

# With GRAMOPHONE and RADIO

BY "B NATURAL"

## The Technique of the Pick-up, the Reproducer and the Record

IN case the word "technique" in the title might frighten some of our readers who wish to know a little more than that necessary to turn a switch and change a record, let me say from the onset that this is not a technical talk, but one that proposes to delve just sufficiently below the surface to impart to readers information that will be vital if they wish to obtain the best results from their combination. We all know that the modern instrument is simplified to a degree that renders superfluous a knowledge of anything but the simple operations necessary to playing the combination, but there is still a very large number of music-lovers who have a separate pick-up in combination with their radio receiver. In these cases such considerations as the adjustment of the pick-up and the amplifier of vital importance and our chat this week will be largely devoted to cases that fall under this heading.

But the owner of the commercial combination must not feel that for this week, at least, he is left out of the question. There are very many rules of thumb that he must observe if he wants his records to last well, and if he will obtain a superficial knowledge of their construction he will keep his records in a better state than knowing nothing he does no more than to follow common sense, which may or may not be good sense.

SO, having introduced our subject to all, let us look for a few moments at the pick-up itself. Wherein does it differ from the head of the gramophone? A pick-up is almost the reverse to a speaker. The vibration imparted to the needle causes it to move between two magnets around which are coils of wire connected to the amplifier. The needle in moving causes a fluctuation in the lines of force surrounding it, and this is transferred down the wire to the amplifier, where the weak impulses are strengthened up and sent to the speaker, which reverses the proceedings and transforms the electrical vibrations into movements in the air which we call sound. And that is the "technique" of the pick-up; simple is it not?

The ordinary gramophone reproducer transforms the mechanical movement of the needle to movement of the tight diaphragm which moves the air. The moving is audible if the ear is close enough. To amplify the sound it is sent down a long passage and due to the shape of this the sounds are strengthened. The magnets of the pick-up are very much more sensitive than is the diaphragm, so that tones and overtones, impossible with the ordinary gramophone, are quite everyday occurrences with the pick-up and

the amplifier. This makes possible greater quality and volume—it imparts realism.

### The Record.

TO make a record an artist or combination of artists perform very much as though before an audience (bows and encores excepted), and a microphone or microphones are placed in positions that give the best balance when all the impulses are collected. This is much the same procedure as in the broadcasting studio, and as here the sounds collected are amplified, but when a recording is being taken the sounds are passed to an instrument which reverses the action of the pick-up and transforms electric movement to movement of the needle, and this impresses a specially prepared wax disc which is revolving at 78 revolutions a second.

The sounds result in a horizontal movement of the needle and a groove which varies in width from side to side is made. It can be seen that the distance between the grooves widens and narrows according to the frequency of the sound; the deeper it is the smaller the distance between them.

This is an important point to grasp, as it will be alluded to later when we consider adjustment of the pick-up, needles, and the care of records.

### Correct Adjustment.

FOR the gramophone enthusiast who adds a pick-up to his receiver we cannot stress too forcibly the necessity to correctly adjust the pick-up both with reference to the angle of the head and the sweep of the arm. If the slope of the head is not correct the grooves of the record do not get a fair chance, as the thicker part of the needle is pressed too close to them and forces them open, with the result that the record loses much of its power of supplying undistorted music to the reproducer.

If, too, the sweep of the arm is not correct there is a drag on the grooves on one or the other side with the same result. Adjustment is absolutely necessary, and here the writer must diverge to tell an incident that has come within his ken.

An enthusiast installed a pick-up without reading the instructions—he trusted to common sense. Everything went well until one or two of the records began repeating suspiciously several bars. The records were wearing badly, and, naturally, the pick-up was blamed for being hard. However, the writer happened to see this apparatus, and—now the records are not wearing out so quickly. Just a few adjustments and quite simple ones, too.

It would require too much space here to reiterate what has already

**REALIZING** the growing popularity of the gramophone and radio combination we are devoting this section to the gramophone side of the combination. It is hoped to discuss in non-technical language some of the oft-asked questions, "Do pick-ups shorten the life of records?" "What type of needles should be used?" "How do pick-ups vary?" "Why is the Pick-up superior to the ordinary gramophone?" and a host of other interesting and important points that concern the owner and the prospective owner of the combination or the electric gramophone. Further, the most important releases will be reviewed in brief and from time to time short biographies of the better known composers and artists will appear.

## Celebrities

### Peter Dawson

THERE is, perhaps, no better performing artist than Peter Dawson, the fine bass-baritone who sings for the H.M.V. He has made a number of records greater than that of any other artist, and he is still making them. They are all welcomed and absorbed by the music-lovers the world over. Dawson has the rare gift of being able to impart character and atmosphere into practically every kind of song within the range of his voice, whether it be grand opera, ballad or lyric. His voice is extremely flexible, and because of this he is able to give tone and colour to every note. He never forgets that in singing ballads he is also telling a story, and the listener never loses a word. This alone is a rare accomplishment of a recording artist.

He was brought to prominence in the old recordings, but in the new electrical methods of recording and reproduction all the fine qualities of his voice are brought out. Every word is a recreation of the original performance.

Among his wide repertoire of recordings are the following that should appeal widely. These have all gone over the air, and will probably do so again in the near future, so listeners should look for a musical treat when any of these are announced:—"Drake's Drum," "Bedouin Love Song," "When the Sergeant-Major's on Parade," "O Star of Eve," "Floral Dance," "Song of the Volga Boatmen," the Toreador's Song from Carmen (frequently broadcast), and "The Boys of the Old Brigade." New recordings by electric methods, better even than the former recordings, are "Bedouin Love Song," "The Bando-lero," "Star of East," and "The Garden of Allah." These may be obtained from any music house, but be certain to specify "electrical recording."

been published in this respect. The writer can do no better than refer those who use a separate pick-up to "All About the All Electric," where this problem is treated very fully.

Although we have only skimmed the surface of the subject of technique we have finished, for we wish to give practical talks and not vague theory in this column. Next week we shall deal with the all-important subject of needles.

## New Recordings

### A New Ketelbey Recording.

KETELBEY'S new work, "In a Chinese Temple Garden," an Oriental phantasy, is offered by Columbia this month. It is played by the Ketelbey Orchestra, whose finely descriptive playing is well-known to gramophone-lovers, gives a beautiful and authoritative rendering, and the work should soon become as warm a favourite as the composer's other works, such as "In a Monastery Garden." The composer's own intention is happily conveyed by the well-balanced playing, and this with the soft, quaint chanting has secured the exactly right atmosphere. These compositions are frequently broadcast, and figured largely in the repertoire of the former 2YA orchestra. The record is also made on the H.M.V. by the Albert Hall Orchestra. "In a Persian Market" is on the reverse.

### Selections from "Maritana."

A NEW vocal record likely to be highly popular is a selection of vocal gems from Wallace's "Maritana." The artists are Clara Serena, Francis Russell, Dennis Noble, and Doris Vane, all well-known to gramophone lovers, with the support of a fine chorus, and orchestra. The numbers given include "Scenes That Are Brightest," "In Happy Moments," and "Let Me Like a Soldier Fall." And many other hits from the opera. (Columbia 06007.)

### Band Music.

THE band of H.M. Coldstream Guards, universally recognised as one of the world's best in "The Belle of New York" (Kerker), and "The Geisha" (Jones). H.M.V. C1703.

A magnificent full-toned record of selections from two of the great musical comedies of all time—the ever-popular "Belle of New York" and "The Geisha." This latter will be presented from 4YA on Monday, February 10, and the recording of "The Geisha" will open the programme. The full value of this record can be obtained only through an electrical (or re-entrant) reproduction.

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