proceeded to Panama, where by chance he secured a Government grant allowing him the exclusive right to search for buried treasure, provided he would accept three-quarters of the value of whatever he unearthed. He then commenced operations, employing the apparatus he had evolved for salvage purposes. For some reason or other, this method proved unsatisfactory, and he commenced experiments with a view to perfecting a more efficient equipment to aid him in his search. He accordingly selected a clearing in the jungle and proceeded to experiment

ends, are driven into the ground to be explored. They are connected to a generator having a frequency of 500 cycles. The receiving cabinet is suspended from a tripod and the receiving coil is mounted on the tripod so that it can be swung in either a vertical or horizontal plane. Four audio-stage valves and two audio transformers are used. A 250,000-ohm modulator is employed to regulate the signal volume, and headphones are used for reception.

In exploring a certain area, the receiving coil is rotated until the minimum sound is heard in the 'phones. The intensity of the disturbance indicates roughly the amount of metalli-



MR. W. E. ELLIOTT.

The possessor of a robust tenor voice, was at one time a member of the popular Warblers' Male Voice Quartet. He has also appeared as a soloist on several occasions, his numbers always being of a popular nature. Mr. Elliott has had considerable experience on various picture theatre circuits, and on the concert platform.

—S. P. Andrew, photo.



THE 2YA CHURCH SERVICES ADVISORY COMMITTEE.

Front row (left to right): Rev. T. R. Richards (Taranaki Street Methodist Church); Rev. C. V. Rooke, chairman (St. Thomas's, Wellington South, Church of England); Rev. F. E. Harry (Vivian Street Baptist Church). Back row: Rev. R. J. Howie (St. Andrew's Presbyterian Church); Mr. E. T. W. MacLaurin (Congregational Church); Pastor Carpenter (Uncle George), (Church of Christ).

—S. P. Andrew, photo.

Recently, however, Lieutenant Williams, formerly a radio officer in the British Navy, became interested in the recovery of the Panama treasure, and endeavoured to apply an ingenious adaptation of radio principals to aid him in his search. That his quest has met with at least a measure of success is evidenced by the gold plate and other relics already brought to light.

The apparatus used by Lieutenant Williams was developed by him initially for a totally different purpose, namely, for the detection of submarines in war-time. During the World War, the great problem confronting the Allies was the menace of the German submarines. It was only natural that Lieutenant Williams should become interested in the idea of detecting the presence of submarines by electrical or radio methods.

Underwater microphones, called hydrophones, were available for detecting the noise made by the propellers; but if the submarines were stationary beneath the surface of the water the

time salvaging work and retired from the Royal Navy to take a position with a company which was salvaging ships sunken off the coast of Ireland.

During his frequent voyages on the salvage ships, Lieutenant Williams, in considering the various methods used to locate sunken ships, wondered why these same methods would not apply to a search for minerals or metals buried beneath the surface of the earth. Being a seafaring man, he knew nothing of geology, but he had read of the buried treasure of Panama City, and determined to try and succeed where others had failed. More than 250 years had elapsed since the sack of the city. Soldiers, sailors, and

with a galvanometer, a few dry cells and hollow copper rods, until he evolved a method of exploration which was sensitive and apparently sound.

This method was given a trial near the ruins, and though it proved quite satisfactory in locating large metal objects, it was not sensitive enough to satisfy the treasure-hunter. He therefore proceeded to construct an apparatus which would embody the same principle and yet have a stronger transmitter and more sensitive receiver. As a result he evolved the apparatus which is in successful use to-day.

Two electrodes made of three-foot lengths of zinc-coated iron pipe with copper wires soldered at the upper

ferous substance discovered, and its position is found by plotting equipotential lines and comparing them with a plan of normal estimated equipotential lines.

This method of exploration has proved successful, and a great variety of treasure has been recovered. Gold and silver candlesticks, platters, incense pots, sanctuary lamps, necklaces, bracelets, and rings have been found in wells and cisterns. "Pieces of eight" were found in earthenware, caked with dirt, and had to be broken open and soaked in water in order to extract the coins. Personal effects such as keys, Toledo swords, and daggers were found mixed indiscriminately with copper kettles, bronze stirrups, and irons. The most valuable finds were the statues and altar pieces buried by the priests, but the coins and other common objects have a historical value.

Lieutenant Williams still expects to find chests of gold ingots which were hidden by the Treasurer of Old Panama in the tunnels connecting the monasteries and churches. The discov-



MR. VAL JONES.

Is a popular young baritone, who comes from a well-known Wellington musical family, one of his brothers being a leading baritone with J. C. Williamson, Ltd. This young artist can sing ballads of musical comedy numbers equally well, being especially good in his interpretation of Sander-son's and Herman Lohr's compositions.

—S. P. Andrew, photo.