Soprano—Mrs. Catherine Goodson. (a) "Tell Me, My Heart" (Bishop); (b) "Damon" (Max Stange).
Band—(a) Cornet and Euphonium Duet with band—Sergeant Bowman and Bandmaster Hildreth, "Anthony and Cleopatra" (Riviers); (b) "Pilgrims' Chorus" (Wagner).
Baritone—Mr. Newton Goodson. (a) "Boat Song" (Harriet Ware); (b) "A Song of Sleep" (Somerset).
Philomel Quartet—(a) "Eriskay Love Lilt" (arr. Robertson); (b) "Barcarolle" (Brahms).
Record—Violin solos—Master Yehudi Menuhin. (a) "La Capricciosa" (Ries); (b) "Allegro" (Fiocco).
Band—(a) Selection—"Masaniello" (Auber); (b) March—Seventy-Infantry" (Code).

10.0 : God save the King.

3YA, CHRISTCHURCH (980 KILOCYCLES)—SUNDAY, JANUARY 24.

3.0 : Gramophone recital.
5.30: Children's song service by children of Presbyterian Sunday schools.
6.15: Chimes.
6.30: Selected gramophone recordings.
7.0 : Relay of evening service from Knox Presbyterian Church, Bealey Avenue. Preacher, Rev. T. W. Armour. Organiste, Miss Victoria Butler. Choir Conductor, Mr. A. G. Thompson.
8.15: Relay of concert programme from 4YA, Dunedin.

4YA, DUNEDIN (650 KILOCYCLES)—SUNDAY, JANUARY 24.

3.0 : Chimes. Selected recordings.
5.30: Children's song service, conducted by Big Brother Bill.
6.15: Instrumental recordings.
6.45: Relay of evening service from the Salvation Army Citadel, Dowling Street, conducted by Adjutant Tong.
8.15: Third concert by Margharita Zelanda, coloratura soprano, assisted by the St. Kilda Band, under the conductorship of Mr. James Dixon; Mr. Arthur Lungley, baritone; and the Instrumental Sextet, under Mr. A. H. Pettitt.
Margharita Zelanda will sing:—"Fairies from the Moon." (Russell); "The Blacksmith" (Brahms); "The Starlings" (Woodford-Finden); "Caratina" "Quel Quardo it Cavaliere," from "Don Pasquole" (Donizetti); "Nea" (Pontet); "Yesterday and To-day" (Spross); "Whether Day Dawns" (Tzchaikowsky); Recitative: "Quella Fonte" and Aria "Reguava Nel Silenzio" (from "Lucia di Lammermoor." (Donizetti).
The orchestral numbers will be selected from:—"Suner Dago Suite" (Coates); "Gressenhall Suite" (Woods); "Menuet Pompadour" (Wachs); "Ballroom Chatter" (Albi); "La Voix des Cloches" (Lingini); "Kwang Hen" (Lincke); "Pizzicato" (Thome); "Nocturne" (Mendelssohn).
The Band will play:—March—"Through Bolts and Bars" (Urbach). Fantasia—"United Kingdom" (Rimmer). Cornet duet—"Ida and Dot" (Losey). Selection—"Songs of Scotland" (Round). Overture—"Pique Dame" (Suppe). March—"Invercargill" (Rimmer).

10.0 : God save the King.

2YB, NEW PLYMOUTH (123 KILOCYCLES)—SUNDAY, JANUARY 24.

7.0 to 8.15: Church relay.
8.15 to 10.0: Studio concert.

Good-bye, Good-night

(Continued from page 3.)

In that view is found the essence of the whole affair. Perhaps it is regrettable that, after five years of education along these lines by the Broadcasting Company, the average person still does not appreciate these fifth movements, but there it is, and seemingly we as a class don't want to be educated! Where ignorance is bliss!

I saw a few days ago a proposition that the new board should erect a 50 k.w. station not in Wellington, and I guess Wellington listeners would not appreciate having it here, either, but rather in a position to be located by field measurements for field strength from a transmitter of a portable type. These measurements are taken in the U.S.A., where radio is, as far as transmission at least goes, leading the world. If results are wanted, well the spade work must be done in the first place. Setting a station up in any convenient spot is very like turning a blind man out to fix a position to drill a well in the desert. The results are very uncertain.

It is to be hoped that the new board will not mess round putting up a lot of small stations in any place, where sufficient political influence can be brought to have a good local service. In Dannevirke we are not in a first-class area for reception, but we manage to get along all right with fairly decent receivers, and we would sooner wait for a super-power station, properly situated, than have the band jammed up with several more small stations, heterodyning, and closing out the Australian stations, to say nothing of the Americans.

Well, I think I have taken up enough of your valuable space, so I will leave the torch for your esteemed journal to bear, and sign myself.—Yours in hope, "1916."

Valve Is Huge Welding

Project in Miniature

THAT the production of a radio valve parallels a tremendous industrial task, in miniature, was pointed out by George Lewis, vice-president of the Arcturus Radio Tube Company, Newark, New Jersey, at a recent meeting of industrial engineers.

Aside from the numerous fine elements used in the construction of a valve which could be termed analagous to minute girders, braces, cross-members, etc., there are 186 various spot welds in the final assembly of the elements.

This is equivalent to the number of welds required in laying a three-quarter-mile pipe-line, with each section of pipe 20 feet long. This would be sufficient to weld all steam and water-pipe connections in the average home; or, in the marine field, to weld a mammoth anchor chain 93 feet long for one of the big ocean liners. In aviation, a complete plane, including the frame and fuselage, could be securely welded with this large number of operations.

"It is hardly believable," says Mr. Lewis, "that this great number of welds are necessary in a small article like a radio valve. But fine wire and small parts are used which require a weld no larger than a pin-head."

Wireless Freaks

Strange Phenomena

CELLARS haunted by ghostly voices, water taps that burst into song and bed-springs that croon a lullaby are among the strange antics of wireless which are puzzling radio engineers.

Here are some instances of freak reception which have occurred within the past few months in and near London:—

A pot of water on an electric stove in a Highgate kitchen hummed a tune, which was clearly recognised as the item then being broadcast on the national programme, when the water began to simmer.

An electric radiator in a Hendon drawing-room plays a complete musical programme loud enough for it to be heard in any part of the room.

A kitchen sink in Barnet produced a complete wireless programme with remarkable purity.

Ghostly music was heard through a Hampstead dining-room floor from the cellar below.

"All these things are possible and capable of explanation if all the factors are known," said a wireless expert to a "Sunday Express" representative.

"In the case of the singing pot of water there is probably a leakage between an aerial or telephone wire in the house and the power lead to the electric cooker or the lead itself may be the aerial.

"The loose contact between the electric burner and the pot acts as a rectifier, cutting the radio waves down to a frequency low enough to be heard.

"Vibrating at that frequency the pot bottom will send out sound waves."

Investigation of the ghostly music from a cellar revealed an old water system encrusted with green corrosion.

An electric wire was touching the corroded pipe. When it was moved the musical hum ceased.

Theoretically the reception of the music occurred because the electric wire acted as an aerial, the waterpipe as an earth, the corrosion as a rectifier, the water in the pipe as a condenser, and the roof of the cellar as a sounding board or loudspeaker.

All these manifestations are simply explained as variations of the "singing arc," which is well known to physicists.

The frequencies on anything that may take the place of an aerial vary with the modulation of the human voice or of music and set up air vibrations which are audible.