

MORE SONGS OF WILD BIRDS

E.M. NICHOLSON
LUDWIG KOCH



(WITH THREE RECORDS)

**MORE SONGS
OF
WILD BIRDS**

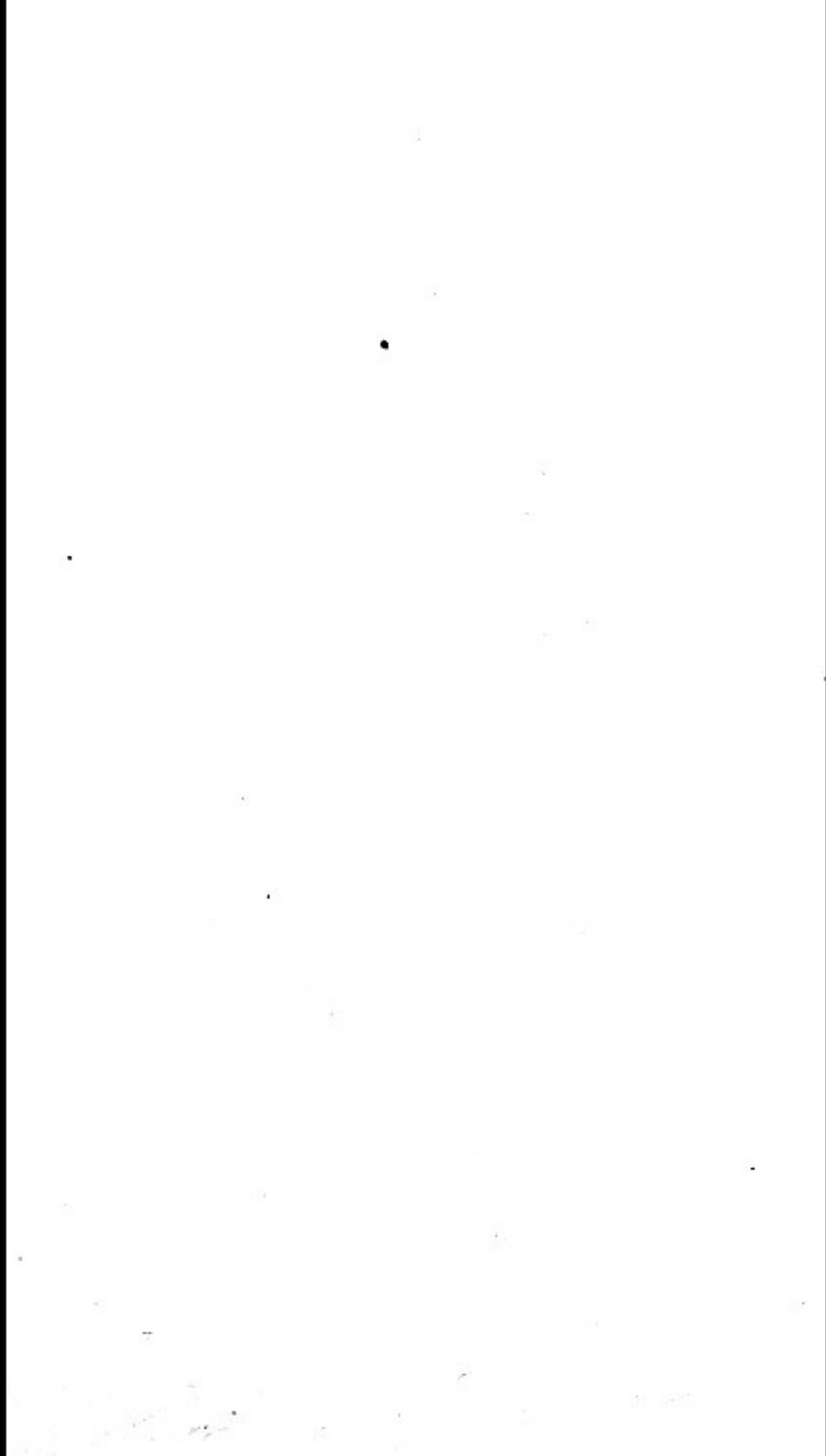
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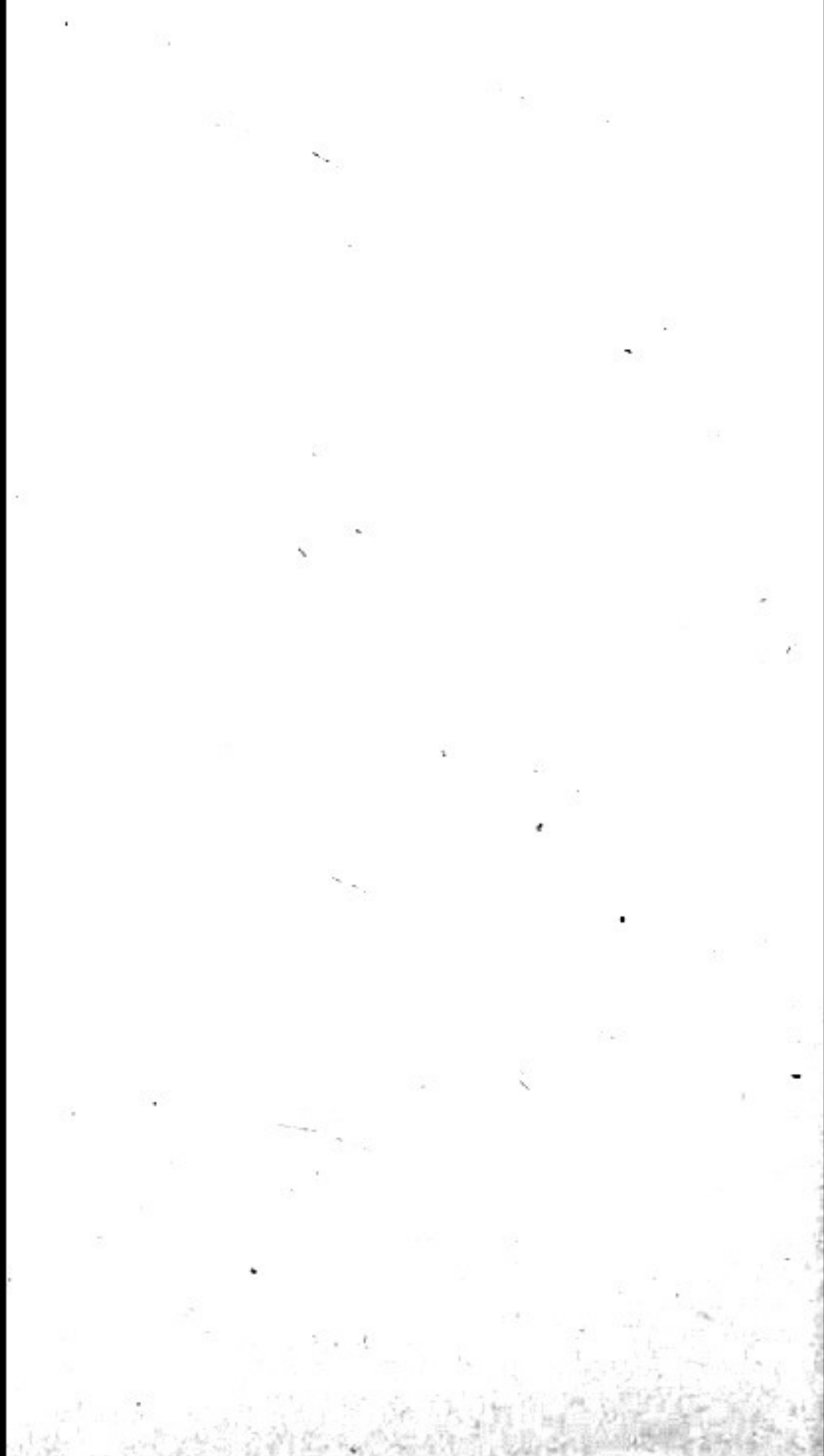
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BLACKCAP
GARDEN WARBLER
LITTLE OWL
CARRION-CROW
JACKDAW
JAY
MAGPIE
ROOK
REDSTART
BLUE TIT
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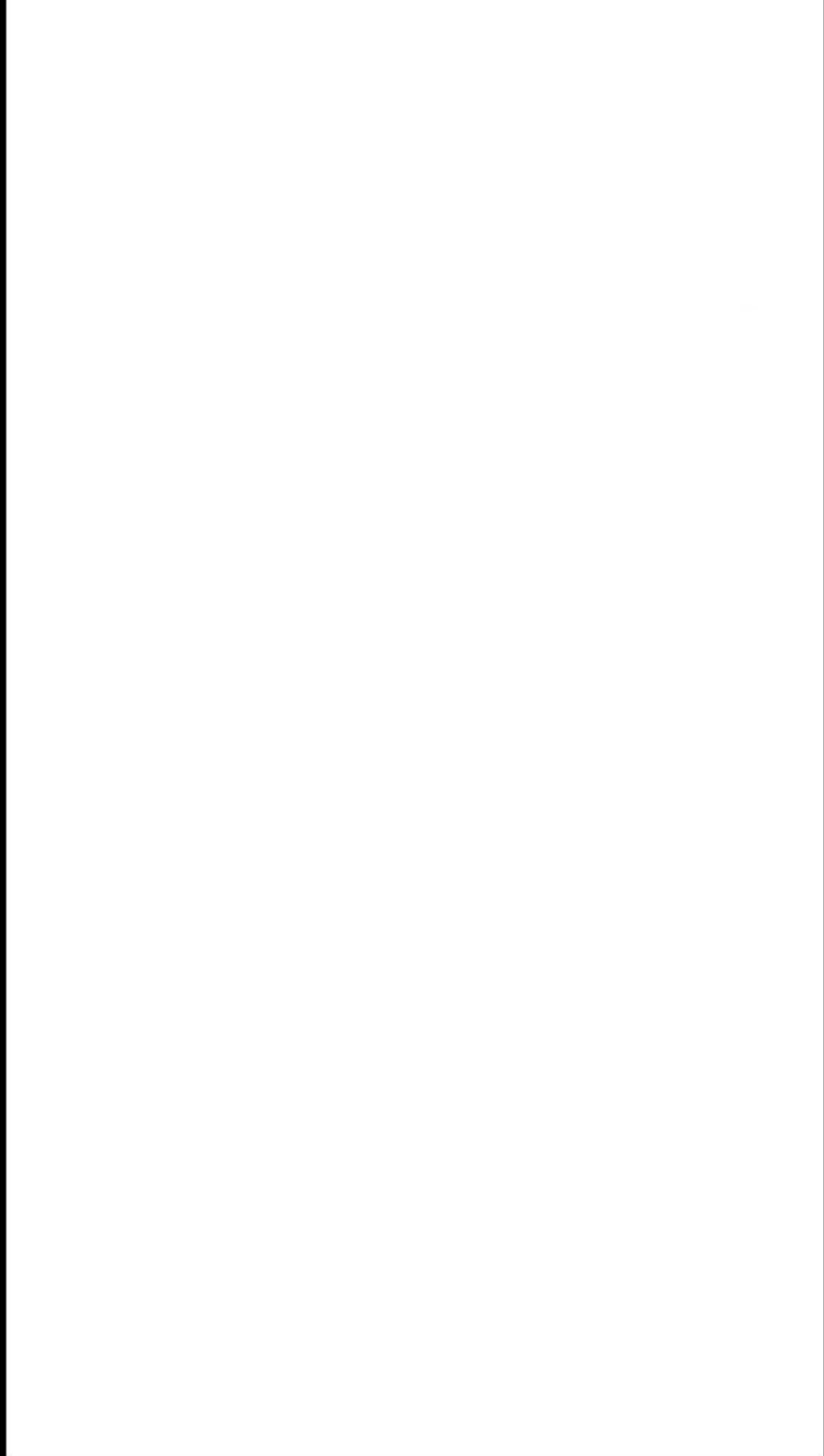
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in the Introduction.





REDSTART

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MORE SONGS OF WILD BIRDS

BY
E. M. NICHOLSON
AND
LUDWIG KOCH

ILLUSTRATED FROM PHOTOGRAPHS BY
OLIVER G. PIKE
AND OTHERS

WITH GRAMOPHONE RECORDS

LONDON
H. F. & G. WITHERBY, LTD.
5 WARWICK COURT, LONDON, W.C.1

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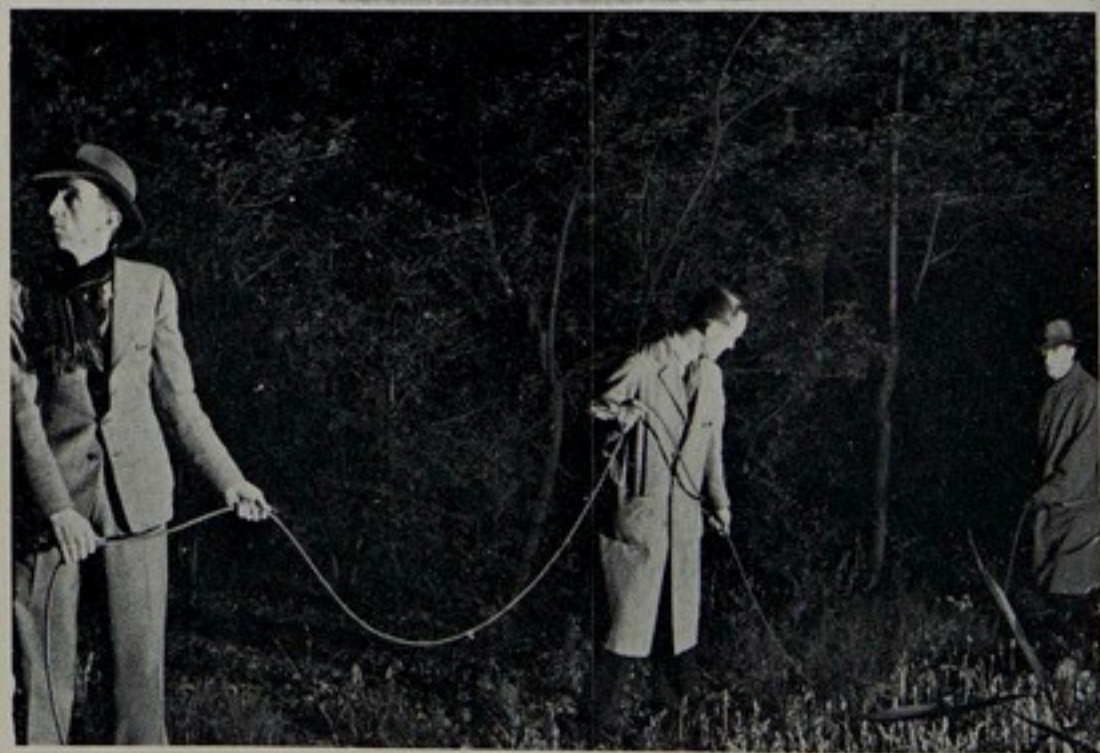
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THE SOUND-VAN

Photo—Lemon



Above—JACKING UP THE VAN
Below—LAYING CABLE IN THE DARK

Photo—Lemon

CHAPTER I

HOW THE SONGS WERE GOT

By LUDWIG KOCH

WHEN Nature awakened in early spring, and we listened, still in warm winter clothes, to the first timid efforts at song of the birds in our town parks and gardens, then the passion of the chase was aroused among the little team of men which came together the previous year in order not only to listen to bird-song but to make permanent records of it upon wax. As early as the end of January reports were coming in of birds which had been heard singing and which it was high time to record, so as not to be too late. It gave me great pleasure that my staunch collaborators, engineers, electricians and drivers, people who were kept out of touch with Nature by their work at the studio, have now become keen bird-lovers and are developing into experts who can already identify songsters in the field. The unit, directed by Mr. O. C. Preuss, the Recording Manager of Parlophone, consisted of Chief Operator Albert

Deering, and of Electricians Leonard Page and Harry Hands (who also drove the sound-van when it had to be moved), and in the early stages the team was completed by the much-travelled Operator Dickson.

We had been invited by Mr. H. F. Witherby to use as our headquarters his pleasant country estate in the Chobham district of Surrey, and when I went down there one February day, in response to the urgings of my friends, all was still at rest, and only the storm-wind, our most faithful companion, made himself heard. Yet this setting, with great open spaces and a dense wood, and with few birds, is the most practical field of operations for our purpose. In town parks many birds were already in song, but relatively few different species. There (from the offerings of bird-lovers) the birds can easily find enough food even in early spring. Therefore I was not at all surprised, when we eventually put up our microphones in this wintry March, that we could only quite rarely hear a bird.

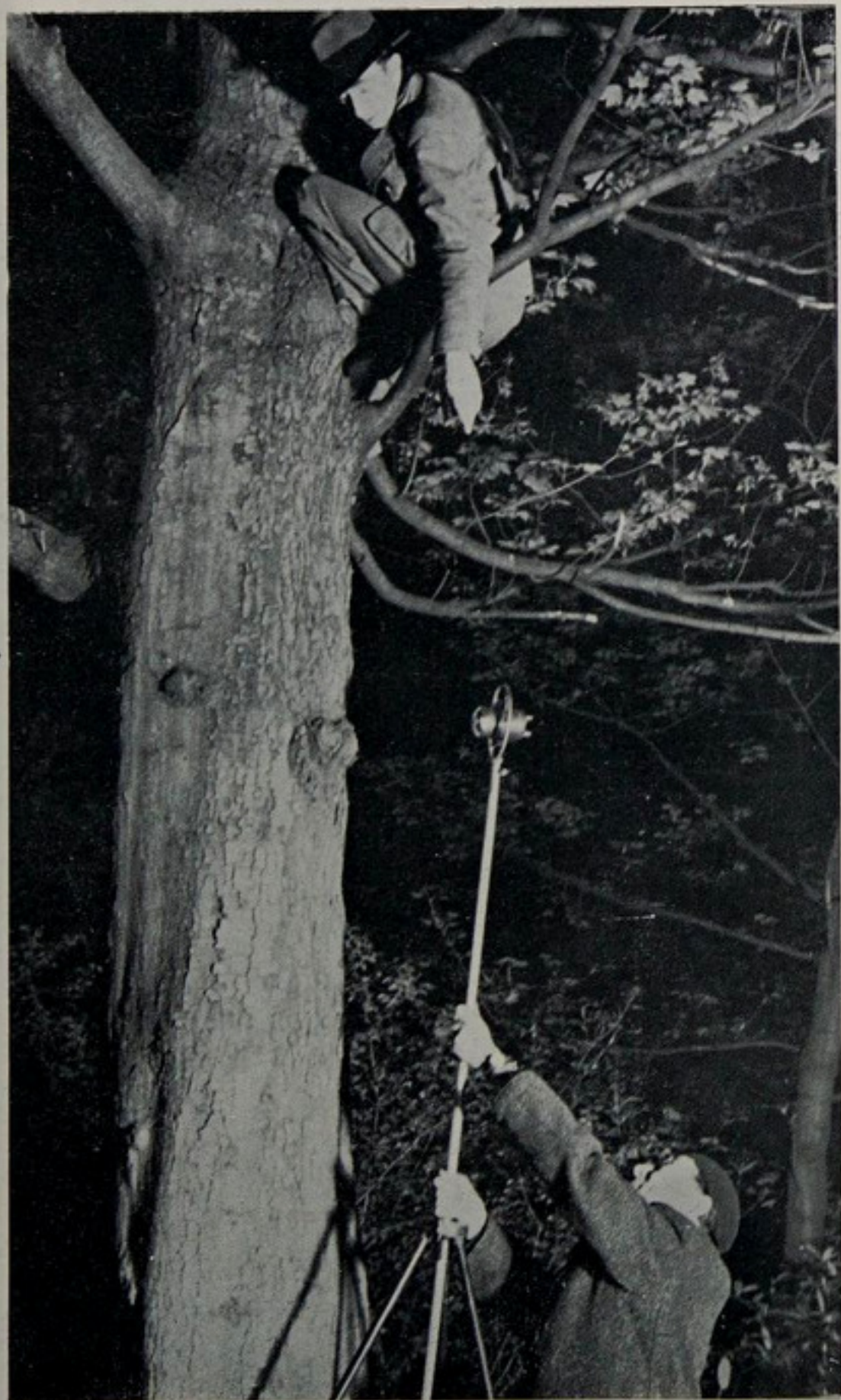
A real bird-song hunter, however, must not expect to find things easy. He must with skill and much patience go about the job of bringing the songster as near as

possible to his microphone, or rather the microphone as near as possible to the songster. How that was achieved, the difficulties we encountered, and how one by one the birds yielded to our efforts, I will now try to describe.

Our unit consists of genuine experts, each with his quite definite task, and each taking care that no one else meddles with it. I am the most unpopular because as the eldest—an unenviable position—I have taken on the job of knocker-up. In the deepest darkness of what only the calendar could call a spring night, about 2 or 3 a.m., I would appear like some evil spirit, and if all the curses and ill-wishes I received had been fulfilled, I would now be recording bird-songs in Hell, and in the hottest part too. But later it proved that there was no ill-feeling after all, for once we started, every one wanted to be the first to do any heavy job. To begin with, Harry had to find a level place, like the foundation of a house, on which the van with its costly contents could stand absolutely rigid and upright. Any unevenness would be fatal to recording, for the recording needle would not have run true on the wax and all our work would have

been in vain. But that was not enough, for during recording the least shaking does damage, and a motion of the recording engineer or a gesture of relief by the listener at the loud-speaker when, after hours of waiting, he at last hears his bird through the loud-speaker would make the record unusable. For this reason, as Plate II shows, the van was jacked up, and so moments of danger were eliminated, and we could move about in this travelling studio exactly as freely as in the elaborately constructed headquarters studio of the Parlophone Company in Abbey Road.

We had set ourselves the task of recording the various calls of the *carrion crow*. The crow, I hear someone say, there is not much in that; you can hear it any time. I thought so too, and in spite of that I had to watch for whole days to find where these birds mostly frequented. Then we ran out four hundred yards of cable to a still pool. There I saw that the crows haunted a tree on the other side of the pond, and I decided, as I was wearing gum-boots, to wade across and lay out the cable on the other side. But after the first step I sank into the treacherous muddy water, right up to my chest,



FIXING UP A MICROPHONE

Photo—Lemon



Photo—Lemon

*Above—RECORDING—STARTING THE WAX
Below—LISTENING AT THE LOUD-SPEAKER*

and had my friend Albert not promptly pulled me out we would probably not have been able to hear the seven calls of the crow on Record 5B. On another morning, about four o'clock, we took a wax out of the electric oven (which had to be kept warm all night), put it on the recording apparatus and switched on the loud-speaker, expecting on the basis of our observations to hear the crow loud and clear. Instead there was no sound but a howling gale, so strong that the recording needle was jerked out of its track. In playing over a record of the sound of this wind, which dominates the country in spring, it comes out as an undefinable loud noise, quite unrecognisable, and even experts who have no experience of such outdoor recording conditions, supposed, when I played such records to them, that there had been some technical interference.

I may as well say straight off that it is quite impossible entirely to avoid wind noises in outdoor recording in England. Really calm days, or rather still hours, are quite scarce in this country in high summer, and in spring, the most important season for our purpose, there simply are none. When we have succeeded in getting so out of the

way of the disturbing wind in the background that the voice of a given songster has not been affected by it on the record, it is due to the fact that we contrived, through endless trouble and patience, to catch the bird whose voice we were after in a spot which was in some way sheltered.

And so, to return to the crow haunt. Above the roar of the wind we heard, it seemed miles away, the crows calling, but they were impossible to record. However, later on we picked up as an unexpected windfall at our sheltered microphone by the pool a very fine call of a *blue tit*, and later, a much greater prize, the characteristic cry of the much scarcer *willow tit*. Even Mr. Witherby, whose estate it was, was quite astonished and would hardly believe at first that we had managed to record the willow-tit, for although a pair had bred here for two years, and birds had been seen in winter, repeated searches had failed to locate any throughout subsequent summers. So in this case again getting up early had been worth while, as in the course of the day we would probably never have succeeded in catching the infinitely delicate note of the willow tit.

For the crow, however, we had to run out our cable to quite a different place and keep moving the microphone about, until after days of work we managed to record the six different cries which you can hear so clearly on Record 5B of our sound-book. The great difficulty of this pursuit was that the crows were so extremely shy, and fled from a tree as soon as we got the microphone anywhere near it. In the end we had to hide the microphone, covering it with branches and dead leaves and keeping well clear of the spot, until the lucky moment came, when the crows called into the microphone at the moment when the recording needle was at work on the revolving wax.

The *jay*, too, could be heard everywhere where we had not put a microphone. Only after weeks of disappointment, when Mr. Witherby found a nest, did we succeed in picking up for a short time through the microphone, and recording its call, which reminds me of a sawmill and yet has a not unpleasant quality. During the four months which I devoted this spring to chasing bird-notes I never heard it again.

All the ornithologists told me that the *jackdaw* and *maggie* would be no trouble at

all, and that I should not therefore go out of my way for them. And sure enough, as my co-author E. M. Nicholson walked with me through Richmond Park one cloudy, rainy early morning in April, hundreds of jackdaws swarmed around the hollow trees, calling loudly and uninterruptedly. Probably the crafty birds had noticed that I was without recording apparatus. Then a week later I waited six hours in vain at the same spot by the loud-speaker. I saw the birds, of course, but they were silent, and I had to go back empty-handed. The same thing happened several times, and I only got the calls much later, partly in Richmond Park and partly near Whipsnade. The jackdaws call in chorus and swarm around a given spot, but when it is approached they vanish and are not heard again. The magpie I often saw without hearing it, and only immediately before the close of our expeditions were we able by a stroke of luck to catch the typical rattling call. You can hear it twice on Record 5B, which begins with the *little owl*.

Yes, the little owl, that is another memory. On the first day of all, as we went out without equipment simply to look round, at four

o'clock in the morning when it was pitch dark at that time of year, one was sitting on a post on Chobham Common staring at us with its brilliant eyes. Afterwards I saw it no more, but we could often hear its various calls after dusk, although always, of course, where there was no microphone. But a fortnight's patient work sufficed to catch the calls forming the overture to the sound-scene, which I composed in the course of twelve hours' unbroken work in the transfer rooms of the Parlophone Company with the help of no less than six special technicians. We had to select and blend from nineteen records with a total playing time of ninety-five minutes in order to create this one side of a record which plays for three minutes. It contains three different calls of the little owl, the alarm note of the black-bird, seven different calls of the crow, a call of the great-tit, a wonderful call of the green woodpecker, two calls of the jackdaw, a less frequent alarm-cry of the green woodpecker, two calls of the magpie, a short snatch of woodlark song, a marvellously fine phrase of the blackbird, and, finally, the sound of a *rookery*. Recording in this rookery turned out not so simple, because the

clamour was so confused that it sounded in the loud-speaker as an undefinable chaos of noise. At my suggestion we tried a microphone high up, close to the rooks' nests in order to have a chance of picking out the characteristic notes by themselves. This worked so well that the listener can now clearly recognise on one and the same side of a gramophone record the difference between the calls of the rook and the crow. This sound-scene ends with the slowly vanishing calls of the little owl again. Thus the reader and listener receives a picture of the atmosphere of a wood and park which it is given to few people to hear in Nature.

This year I made notes of how the various birds responded to our efforts, and I think it may interest our readers to have a brief account of their behaviour. In one of the Press reviews of our first sound-book of bird-song, the writer suggested that it would, unfortunately, be impossible to record the passionate song of the *skylark*, since the microphone could not follow the notes of the singer as he ascended high in the air and then came down again ; but I had observed several skylarks morning after morning in

the early hours, and choosing a moderate-sized field I came to the conclusion that the song could be captured if several microphones were used. This was only possible, however, with the earliest lark of all, who in these early June days rose singing punctually at 3.5 a.m., for when the next sang, after an interval of twenty-five minutes, the dawn chorus was already so strong that the skylark song no longer stood out so perfectly as we needed it. I had six microphones arranged so as to give the greatest possible chance that the bird would get up in the neighbourhood of one or other of them. In spite of these preparations we had two failures, and only on the third morning did we get the song of the rising and descending skylark recorded, in all its passion, to be an ever fresh joy to those who cannot rise so early and hear it. Later I contrived to record another lark singing on the ground, and the full marvel and wonderful freshness of this joyful song is now at our disposal in its perfection.

At school many years ago I learnt about the spiritual song of the *woodlark*, and I remember how the teacher tried to give us some idea of it on the piano, and also drew a

diagram of its form on the blackboard. I doubt, though, whether any of us would have been able from this to recognise the song. But how could anyone have conveyed to us these notes, which form a great stumbling-block to imitators of bird-language, at a time when gramophone technique was in its infancy. To-day I can understand the enthusiasm of our teacher, for I prefer to all other bird-songs that I know this yearning, sad melody which speaks so directly to the heart with its many modulations, and which is also very interesting from a musical standpoint. I am happy that we got an extremely fine songster of this species before the microphone, although I confess that we had to wait in all thirty-two hours before he came within range uninterrupted by neighbouring noises. This woodlark sang in flight, circling above the microphone, and our luck was all the greater, as we heard a few days afterwards, because this bird's nest on the ground was destroyed and the bird itself disappeared—perhaps the victim of a beast or bird of prey. His song will, however, I hope, bring enjoyment through our record to many people.

When Mr. Witherby sent us word in the



Photo—Lemon

THE GARDEN WARBLER'S MICROPHONE POST



THE BLACKCAP'S MICROPHONE POST (TO RIGHT OF PATH)

first week of May that he had heard the *blackcap* and *garden warbler* our van was soon on the spot. But this blackcap was one which loved company, and preferred to sing in the midst of a chorus. A prima donna as gifted as our blackcap need not have stood so long on ceremony and modestly taken refuge in a chorus. We began at earliest dawn a special search in order to secure the characteristic song of this bird, with its prelude or sub-song, free from interruption by others. We had continually to move the microphone about for hours before the song at last separated itself from the chaos which we had first been hearing in the loud-speaker. How rich it sounds compared with the garden warbler, although he sings very well too. This particular garden warbler evidently aroused with his song the jealousy of a chaffinch, and as soon as he began, the chaffinch would start singing loudly, going on like this a long time before we were able to get a few passages of the garden warbler without this disturbance.

Through my co-author E. M. Nicholson I got in touch with Mr. C. L. Collenette, who initiated me into the secrets of the bird-life of Richmond Park. I would like to take

this opportunity of thanking H.M. Office of Works, and especially their Superintendent at Richmond Park, Mr. A. E. Wilson, for entrusting us with a key to the park gates, and allowing us to work there undisturbed with the van during the night. I owe to Mr. Collenette a whole series of unforgettable impressions, especially in the *heronry*. Even at some distance the "conversation" of the herons could be heard from their tree-top nests, and also the clattering of the young. Attempts to record the various calls from below failed, however, as the sounds became distorted, and I therefore decided to have a microphone hoisted high in the trees in the immediate vicinity of the nest. In this way we got satisfactory results. We had, however, to wait a long time, as the birds were thoroughly disturbed and flew away, but as the young went on calling continually, they eventually came back again, and we were able to secure a whole series of typical calls whose significance is discussed in the programme of Records (pp. 91-92).

We found the *mistle-thrush* in its element, on a very stormy April morning, doing full justice to its name of stormcock. The diffi-

culty was that the bird was singing on a territory full of sparrows, which made recording impossible, and we had to try to get him to move to a more distant tree. After a long trial of patience we succeeded, and we even had the luck to secure some phrases which were hardly affected at all by the high wind.

We also had luck with the *stock-dove*. All day we heard its characteristic cooing, which in the distance reminded me of a contralto. But for a few seconds on one occasion this shy pigeon came close to us and we were able to record its "song." It cost us infinite time and patience to catch the few calls of the *nuthatch*. Collenette located a pair in Richmond Park, which I was often able to watch. As it mostly called outside, in the garden of Mr. Oliver and Col. Stirling, these two gentlemen very kindly placed the garden at our disposal for parking the van and laying out cable. All our efforts and patience were fruitless, however, since we could not, in spite of constantly moving the microphone, get near enough to the bird to secure a satisfactory record. When the area of nearly four square miles in Richmond Park is compared with the size of this little

bird, we must be satisfied for the present to have captured a few calls at a moderate distance, which you can quite distinctly hear between the songs of the redstart and chiffchaff.

The *redstart* had first with much patience to be shepherded to an appletree in blossom, as he persisted in singing at a spot close to an underground watercourse, whose flow sounded in the microphone like peals of thunder. Later, however, he settled down and sang his metallic notes uninterruptedly.

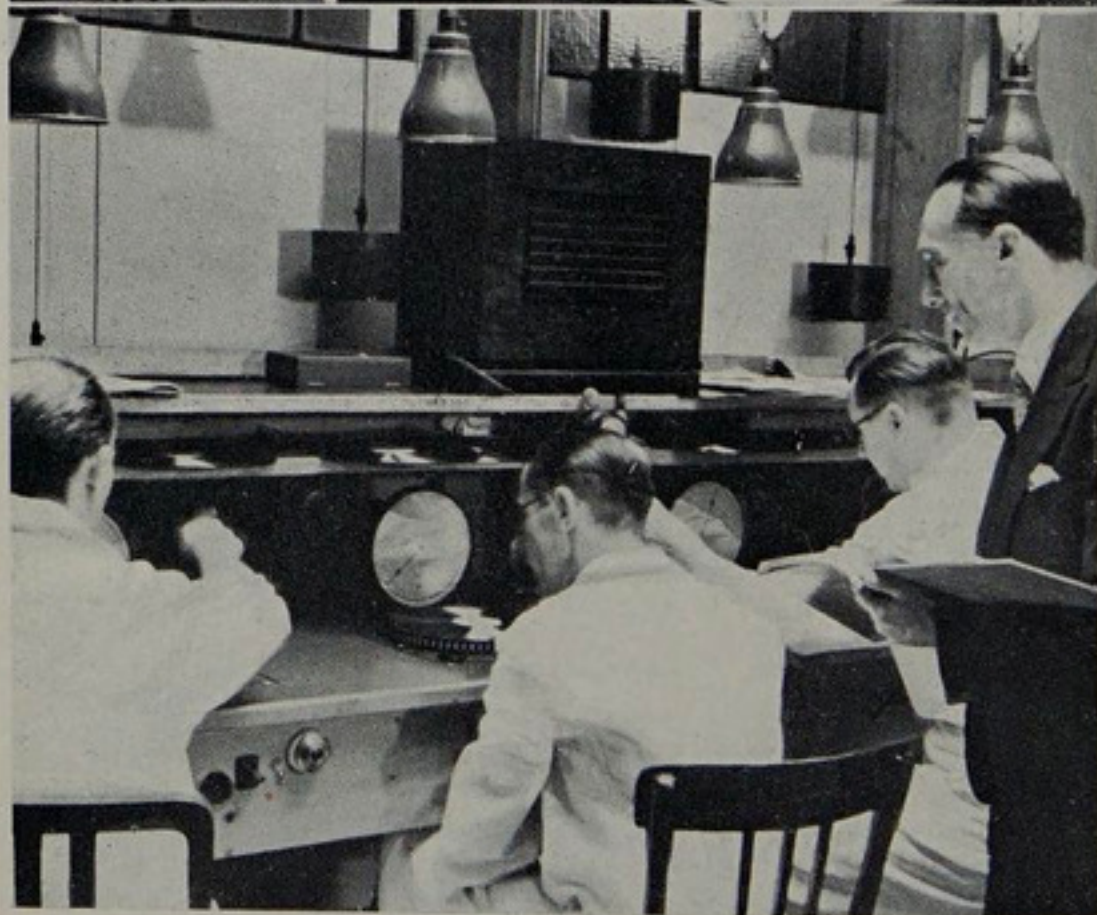
The time-beater of the bird-world, the *chiffchaff*, had on the contrary to be actively pursued, for he does not keep still long, and experience showed that his note only rings true in the microphone when it is uttered very close, as on our record.

It was with very mixed feelings that I went about the recording of the *wood-wren*, for these high frequencies—up to 6000 cycles, according to the table on pp. 24-25—do not, it is true, offer any real difficulties to our recording engineers with their expensive equipment, yet there are, unfortunately, few people who possess correspondingly good gramophones able to reproduce them. The *wood-wren* is full of curiosity and flies to



Photo—Lemon

MAKING THE FINAL RECORD FOR THE SOUND BOOK



Photo—Lemon

Above—THE AUTHORS SELECTING MATERIAL
Below—TRANSFERRING SONGS FOR THE FINAL RECORDS

meet people, but is also restless, and by never perching long in one place makes it infinitely difficult to bring the microphone near enough. The recording of the two very different songs of the wood-wren succeeded very well, however, and they can even be heard satisfactorily on an ordinary portable gramophone.

I am fond of the varied song of the *tree-pipit*, and I even forgave the bird when during an eight-hour session he chose to sing always during gusts of wind. Our united efforts succeeded in securing a few sample songs of this original songster in a sheltered position. The bird is not shy, if very carefully approached, and sings often uninterruptedly for half an hour or longer, then breaking off for an hour's pause. When his favourite perch is known one can count upon his always coming back to it.

It was due to Mr. P. A. D. Hollom that we were able to locate a rookery suited to our purpose, and it was he, too, who enabled us at the eleventh hour to secure a record of the *curlew*. When we first heard its fine ringing call uttered in the distance in flight we often placed the microphone somewhere where the bird had frequently been seen on the wing.

But if it continued its demonstration within the range of our microphones everything happened so quickly that we had no time to set the recording mechanism going. In the end I saw no solution but to discover a nest—a difficult task, because the bird is rare in this district, and the few who know of nests are not anxious to risk endangering the birds by showing them. Mr. Hollom put me on the right track, and the various calls of the curlew on Record 3A of this book form the happy result of that expedition (see pp. 29-37). Even on the site, however, they were not easy to obtain. On the day of the recording we heard the curlew for the first time about 3.26 a.m. Half a second later it vanished completely, and not until 7 a.m. were we able to secure some good calls. The rest we got on subsequent days.

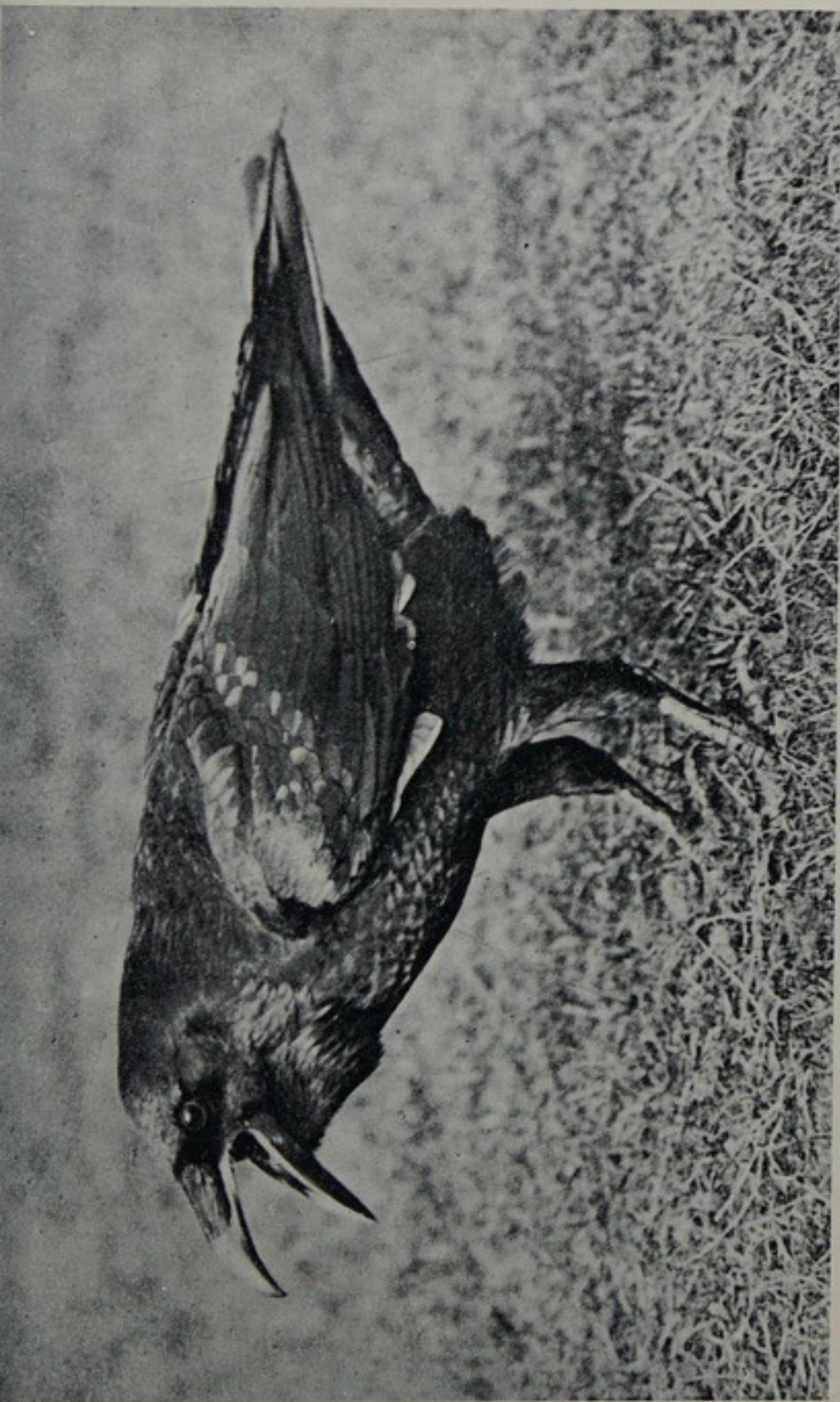
I especially rejoice that I was able with Captain Pike's help to secure the "song" of the *nightjar*, a night-bird which comparatively few people have heard or seen. If one approaches in the direction of this sound, reminiscent of a dentist's drill, it becomes fainter, for the shy bird has moved off. One day before the recording Captain Pike showed me the place where he had observed

the nightjar, and another evening we put the microphone where we had first heard the bird. Sure enough, at 9.50 p.m. on 30th June, at the same moment as the robin finished singing on Berkhamsted Common, the jarring note started suddenly, and as we were expecting it, we were able to secure it and even also two alarm-notes. The performance lasted only thirty seconds, and although we stuck to our listening-post until 1.30 a.m. nothing more whatever was heard of the bird. Exactly the same thing had happened to me years ago in Germany, and I suppose this bird moves about a good deal, and perhaps does not return to its starting-point until dawn. We must, all the same, count ourselves lucky that we contrived to record these phrases of a bird which is reckoned as a singer, and which not many people have the fortune to hear.

I hope the above account of how we obtained these records of birds which sing to you from our sound-book has been of interest. But these descriptions will give you no adequate idea of the obstacles which had to be overcome even before recording could begin. The quiet work of observation is the essential foundation of success in bird-song

recording. My friends very kindly placed motor-cars at my disposal for early morning reconnaissances, but I found that the rapid speed of a car, and the restlessness which it involves, affect the driver, who prefers to stop about every five hundred yards and listen a minute through the open window of the saloon, then go on farther. In this way naturally one can never achieve much. Also, the fact that the continual noise of the engine, at least in my own case, so affects the ear that I need to compose myself before I can pick out the finer points of bird-song, made me choose the much more difficult but also more enjoyable and more useful method of exploring on foot. But then, too, it is constantly necessary to reckon with surprises, as the bird often shifts its position, and changes in the weather are even more disturbing.

I have already described in *Songs of Wild Birds* how the sensitive microphone takes up all noises, often within several miles' radius, and exaggerates them. In the first part of this chapter I have specially pointed out the difficulties which the continual high winds made for us. Once when we tried to record a rookery the rustling of the wind in



CARRION CROW CALLING

O. G. Pike



ROOK

O. G. Pike

the many trees sounded like the roar of a stormy sea, and together with the clamour of rooks and jackdaws swelled to an infernal symphony which burst through the loud-speaker unrecognisably distorted. Very often, therefore, we had to bow to the elements and come home empty-handed. I would, however, like to say that in my nature recording I invariably observe the principle of getting the bird-notes in question in the foreground by all means, but always with their natural background. The call of the crow is often so powerful that it dominates all other sounds, and everything in the wood seems inhibited from intruding on it—an impression also received from the record. But if, for instance, the little owl, who is hated by songsters, starts calling, then a nervous tremor is perceptible. If one wishes to avoid such natural disturbances, then only recording in a closed room can be considered, and, as I have found in my own experience, in such altered acoustical conditions the bird-notes are distorted and no longer make a natural record.

For a description of our travelling recording studio I would refer readers to my short

chapter in *Songs of Wild Birds*. In this year also the little recording unit alternated between triumph and disappointment in the course of hours of waiting by the loud-speaker. I will only mention one instance. It was on 10th May 1937 when we were recording the woodlark. The bird always sang either so far off that we could not secure the sound, or occasionally came nearer but only to the accompaniment of a chorus of song-thrushes, chaffinches, black-birds, robins and so forth, so that we had constantly to be moving the microphone about. At last after six hours a wonderfully fine burst of song caused great excitement and delight at the loud-speaker. Albert Deering was, as usual, alert to record this valuable capture on the mechanism, but after the first few seconds his face changed colour, since the wax for some reason had become too cold and the recording had become unusable. So we had to wait four more days, the weather in the meantime being too unfavourable, until we finally got the woodlark song as you now hear it.

I must take this opportunity of repeating how grateful we are to the directors of the Parlophone Company, who have in the most

magnanimous manner given the opportunity for this unusually costly experiment in recording. Looked at from a purely business standpoint this work would be quite impossible, and I regret that none of the great foundations for the furtherance of scientific and educational problems should have given support to this important pioneering in the field of sound documents taken from nature.

Hundreds of big twelve-inch records were the result of the 1937 bird-song recording expeditions. It took many weeks of work to sift this rich material, and in Plate VIII you see the authors busily engaged in this heavy task. That brings us to the last and most difficult obstacle, namely, the transfer of the selected material, often consisting of fragments of a few millimetres diameter, to the final records for the book. Plate VIII shows three of the five technicians (Messrs. Frank Chown, W. Dickson, Edward Townen, H. S. Hack and C. J. Anderson) at their arduous work in the Parlophone transfer rooms. Often the trial efforts for a single side of a record had to be repeated twenty times or more before they could find acceptance from a strict judge.

I was very satisfied if in one working day we could complete one side of a record. Everything had to be got right to a fraction of a second, as in a first-class orchestra, the only difference being that our blunders were perpetuated and could not be explained away.

This year also, under the direction of Mr. W. S. Purser, we established the exact frequencies of the notes of the birds reproduced in this sound-book, which are shown in the table below :

APPROXIMATE FREQUENCY IN CYCLES PER SECOND
OF BIRD-NOTES RECORDED FOR *More Songs of
Wild Birds.*

| Species | Minimum Frequency | Maximum Frequency |
|----------------------|----------------------|----------------------|
| Wood-wren . . . | 2200 | 6000 |
| Garden warbler . . . | 1500 | 5000 |
| Chiffchaff . . . | 1800 | 4500 |
| Mistle-thrush . . . | 1500 | 4500 |
| Blackcap . . . | 2000 | 4000 |
| Blue tit . . . | 1800 | 4000 |
| Curlew . . . | 1100 | 4000 |
| Tree-pipit . . . | 1600 | 3750 |
| Woodlark . . . | 650 | 3750 |
| Redstart . . . | 1700 | 3700 |
| Skylark . . . | 1100 | 3500 |

| Species | Minimum Frequency | Maximum Frequency |
|-----------------------------|-------------------|-------------------|
| Willow tit | 750 | 3250 |
| Little owl | 1000 | 2000 |
| Nightjar {jarring | 500 | 600 |
| {alarm | 1000 | 2000 |
| Nuthatch | 900 | 1800 |
| Rook | 425 | 1800 |
| Jay | 275 | 1400 |
| Jackdaw | 325 | 800 |
| Carrion crow | 600 | 750 |
| Stock-dove | 250 | 550 |
| Heron | 140 | 550 |
| Magpie | 275 | 325 |

The wood-wren this time achieves the maximum frequency with a figure of 6000 cycles per second, while the minimum is shown by the heron with only 140, followed by the stock-dove with 250, and jay and magpie with 275. The very limited range of frequency of the nightjar is interesting; an untrained ear would hardly be able to detect this difference of only 100 cycles in the jarring song. The alarm shows how the frequency springs up under excitement. The great ranges of frequency, such as 650-3750 for the woodlark and 1100-3500 for the skylark, will make clear to the non-expert the difficulties of correctly reproducing these bird voices.

Like radio receivers, which have progressed to keep step with technical improvements at the sending stations, so logically the gramophones used in reproducing these records (which were produced by the gramophone company's advanced electric methods) should preferably be really good electrically reproducing instruments. On page 29, in my chapter of *Songs of Wild Birds*, I have already dealt fully with the reproduction of bird-notes of widely varying frequencies on mechanical and electric gramophones, and I recommend all interested, especially those who (after having obtained the necessary permission) give public performances of our records, to refer to this passage. If the bird-songs in this sound-book are to be heard satisfactorily, in spite of the great range of frequency, on an ordinary portable instrument, it is only because of the enormous care which has been taken in recording, selection and transfer in order to make this possible.

I can only once again thank all my collaborators from my heart for their unselfish work, and hope that this second sound-book of British birds will be received as well as its predecessor. Only then will it be possible

to pursue my aim further—to collect in further sound-books the voices of all British field, woodland, marsh and water birds, as an indispensable aid to science and education, and as a source of lasting inspiration to the bird-lover.

CHAPTER II

OUT AFTER BIRD VOICES

By E. M. NICHOLSON

WHEN Mr. Koch wished me good-night on the second of June his politeness was unquestionable, but I admit that I doubted the sincerity of his words, seeing that he was determined to get me up again by the unpleasant hour of two o'clock the next morning. Nothing can make such a prospect palatable, but at any rate we were consoled by the fact that the weather was still and fair, apart from a good deal of high cloud, and the weather forecast was promising. On the last occasion on which I had turned out in the small hours for bird-song recording I had found one of the worst May rainstorms for many years in full swing, with water coming down in sheets and a violent wind, so that I had to give up any hope of useful work and return home soaked through at dawn. To-night a tawny owl, one of the birds which we had so far failed to record for the gramophone, was



JACKDAW

O. G. Pike



SKYLARK SINGING ON POST

O. G. Pike

hooting away outside our hotel and reminding us of our many unsolved problems.

It did not prevent us from dropping off into a sound sleep, from which, however, we were awakened at the inhuman hour of 1.30 a.m. by the indefatigable Koch. We got out of bed grudgingly, and it took a long time to collect the whole seven of us in the garage yard. We were considerably cheered on hearing that Koch, in his eagerness to put an end to our sleep, had mistaken the number of one of the rooms occupied by our party, and had burst into the bedroom of a lady who was an entire stranger stopping in the hotel. When a terrified female voice from the unlit room answered his summons to get up at once, he imagined at first that his leg was being pulled, and we found in the picture of his hasty and embarrassed retreat, when the truth dawned on him, some compensation for the night's rest of which he had just deprived us. We were glad to hear later that the victim also appreciated the funny side of the mistake.

It was a fine starry night with only the faintest breeze which met us outside, and our three cars were soon on the way to the van, which had been parked on a common

three or four miles away. As our convoy crossed the open heath the two cars in front of us made the bracken wave with the rush of displaced air and gave for the moment a false alarm that the breeze, the enemy of open-air recording, was freshening. We found the huge seven-ton van standing carefully jacked up, to make the inside steady and exactly level. It is as large as a furniture van, and cannot be taken on to ordinary soft earth, nor will the police allow it to be left on the public highway. As everything had had to be fixed up the night before, it had been placed, therefore, on a hard-surfaced turnout for cars, which was unfortunately just by a cross-roads, guaranteeing that any noisy traffic in the neighbourhood would come our way.

Arriving in darkness at ten minutes past two we soon had the van unlocked, the lights switched on, and the precious microphones outside with their tripod stands. The electricians Leonard Page and Harry Hands put on gum-boots and started off with their torches, following the heavy cables, laid the night before, to their ends where the microphone positions had been selected. They came back a few minutes

later, their wet gum-boots showing how heavy had been the dew in the rough hollow where our chosen pair of *curlews* were thought to have their nest or young.

At half-past two, with the "mikes" linked up, we were able to switch on the loud-speaker and listen to the silence—for there was no sound to be heard except an occasional very faint motor-car engine from a main road some miles away. At 2.45 a.m. we heard once or twice the croaking "co-ik" note of the nightjar, and a little later, some very distant churring from another. At this stage a noise in one of the mikes became too serious to be ignored, and at the risk of disturbing our curlews the electricians went down to deal with it. In a minute or two one was talking to us in a low but distinct voice through the loud-speaker, and we were signalling back to him with a torch in reply. It turned out that one of the mikes had been facing a breeze which was just fresh enough to make it still a good deal pleasanter inside than outside the van, and was quite sufficient to make a serious background noise all the time. When this was adjusted we had nothing to do but sit in the van and to grumble at Koch for getting us up too early, and at

someone else who had forgotten to bring the necessary things for making an early morning cup of tea. The van had not been designed with an eye to human comfort, but at any rate the recording waxes had to be kept warm, and the neighbourhood of their stove compared favourably with the outside world before dawn, even on a June morning.

At ten minutes past three, with startling suddenness, a skylark sprang up in full song near the mikes, and then a second, and a third close at hand, so that the van was suddenly filled with intercepted song pouring through the loud-speaker. It was now dawn, and very fine, but the nightjar was still going on, and some time later sounded strong enough for an attempt to be made at recording. A stonechat had meanwhile started singing on a gorse-bush more loudly and enthusiastically than I had ever heard a stonechat sing before, and a curlew, the object of our expedition, now began calling very close. The curlew, however, raised our hopes only to dash them. After this one brief call the wax was set revolving, but not a sound more came through the loud-speaker. After a long wait Captain Pike went down and quartered the ground, trying, as passive



JAY AT NEST

O. G. Pike



MAGPIE

O. G. Pike

waiting had failed, to find and stir up the curlews and make them perform. He drew a blank. Then we heard curlews uttering their bubbling chorus with tantalising clearness in the distance, and Harry Hands and I went down in the direction of the clamour into the swamp to the south-east, where a pair is usually to be found. The farther we tramped the farther away the notes sounded and, as it was quite obvious that there could be no hope of rounding up towards the van birds from more than a mile away, we gave it up and came back, the weight of our gum-boots increasing at each stride as our hopes fell. As we regained the ridge another bubbling chorus was heard some way away to the west. Not fancying another cross-country trek Captain Pike and I went down the road by car in that direction, and stopped at a convenient point to listen. Not a sound of curlew could now be heard. I suggested to Pike as a forlorn hope that the motor-horn might possibly stir something up, and he tried several blasts, the only effect of which was to dislodge a cuckoo which had been sitting all the time unnoticed on a telephone post above our heads, and now made off to the next one, where it

sat broodily in a hunched-up attitude. It seemed to us that this was a hen ready to lay an egg, and the same suspicion had apparently crossed the mind of a meadow-pipit which kept flitting about anxiously within a few inches of the entirely oblivious cuckoo. Minutes went past, and when Pike told me that he had once spent six hours in a hide waiting for such a cuckoo to give up brooding and come gliding down to its victim's nest we remembered that we were after curlew and drove back to the van.

There was still no luck there after nearly five hours of waiting, and the precious early morning silence was quickly breaking up. The first lorry had just passed, followed by the roar of the first train on a railway which was not nearly far enough away for comfort. Things were looking black, and we began to discuss cutting the loss on our chosen site and moving over to another a mile or two to the south-east, if the curlews were still performing in that direction. We were struck by the utter helplessness of seven able-bodied and resourceful men sitting at a cross-roads with thousands of pounds worth of marvellous equipment, all at the mercy of how two inconspicuous birds

might choose to spend this fine calm morning.

Pike and I started off by car to reconnoitre another pitch, but we had hardly covered fifty yards when a large bird appeared flying steadily towards the van. It was a curlew, and it flew deliberately over, pitching in the hollow close to our microphones. I jumped out of the car and ran down the road in my gum-boots shouting and waving to the men in the van in case the bird should give tongue on landing and then fall silent. It did not make a sound, however, so after a pause I went down to try to persuade it to talk. No sooner had I started than a high-flying and infuriatingly slow aeroplane made it necessary to wait several minutes for quiet to be restored in the background. I soon had the bird near one of the mikes, and had the pleasure of seeing it utter right into the instrument, as I drew near, the thrilling loud "cour-lee—cour-lee, cour-lee—cour-lee" which rings out just as thrillingly and as clearly from our gramophone record, No. 3A, on which it has been permanently preserved. At this stage a car came past, but fortunately not before enough had been recorded

of this wonderful and memorable call, which has few equals in the whole range of bird language.

What we wanted most, however, was the remarkable bubbling chorus uttered as the bird glides down through the air, and as we now had a pair near the van—the mate having suddenly arrived—there seemed a good hope of getting it. Both birds, however, were strangely silent and skulking for curlew, and for many minutes I pursued them up and down, trying to shepherd them near the mikes and at the same time induce them to give tongue. At last we were rewarded by a good burst of the bubbling chorus, but although I did not realise it at the time, an aeroplane was cruising about too far away to be seriously noticeable to the human ear, but quite near enough for the microphone with its acute sensitivity to pick up the sound, which can be heard in the background of this call on our gramophone record. At the very end, also, a train started up, which can also be heard for an instant on the record, this being the price which had to be paid for the failure to establish contact with the birds during the first four hours of our vigil, when everything was

much as possible of the song and cut out as much as possible of interfering noises. At the same time I suggested having a try at the local cock stonechat, who continued to warble on the telegraph wires, but he proved a hopeless subject, for as soon as we moved a mike to the neighbourhood of one singing stand he always shifted to another out of range.

Now it was no longer early morning—in fact it was getting near eight o'clock—and the traffic became too much for us. Aeroplanes, motor-cars, lorries, trains, and motor-bicycles combined to shatter the tranquillity which had been so perfect a few hours before. Just as smoke pollution helps to swamp a town under fog, so the natural peace of the country was drowned under the indefinable hum of distant engines and wheels, swelling often to an uncouth roar as a part of this vaguely audible machinery detached itself from the background and came hurtling past us in the visible shape of a car, lorry, or motor-cycle. Until one has listened objectively to all these sounds coming through the loud-speaker, in what counts still as a peaceful retreat from the bustle of London, it is hard to realise what

The household was awakened in alarm, all the lights went on, and one could almost hear a frightened voice telephoning for the police. This put an end to the chance of securing the owl record, and no other opportunity came during the rest of the 1937 season.

I have tried in these few pages to give some idea of the excitements and tediums, disappointments and triumphs, which make up a day, or rather day-night, in the life of the bird-song recorder. I have written from the standpoint of the observer, as in the first chapter Mr. Koch has dealt with the conditions of recording from the angle of the technician. While he describes many obstacles overcome he does not overstate the almost heartbreaking difficulties which he had to face in securing these records in perhaps the worst spring for the purpose that England has ever seen—a spring in which the torrents of rain broke all records and rearmament launched into the air squadron after squadron of new aircraft to fly up and down all day and every day with their output of penetrating and all-pervading noise. The Coronation, also, with its more urgent claims on the staff and equip-

ment, cut seriously into the amount of field-work which could be done during the song season. To me as a bird-watcher it seems little short of miraculous, in view of the conditions, that such results on the sound-recording side should have been attained.

CHAPTER III

WOODLAND, PARK AND HEATH BIRDS

ALTHOUGH several of them are found in other haunts as well, the twenty-odd species whose voices are recorded in this second series of *Songs of Wild Birds* are characteristic of British woodlands, parks, and heaths. At least eight of them—the jay, blue and willow tits, redstart, blackcap, garden warbler, wood-wren, and chiffchaff—are so fond of trees or large bushes that they spend most of their lives perching on or moving among the branches and foliage. Some of these, notably the blue tit and redstart, are quite as fond of trees in parks, orchards or large gardens, as of trees in woods, and several of the other birds here recorded, such as the rook, jackdaw, mistle-thrush and stock-dove, are typical of the English or Scottish country park. So in a way is the heron, many of whose best-known breeding colonies are in parks, such as Richmond, Windsor and

Combermere. Of the rest the woodlark, tree-pipit and nightjar are characteristic heathland birds, and the curlew and skylark, although moorland inhabitants over a large part of the British Isles, are found on heathlands in the south-east of England. The carrion crow, magpie and little owl are common to most of these habitats.

The brief notes which follow cannot pretend to give descriptions and life-histories of the species heard on the records, but must confine themselves to sketching a few of the salient characters of each.

The *carrion crow* (Plate IX), whose raucous and varied notes are heard on Record 5B, is often confused with the rook. As both birds are wholly black in plumage, alike in build and identical in size, the confusion is natural. An adult rook can be plainly identified at any reasonable range by the conspicuous patch of bare greyish-white skin which runs all round the base of the bill, including throat and forehead. It looks as if the feathers had been worn away by probing about in the soil, but actually it comes into existence at the second moult, like any other change of plumage. While any "crow" with a bare patch round the

base of the bill can safely be put down as a rook, it does not follow that any "crow" with a feathered base to the bill is a carrion crow. It may, for example, be a first-year rook, which can only be distinguished in appearance by rather inconspicuous differences. The young rook has always a longer and more pointed bill, and like the adult has a bluish gloss, against a purplish and greenish gloss in the carrion crow. The young rook shows deep flesh-colour inside the mouth, turning to slate-colour in the adult, while the carrion crow's mouth is always pale flesh-colour, but the healthy wild bird of either species does not give an observer much opportunity of seeing this point. The carrion crow has a noticeably heavier flight, with more deliberate wing-beats, but to rely on this requires practice. It is not surprising, therefore, that many ornithologists fall back on the frequently uttered notes as the most satisfactory character, and the inclusion in this work of a gramophone record which allows the difference between the carrion crow's hoarse call and the rook's caw to be learnt meets a need which probably every bird observer has felt at one time or another. Both

species have a more substantial range of notes than is often realised, but the carrion crow's can almost always be separated by the more resonant voice in which they are uttered, their more deliberate timing, and the frequency with which they are delivered in a regular series three or four times repeated with a long pause before the next series.

A remarkable difficulty about the carrion crow is that the question whether it is really a separate species has never been definitely settled to the satisfaction of all ornithologists, some believing that the hooded crow, which differs only in its grey body-plumage, and often interbreeds with it, is a local race. The "hoodie" replaces the carrion crow as a breeding species in Ireland, and to some extent in northern and western Scotland. The feeding habits of both forms are such that they appear by common consent on every black list, official and unofficial, wherever they are found. The hooded crow, a bird of wild and remote country, cannot be repressed as effectively as the carrion, which has at times been practically wiped out in the heavily kept districts of such counties as Norfolk and

Suffolk. One unforeseen result of generations of persecution has been to convert Greater London, where little shooting is done, into one of the greatest strongholds of the carrion crow in England. Although the species is well known to differ from the rook in preferring to breed in separate pairs rather than in colonies, both are alike in roosting in company with their kind wherever possible. Crow roosts are naturally much smaller than most rook roosts, a hundred birds forming a large rally for the rarer and more scattered species. The well-known large stick nest of the carrion crow is usually placed in a tree, preferably out of reach of men, and four or five eggs are laid in it, normally in April.

The *rook* (Record 5B, Pl. X) has been described above. In Western Europe it breeds from the Loire valley to the Orkneys, and is particularly common in England and Wales and in Lowland Scotland. The large amount of census work lately carried out on rookeries makes it possible to estimate the breeding rook population of England and Wales as being not very far short of one million pairs. For some unexplained reason rookeries habitually run to a much

larger size north of the Border, the largest recorded in Lanarkshire including more than 2600 nests, while in England a colony of even 600 nests must be regarded as exceptional. There are quite large "rookless areas" in different parts of the country, and although many of these coincide with barren and hilly ground, the reasons for some of them are not so clear. Rooks, unlike carrion crows, do little damage to game and poultry and young birds, and although they do some harm to crops, especially of grain, there are not enough of them, in view of their limited stomach capacity and rate of digestion, to consume any appreciable proportion of the five million tons of cereals raised annually in the British Isles, even if this were their only or their main type of food, which it is far from being.

The *jackdaw* (Record 5B, Pl. XI) is much smaller than the rook and carrion crow, being about the same size as a domestic pigeon. Like its two relatives it has black plumage, feet and bill, but the grey nape and sides of the neck are conspicuous and distinctive, while the more rounded look of the head, faster wing-beats, and above all the shorter and less hoarse calls uttered

at frequent intervals make it fairly easy to pick out even at a distance. Unlike the other common crows, jackdaws nest in holes, either in trees, rocks or buildings, and as they are almost as sociable as rooks at all seasons, and do not move about very much, their distribution tends to be limited to the neighbourhood of cliffs, quarries or crags, large buildings and ruins, or parks full of decaying trees, or similar places where they can find plenty of nesting holes. No other British crow attempts to nest in inhabited buildings, and the jackdaw's efforts to form the necessary large pile of sticks in some chimney or other hollow often cause inconvenience and reprisals. Despite this habit the jackdaw has hardly been more successful than the rook in keeping a foothold in the larger towns, although still familiar in the smaller cathedral cities.

Jackdaws often share with rooks the winter roosting-places to which both species fly in towards dusk from distances of several miles.

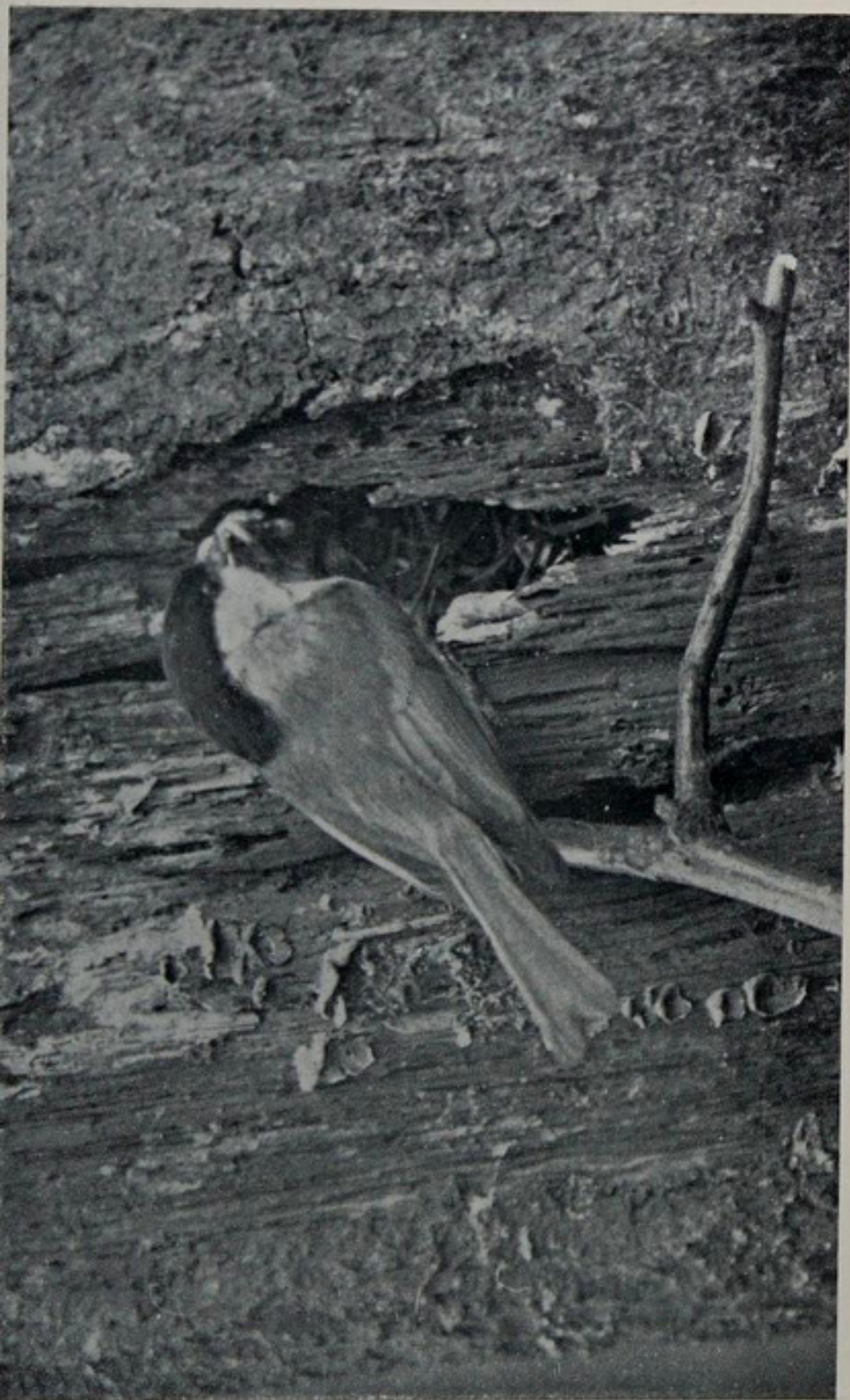
While rooks and jackdaws may be found feeding, roosting or nesting in assemblies of several hundreds, the *magpie* (Record 5B, Pl. XIV), is rarely met in parties of more



TREE-PIPIT AT NEST

O. G. Pike





WILLOW TIT, SHOWING DULL BLACK CAP AND PALE WING PATCH

H. N. Southern



BLUE TIT

O. G. Pike

than one or two dozen, and usually its sociability is confined to a handful of birds. A description is hardly necessary, for this small black-and-white crow with its long broad wedge-shaped tail, its flopping, laboured flight, its noisy chattering language and its conspicuous way of life can scarcely be mistaken for any other species in any conditions. The graceful shape and the lovely green and purple reflections combine with the contrasting patches of black and white to make the magpie probably the handsomest of our crows, while its egg-sucking habits render it one of the most unpopular with farmers, gamekeepers, and protectors of song-birds. Cunning as the magpie is, no crow goes down so easily before determined persecution, and at times large regions such as East Anglia have been practically cleared of the species, although when vigilance is relaxed the birds soon recolonise. The large conspicuous stick nest is often built much lower than that of other crows, in hedgerow thorns or small trees, and its protective dome of generally thorny twigs is not enough to protect it from hostile men and boys where the site is accessible. Like those of the jackdaw, rook,

and carrion crow, the eggs are greenish blue or greyish white in ground colour, but they are much more heavily freckled and spotted with brownish and ashy markings than those of the other three species, and the clutch also is larger, averaging about six eggs and occasionally numbering eight or more. Like other crows the magpie is single-brooded. In England it is found chiefly in wooded country, but in Ireland, where it was only introduced in the seventeenth century, it is widespread even in open and boggy districts. In Scotland it is local and irregular, becoming occasional or absent in the northern Highlands and islands. Even in England the distribution is patchy, and it is rather surprisingly the one common crow which seems unable to flourish in Greater London.

The *jay* (Record 5B, Pl. XIII) breaks away even more strikingly than the magpie from the customary black plumage of the crow family. The square-ended black tail is fairly typical of its group, but no other British crow has anything to compare with the warm reddish-brown upperparts and rufous flanks, the buff underparts and black-tipped ruffled whitish crest, and above all

the lovely and conspicuous blue feathers on the black-and-white wing. Almost as conspicuous as the magpie in plumage, and even more given to attracting attention by his harsh rasping voice, the jay contrives all the same to be the most unapproachable and difficult to watch of our crows. Much more than any other species, jays confine themselves to places where there is ample cover in the form of trees or thickets. Nervous, excitable and vigilant, they have difficulty in settling down in one place, and when they are not fleeing in alarm from some threat of danger, they may often be found noisily mobbing an owl, sucking the eggs of some unfortunate blackbird or throstle, or upsetting the woodland peace by pursuing one another with loud cries from tree to tree. When nesting they can, however, be remarkably quiet and secretive, and the twig nest is smaller, neater and less conspicuous than those of our other crows.

The *skylark* (Record 3A, Pl. XII) owes its fame almost entirely to the wonderful song which can now for the first time be reproduced instead of merely being described. Otherwise there is no reason to doubt that

(like the even more plentiful meadow-pipit) this streaked buff-and-brown bird, with the short ruffled crest, the buff eye-stripe and rear border to the wing, and the white outer tail-feathers would be unknown to most people. Especially in the breeding season it is a bird of wide open spaces, and many otherwise suitable fields seem to be ignored by skylarks simply because they are too shut in by trees or tall hedges to allow that sense of roominess which seems essential for the species.

The skylark is one of the most ground-loving of all our birds, nesting, feeding, roosting and not infrequently singing on the turf, and rarely perching on such vantage points as a post, a fence, a telegraph wire, a bush, a tree, or even a prominent rock or stone. At the same time, few of our birds fly more strongly or are so fond of aerial enjoyment, for apart from the well-known song-flight skylarks are given to skirmishing and pursuing one another on the wing, often with abrupt but not unmusical cries, and when hard weather threatens no species is more ready to move long distances, often in immense numbers, in search of more favourable conditions. In autumn many

Continental skylarks come in over the North Sea.

Although inconspicuous the grass nest in a hollow in the ground is exposed to a good many dangers, but skylarks do not put too many eggs in one basket, the seven to ten laid during a season being spread among two or even three clutches in succession. The species breeds throughout the British Isles in large fields, both arable and grass, in parks which are not too thickly wooded, on heaths, moorland, and sand-dunes where there is sufficient grass and green herbage among the heather or marram-grass, and also on the marshes and saltings. In some of these habitats it is the commonest bird, and owing to its robustness and its capacity for living on a wide range of vegetable and insect food the skylark is probably less vulnerable to weather and climate disturbances than the great majority of our smaller residents.

The *woodlark* (Record 3B, Pl. XVI) is an appreciably smaller bird than the skylark, with a short stumpy tail lacking any white outer feathers. At close range the broad pale stripes which pass above each eye and meet at the nape make a conspicuous

contrast with the very dark ear-coverts. In habits it is very distinct. While the skylark is frequent or common all over the British Isles the woodlark is a local bird at best, and is practically unknown as a breeding species in many parts of the north of England, in Scotland, and in Ireland except a small area in the east. Although not found actually inside a wood, as its name might suggest, the woodlark is fond of places with plenty of bordering or scattered trees, such as parks and commons, heathland with pines or birches, hill pastures fringed by woodland, or large forest clearings.

Trees, which the skylark hardly ever uses as a perch, are frequent singing-stations of the woodlark. Both species most often sing in flight, but with very different styles, the skylark mounting more or less straight up, and hovering head to wind over one point with occasional sweeps over a restricted area, while the woodlark rises more leisurely and ranges up and down over perhaps the better part of a mile of country, fluttering in wide circles at a height of anything up to about a thousand feet or perhaps more. While the skylark will be up

at the first trace of dawn, the woodlark not infrequently flies round singing in the darkness of a summer night. Where one woodlark is found there will usually be several in the neighbourhood, and small parties are frequent, although to see more than about twenty together is exceptional. The nest, placed in a hollow on the ground, is usually fairly well hidden by coarse herbage and receives a clutch of three or four eggs. Breeding begins early, usually in March, and two broods are normal. With the neglect of agriculture and forestry the acreage suitable for woodlarks in England has much increased in recent years, and the species is apparently a good deal more frequent than it was about the beginning of the century.

The *tree-pipit* (Record 3B, Pl. XV) belongs to a genus having much in common with the larks, but actually included in the same family as the wagtails, whose slight, delicate build, slender bill, and graceful walk are characters shared by all the pipits. Unlike the resident meadow-pipit and rock-pipit, the tree-pipit does not winter in the British Isles, and from the time of its arrival in April until well on in June its loud,

far-carrying song makes it easy to locate and identify where its brownish heavily streaked and spotted plumage might not otherwise attract much notice. It is on the whole a ground bird, getting all its food and making its nest among the herbage, but no tree-pipit territory is complete without one or preferably more trees, telegraph posts and wires, or other tall and prominent perches on which the cock can sit and sing in the intervals between song-flights. These song-flights have a characteristic and peculiar pattern, the singer climbing at a steep angle for a hundred feet or so and beginning to sing usually towards the peak of the ascent, after which the wings are held stiffly upwards, and the richest part of the song pours out as he parachutes slowly down, usually to the same treetop or post from which he rose, but often also to the ground. The rock-pipit and meadow-pipit have rather similar song-flights, but they usually climb less steeply, and their songs are less closely linked with the parachuting glide. All three differ from the larks' in not carrying the singer above about one or, at most, two hundred feet from the ground. The tree-pipit's song is the most musical and

also the most variable of the group, some singers, like the one on our gramophone record, indulging in canary-like rolls or trills. The voice, however, can hardly be mistaken once learnt. After the song-period is over tree-pipits are still readily picked out by the call-note, which is more drawn out and much more emphatic than the meadow-pipit's. Although distributed in summer all over the mainland of Great Britain, tree-pipits are infrequent in many districts, and do not extend to Ireland. Parks, commons, heaths, pasture with plenty of shade trees, railway embankments and cuttings, and hillsides or valleys among downs or moors are favourite types of habitat. The nest, usually well hidden, is built of and among grass; the four to six eggs vary so greatly in colour and markings that ornithologists with more enthusiasm and money than sense compete with one another in collecting the largest possible range of variations.

The *blue titmouse* (Record 4A, Pl. XVIII) is more familiarly known as the blue tit or tomtit, and is found throughout the British Isles wherever there are trees, except in the Orkneys, Shetlands, and the remote Scottish islands. It is rather rare in the extreme

north of Scotland, and in areas of open country, but may be found in thickets and hedges where nothing grows tall enough to be dignified by the title of a tree. It is, on the whole, our commonest and also our handsomest tit, the blue cap, wings, and tail, the greenish back and yellow underparts, the white cheeks and wingbar and the white ring round the crown contributing to a display of colour which would be considered marvellous if the species had to be sought out in some remote part of the country instead of coming daily into every garden. It is a sociable bird, and although it does not breed in colonies, several pairs will nest quite close together where conditions are favourable, especially where nesting-boxes are provided. In winter flocks of up to several dozens range up and down the woods and hedgerows, mixed with tits of other species and with such associates as the goldcrest, nuthatch, and treecreeper. Such flocks are, however, constantly splitting up and reforming in different sizes and combinations, and if they are followed they are generally found to be working up and down a very limited area.

The greater part of a blue tit's life is

spent in collecting and eating insects off the trees and bushes, or more rarely the ground. It does some damage to fruit and buds, but is considered on balance to be very beneficial. The nest, in a hole, receives a clutch of from eight to twelve or more eggs, and the feeding of the young until they are fledged is an impressive operation for a bird so small and so limited in foraging radius. The hissing noise made by the sitting bird when disturbed is familiar. Although the species is so common its very striking courtship behaviour is remarkably little known. The most conspicuous performance is the "ghost flight" in which a bird, presumably the male, glides through the air with the blue primaries so splayed as to give the illusion of a misty veil within which he floats with fairy-like lightness and grace to some tree on which he comes to a rest with wings still partly opened, and displays. This performance should be watched for in March and April.

The *willow tit* (Record 4A, Pl. XVII) is the same species as the well-known chickadee of North America, but owing to its many local races and its close resemblance to the marsh tit, it has given ornithologists

a great deal of trouble, and even now its distribution and habits have not been entirely cleared up. In Great Britain it has now been identified in nearly all the counties up to the Highland line, and at any rate used to occur farther north in Moray, Inverness, and Ross. It is, however, an infrequent species in most districts, and seems to be considerably outnumbered by the marsh tit, except in Scotland (where marsh tits are unknown) and in some parts of Yorkshire, Cheshire, and the north Midlands. In and around the Weald of Kent, Surrey, and Sussex it is found in fair numbers, although the marsh tit is on the whole much commoner. In some parts of Europe the willow tit is found at much higher altitudes than the marsh tit, but no such distinction has been made out in Great Britain, where both species are found mainly between sea-level and about eight hundred feet. The willow tit seems to be the less attached to woodlands of the two, and is often met with in thickets, small spinneys, or even dense hedgerows, as well as in clearings, and in swamps with some standing timber. As the nest is usually if not always in a hole bored by the bird

itself with its feeble bill, the breeding distribution must be limited to places where really soft rotten stumps, trunks or branches are available, but after the brood of some seven or eight young is reared a good deal of local movement seems to take place, and parties of willow tits appear in localities where they are not found breeding.

In the field the British willow tit is best recognised from the marsh tit by the large and distinct pale buffish panel on the folded wing (formed by the edges of the secondaries), by the dull matt black instead of glossy black crown, and above all by the notes. We have not yet succeeded in realising our ambition of recording for the gramophone the language of the marsh and willow tits side by side, but a record has been made of one of the most characteristic call-notes of the willow tit, which can now be played and learnt by any reader of this book. The characteristic qualities of this call, which is used at all seasons, and probably oftener than any other, are its slurred, almost grating, emphasis, and its very low pitch. Most tit language is extremely distinctly enunciated, and is of medium to

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high pitch. The great tit notes in *Songs of Wild Birds* had a frequency range of from 2900 to 5100 cycles per second, higher than any bird then recorded except the wren. The blue tit notes in the present work range from 1800 to 4000 cycles. By contrast the willow tit call ranges from as low as 750 to 3250 cycles, and therefore compares with the voice of a crow ranging between 600 and 750 cycles, or that of a cuckoo (620-780 cycles). No doubt other notes of the willow tit go up higher, but the gruffness or harshness typical of the best-known call-notes (including the loud spring call "tchay tchay tchay") and also the rich warbling of the song are associated with a lower pitch of vocabulary than that of most if not all other British tits.

The *chiffchaff* (Record 4A, Pl. XX) is a summer migrant, but arrives so early, in March, and stays so late in the autumn that it is with us for nearly two-thirds of the year. In fact, a few winter in favourable spots, at any rate in some years. Although a common and familiar bird in many districts of England and Wales, Ireland and southern Scotland, it is curiously patchy in its distribution, being rare in plenty of

places which are within its range and seem perfectly suitable. A small olive-greenish bird with dirty white underparts, moving about restlessly among foliage often in high trees, the chiffchaff would often escape attention but for its persistent, far-carrying, and unmistakable song, which can be heard throughout the spring, summer and autumn months. Failing the song, the only really reliable method of field identification is to approach near enough to see that the feet ("legs") are nearly black, whereas in both the willow-wren and wood-wren they are pale brown. The nest, like those of its two close relatives, is domed, but differs from theirs in being raised above the ground,* usually in low evergreens or other shrubs and undergrowth. It is a bulky structure, often resembling on the outside a bunch of dead leaves; inside it is copiously lined with feathers. Five or six eggs are laid, early in May, and there is not usually a second brood.

The *wood-wren* or wood-warbler (Record 5A, Pl. XIX) is a close relative of the chiffchaff, but is a larger bird, with longer and

* Occasionally the willow-wren will also build about the ground, but this is unusual.

more pointed wings, a greener back, and sulphur yellow breast and flanks contrasting with a pure white belly. The wood-wren reaches England about a month after the chiffchaff, and leaves early in the autumn. It is the most local of the three leaf-warblers, especially in Ireland and the North of Scotland, and is not often found away from considerable stands of well-grown timber, especially beech and oak woods. Although it lives almost entirely among the foliage, often at a considerable height, its nest is placed in a hollow in the ground, usually in a bank under a tree. Unlike those of the chiffchaff and willow-wren, it is not lined with feathers. The five to seven brown-spotted white eggs are laid late in May and there is only one brood. The wood-wren has proved to possess one of the most high-pitched of British bird-songs, reaching a frequency of 6000 cycles per second, which justifies Gilbert White's original description of it as "a sibilous shivering noise." It also frequently uses what appears to be a second song, a clear piping "dür-dür-dür" note several times repeated. The two are often used alternately or are combined, but the characteristic sibilant



Eric J. Hosking

WOOD-WREN



GARDEN WARBLER AT NEST

O. G. Pike

trill is the more frequent. Both are heard on the record.

The *garden warbler* (Record 5A, Pl. XXII) is in appearance and habits the least conspicuous of our common warblers, being olive brown above and greyish white below, with some tinges of buff, and spending its life in well-grown thickets or in trees, where it is difficult to watch closely among the foliage. But for its rich and plentiful output of song it would probably be among the least known of British birds, especially as it does not arrive until late April and leaves again in September. It is rarely found in Scotland much north of the Highland line, is very local in Ireland and in parts of Wales, and even in the rest of Great Britain there are many areas where it is infrequent, at any rate in some years. It is often suggested that the garden warbler and the blackcap are rival species unable to tolerate each other's presence in the same wood, but there are many woods where both occur, sometimes in almost equal numbers. Both birds are rather erratic in their distribution from place to place and from year to year, but there is a fairly well-marked preference in the black-

cap for a habitat with tallish trees in addition to thick bushes or shrubs available, whereas the garden warbler appears to prefer rather lower or more open growth, such as coppice woods with well-spaced standards or none at all, and thickets, spinneys, woodland fringes or shrubberies. These groups of habitats often overlap, and the two species may therefore quite frequently be found side by side.

The haunts of the two being so similar, and the birds so often hidden in dense cover, it becomes particularly important to know the songs well if the observer is to detect the presence and identity of one or both species wherever they occur. The distinction between the two voices and song-patterns, although quite pronounced, is not very easy to describe, and the making available of a gramophone record of both as part of the present work will for the first time enable the difference to be clearly learnt by anyone who will listen carefully. Both songs go on into July, but about the middle of April the blackcap's can be learnt before the garden warbler has arrived.

The grass-stalk nest lined with bents and hair is usually less flimsy than a blackcap's

and is placed lower down in bushes or undergrowth. The eggs are sometimes indistinguishable.

The *blackcap* (Record 5A, Pl. XXI) is a more conspicuous bird than the garden warbler. The black cap of the adult male (chocolate brown in female and young), his ashy-grey underparts and ashy-brown mantle distinguish him even at a glance from the many brownish or greenish birds liable to confuse the inexperienced observer. Blackcaps also are not very shy, and good views can usually be obtained of them with a little patience, as they move from twig to twig. They are hardy, and although normally summer migrants occasionally stay through the winter. Nevertheless, few penetrate as far north as the Scottish Highlands to breed, and the species, although less local than the garden warbler in Ireland and western Great Britain, is by no means universal.

In spite of its earlier arrival the blackcap does not begin to lay much before the garden warbler, usually during May, and seems rarely to bring up more than one brood, which is rather a small one, often numbering no more than three or four

young. Like the garden warbler the black-cap has a strong taste not only for insect food but for soft berries of all kinds, including unfortunately such cultivated varieties as raspberries and currants, as well as elder and rowan berries. When disturbed or alarmed it uses a loud chiding *tac, tac, tac*.

The *mistle-thrush* (Record 4B, Pl. XXIV) is our largest and probably our loudest songster, if the term is used in its popular sense. Like the song-thrush in general plumage this species can be recognised by its much larger size, greyish-brown instead of olive-brown head and back, the larger, rounder, and more widely spaced black spots on the white and buffish underparts, and the white patches on the outer tail-feathers. It is a bold, aggressive, hardy bird, famous for its habit of singing in harsh weather, which has given it the name of "stormcock," and for the earliness of its nesting, which begins sometimes in February and regularly by the end of March. It is possible to see young mistle-thrushes already out of the nest before the last field-fares have left to begin breeding in Scandinavia and before many summer migrants have arrived. The large nest of moss, grass,

and so forth is usually on the fork of a tree, often high above the ground, and four eggs are usually laid in it. A second brood is reared, but by the beginning of June breeding is usually at an end and many mistle-thrushes shift quarters to the hill pastures and other places outside their breeding habitats.

When a cat, owl, jay, or other disturber of the peace is about the mistle-thrush is usually among the boldest and noisest protesters, marking the danger point and keeping up a flow of rasping, churring anger-notes. At times it does not hesitate to attack the intruder. Although the mistle-thrush lives chiefly on berries and fruits, it shows on the whole remarkable talent for choosing those which are of no concern to the fruit-grower or farmer, and rarely gives rise to serious complaints.

In spite of its greater hardiness and of its wide distribution in the British Isles the mistle-thrush is almost always much less numerous than either the blackbird or the throstle. It is, however, conspicuous out of proportion to its abundance, owing to its habits of flying about strongly over wide tracts of country, and of feeding in the

middle of large fields where its upstanding posture is readily picked out. Both the scolding alarm-note and the loud warbling song are also conspicuous, although the regular song-period is very short, beginning in January and ending early in May.

The male *redstart* (Record 4A, *Frontispiece*) is one of the handsomest of British birds, having a chestnut tail, rump and breast, a blue-grey crown, nape, and upper back, a black chin, throat, and cheeks, and a white forehead. All the same, the species is relatively little known. Although found right up to the north of Scotland, it has an unaccountable way of becoming very scarce in places where it was formerly common, and of avoiding quite large regions for no apparent reason—for example, it is common as a breeding species in parts of Surrey but rare in Sussex, and is much commoner in parts of the Highlands than it is in Cornwall. Moreover, even where redstarts flourish they may easily be overlooked by those unfamiliar with the song and calls, as the bird may easily be missed among the branches. In France and Germany the redstart appears more of a garden bird than in Great Britain, where its favourite haunts seem to

be parks with plenty of old timber, river banks, especially those fringed with pollard willows, and open woodland or woodland borders.

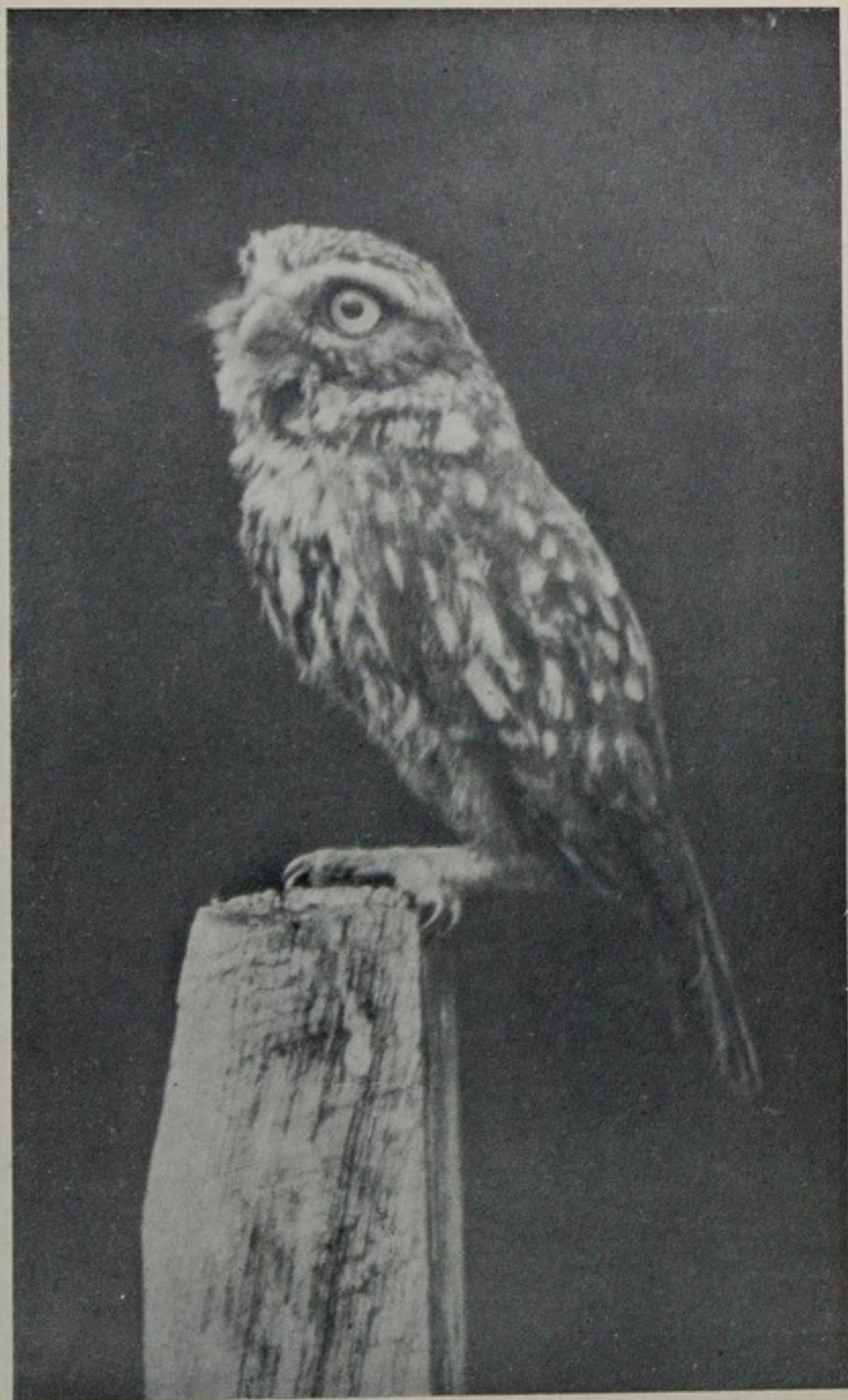
A summer migrant, the species usually appears in the first half of April, and generally from five to seven eggs are laid in May in the nest, which is placed in a hole in a tree, stump or wall. The song is not often heard after June, and although often containing very musical warbling, is usually little more than a fragment.

The *nightjar* (Record 4B, Pl. XXV) is about the latest to arrive of our summer migrants, rarely appearing before May and often after the middle of the month. It is an extraordinary and fascinating bird, very slender, with long pointed wings and long tail, a huge gape and eyes, and a soft plumage richly marbled with greys, browns, and various shades of chestnut and buff. The male has conspicuous white spots on the outer feathers of wings and tail. At rest it sits very low, with the underside of its body touching the ground. When on a tree it prefers to sit along rather than across the branch. Unless disturbed it is rarely seen on the wing before dusk. Nightjars

are not common birds anywhere, but they are well distributed over the heaths, moors, commons, and open woodlands of the British Isles, and in favourable places the loud, far-carrying, vibrant, jarring note may be heard from several birds at once, from May until July or even later. The sound is usually uttered from a tree, but also before alighting and after taking flight, or occasionally from the ground. A clapping noise is also made, apparently through striking the wings together over the back during flight, and there are other vocal notes, one of which is heard on the record.

There is no nest, the two eggs being laid on the bare ground, usually among dead leaves, bracken or gorse in an open place. Like the plumage of the bird their colouring is intricate and delicate. They have no "big end," being practically symmetrical. There are frequently two broods. The food consists entirely of insects taken on the wing.

The *little owl* (Record 5B, Pl. XXIII) is a Continental species which was only a straggler to the British Isles until the nineteenth century. Successive introductions established a British stock, which by 1900



LITTLE OWL

O. G. Pike



had colonised Kent, Northamptonshire, Bedfordshire, Rutlandshire, Buckinghamshire, Hertfordshire, and Nottinghamshire. During the next thirty years the spread went on with apparently increasing rapidity, and the species colonised the greater part of England and Wales. It did not, however, gain a foothold in Scotland, and remained uncommon in many parts of the north and west. So far as can be judged little owls are no longer extending their range or increasing their numbers at anything like the same rate; there is some reason to suspect a decrease in certain areas. The economic status of the species has been the subject of violent controversy, and it has been blamed for decreases of black-birds, nightingales, and even red-backed shrikes, not to mention game chicks. The little owl has been recorded at one time or another as having eaten earthworms, spiders, centipedes, many insects (including moths and beetles), mammals from shrews to rats, wild birds from storm-petrels to wood-pigeons, game chicks, and minnows. Some of these items, however, are probably exceptional, and the problem has been to determine how frequently each is eaten, in

order to judge the balance between harmful, neutral and useful results, and in order to find whether certain items such as songsters and game figure often enough in the diet to cause significant harm to the stock. The British Trust for Ornithology is just completing an investigation into this problem.

The little owl is a small, dark, greyish-brown owl with whitish spots and bars and large yellow eyes set in a characteristically owlsh facial mask. Unlike most of its family it is often seen about in the daytime. The eggs, usually from three to five, are laid at the bottom of a hole, generally in a tree, but sometimes in a building or in the ground. They are laid in April and take nearly a month to hatch: there is only one brood.

The *common heron* (Record 4B, Pl. XXVII) is found all over the British Isles, and there is no bird so widely distributed whose status is so precisely known. In 1928 the *British Birds* Census of Heronries secured an almost complete count of the nesting pairs in England and Wales, numbering approximately 4000. Apparently owing to the very hard winter of 1928-29 there was a drop of some fifteen per cent. the follow-

ing season, followed by a recovery during the next two years. Since 1932 sample counts have shown that the heron population as a whole has been maintained around the 1928 level, although in east and south-west England the species has diminished. Norfolk was in 1928 the county with the largest heron population, followed by Sussex and Somerset. At that time four English heronries had 100 or more nests, and sixteen had 50 or more nests. Twenty-one solitary nests were accounted for.

The heron is, apart from the mute swan, the largest of our common birds, and its long rounded wings, long neck, long legs and long yellow beak, with its characteristic grey and white plumage, make it easy to recognise. Like other herons it has some fine plumes, which hang from the nape and the breast. It breeds early in the year and the three to five large, pale, bluish-green eggs are usually laid in February or March in a bulky nest, generally built of sticks on a branch of a tall tree. Two broods are sometimes reared, and after leaving the nest the birds disperse widely, some from heronries in the south of England going across the Channel, while some

immigrants come in from Scandinavia. Herons in a wild state probably live for at least twenty years in favourable conditions. The food is very variable, but in most cases the bulk of it is formed by fish, and herons are often seen fishing in tidal as well as in fresh waters. The language of the heron is extraordinary, and is fully sampled on the record.

The *stock-dove* (Record 4B, Pl. XXVI) may be distinguished as the only one of our four pigeons which has no white in its plumage, either on the neck and wings like the wood-pigeon, on the rump like the rock-dove, or in the outer tail-feathers like the turtle-dove. It is a medium-sized bluish-grey pigeon, its most striking points being the metallic green patch on the side of the neck, the vinous purple throat and breast, and the two broken black bars on the wing. Like other pigeons it is sociable, and may be seen in flocks and parties either separately or mixed with wood-pigeons or turtle-doves, especially on fields where there is plenty of grain, leaves or seeds to be eaten. It differs from the wood-pigeon and turtle-dove in not making a proper nest, but laying its two eggs in holes in trees, buildings

or the ground, sometimes making use of a rabbit-burrow. Two broods are reared. The stock-dove is a local and not very common bird in the British Isles, but its range has steadily been spreading. Since the middle of last century it has colonised both Scotland and Ireland, and has increased in numbers in many English districts.

The *curlew* (Record 3A, Pl. XXVIII) spends the autumn and winter months chiefly on or near the seashore, but moves inland in spring to breed on a few favoured heaths and commons of southern England, and more freely on the moors of west and north England, of Wales, and especially of Scotland and Ireland. It can at once be distinguished from all other British birds except the whimbrel, its close relative, by its slender down-curved bill, sometimes as much as six inches long. Both birds have an intricate pattern of browns, buffs, and white on their plumage, and both have the same type of bill, but the whimbrel is considerably smaller, with a bill shorter even in proportion to its size, and a darker back and crown, the latter having a broad pale streak down the middle. A more practical distinction is the cry of the curlew, which

is excellently reproduced on the record and is quite unmistakable.

The curlew lays usually four large greenish or brownish eggs which take a month to hatch. There is no nest but a scrape in the bare ground with a little lining, and only one brood is reared, usually starting in April. Curlews are not long-distance migrants, but they move about a good deal and many cross over from Great Britain to Ireland for the winter.

CHAPTER IV

PROGRAMME OF THE RECORDS

MANY people will wish to listen to the gramophone records incorporated in this work with some means of verifying what every note they hear is, and of ascertaining what to listen for specially and at what points. With that object we have prepared the following programme, indicating what can be heard on each side, and precisely at which moment each song occurs. The programme is arranged in minutes and seconds of playing time of each record at the standard turntable speed (78). It is important to make sure that the gramophone is set at this speed before playing, because some very odd effects are given, particularly with certain notes, if the turntable revolves too slowly or too fast. Those who wish to test this for themselves should try playing the wood-wren's song at the start of Record 5A at different speeds, and notice how it changes almost beyond recognition.

By starting each record so that the first sound upon it is heard as the seconds hand on the listener's watch or clock points to 60, the exact time when each songster will perform can readily be followed on the programme, and any confusion or doubts about which song or note is which can in this way be set at rest. The recordings of each songster, except on Record 5B, are separated from one another by smooth bands, plainly visible on the surface of each record, so that any desired song may easily be located and played without going right through the record. For instance, Record 5A is devoted to the wood-wren, blackcap, and garden warbler: in order to play the garden warbler separately the needle should be started on the second of the two bands and the garden warbler will be heard at once. The main songs or notes on each side and the order in which they come are indicated on the labels. In most cases the use of a loud needle is recommended, but the woodlark and one or two other songs also sound well with a soft needle. It must be remembered that the capacity of different gramophones to reproduce the higher frequencies varies far more than their



HERONS AT THE NEST

H. N. Southern



capacity to make ordinary music sound satisfactory. The use of good apparatus, where possible, will be found well worth while.

For the convenience of those who use these records in conjunction with those issued in *Songs of Wild Birds* the numbering follows on where that work left off, our first record here being therefore No. 3. Although only 21 species are claimed on the titles the voices of no less than three dozen can be heard at one point or another in playing these records. To play the whole lot through takes nearly twenty minutes, and each must of course be played many times before all the sounds can be learnt.

Record 3A. (a) Skylark in the air. (b) Skylark on the ground. (c) Curlew.

The skylark's well-known song is heard on this record in two versions, first on the wing, lasting rather more than a minute and a quarter, and then for a period on the ground. The song is probably the most sustained to be heard in the British Isles, for it frequently goes on as long as five minutes or more without any pause for breath. The woodlark's, heard on the reverse side (3B), is continued on occasion for an hour or more, but in this case the song is broken up into clearly marked phrases with distinct intervals in between.

The curlew, heard last, has a wide range of loud and melodious notes, the most important of which are all recorded, including the ecstatic "song" or bubbling chorus and the thrilling cry from which the bird is named.

COMMENTARY.

Min. Sec.

0 00

As the record starts, a skylark is heard rising strongly, pouring out the typical exuberant song. At times the volume of song drops a little, but after a little while it recovers full strength, such fluctuations being quite normal as the bird sings on the wing.

0 30

The singer is now getting quite high above the microphone, and the song is

Min. Sec.

- perceptibly fainter. It goes on retreating into the distance and by
- 0 45 is rather faint. During the next ten seconds the peak of the ascent is passed and by
- 1 00 the increasing loudness of the song announces that the lark is on the way down. He continues to get louder and finally breaks off quite close above the microphone at

1 18

Band.

- 1 23 Now we hear the rather less spirited but quite creditable performance of a skylark singing on the ground. It is much more confused and interrupted than that of the bird on the wing. At the very beginning, and again at the close, a distant aeroplane engine is faintly audible.
- 1 54

Band.

- 2 02 With startling clarity a curlew calls, using the rather staccato note which expresses anxiety as the bird flies round and round keeping watch on a human trespasser. The cry is repeated twice at brief intervals.
- 2 07
- 2 10
- 2 15 Now after a slightly longer pause a more querulous variant of the same note is used,

84 MORE SONGS OF WILD BIRDS

| Min. | Sec. | |
|------|------|---|
| | | apparently indicating that the bird is getting more worried. |
| 2 | 22 | This is repeated after seven seconds. |
| 2 | 29 | Now begins a magnificent series (18 repetitions) of the famous note from which the curlew takes its name, not only in England but in France (Courlis) and in Italy (Chiurlo). How this note was recorded is told on page 35. It lasts nearly fifteen seconds. |
| 2 | 45 | With scarcely a pause we pass to the remarkable bubbling chorus or "song" uttered as the bird glides slowly through the air. It lasts just under ten seconds, working up to its climax in the two before the end. An aeroplane, although distant, can be heard plainly in the background, and just as the chorus closes we catch the sound of a train starting up some way off. |
| 2 | 59 | We close with three more of the more |
| 3 | 02 | musical anxiety calls with which the |
| 3 | 06 | curlew series opened. |

Record 3B. (a) Woodlark. (b) Tree-pipit.

The song of the woodlark, with which the record opens, can be heard occasionally in almost any month of the year, but on the whole it is later than that of the skylark, getting into full swing towards the end of February instead of at the beginning of that month, and continuing well into the middle of July. The

song, often heard rather faintly floating down from a distance (as in Record 5B), is here to be enjoyed at its best. The singer is an outstandingly good one in unusually vigorous song, uttering about a dozen phrases a minute against the more usual eight or nine.

The tree-pipit, on the second part of the record, is also an uncommonly good executant, although the full-length song uttered in flight is not recorded, these examples being from the less elaborate version used as the bird sings from a perch or during brief excursions. The song is heard at its best during the last three weeks of April, and in May and early June.

COMMENTARY.

Min. Sec.

0 00

The first two minutes of this record is given up to twenty-three phrases from the extremely musical song of the woodlark, which deserves to be much better known than it is. The bird is heard close to the microphone in exceptionally good conditions. The phrases begin at intervals of 3-10 seconds, usually four or five, but the actual gap between the end of one and the start of the next is usually only one or two seconds, and only in one case at the end of the first minute is there a fairly long gap of about seven seconds. Phrases are from $2\frac{1}{2}$ -5 seconds each in length.

A very loud one comes at

I 10 (this is the fourteenth), and the sixteenth at
I 20 is an outstandingly sweet one.

Min. Sec.

There are no background notes, except for a very faint blackbird between the third and fifth phrases.

The woodlark ends at

1 56

Band.

- 2 00 A distant cuckoo. Almost at the same instant a tree-pipit sings, putting emphasis on the concluding notes, which gain effect from being delivered with great deliberation at a very slow rate. The songs heard on this record are mostly delivered from a tree-top perch, and are not so long or elaborate as the version used as the bird flies up and parachutes down again, the longest here taking about seven seconds.
- 2 08 A distant cuckoo is heard more distinctly.
- 2 10 The tree-pipit's second song contains a roll worthy in its execution of a canary, and the third at
- 2 16 includes another.
- 2 20 A carrion crow is heard calling in the distance.
- 2 26 The tree-pipit's fourth song is slightly interrupted. As in the meadow-pipit a high proportion of songs of this species are incomplete in some respect. There is some wind interference here.
- 2 33 The fifth song is perhaps the most typical of all.

Min. Sec.

2 40

The sixth and final one ends up with exaggeratedly drawn-out notes, each one being held long after it would be expected to finish.

Record 4A. (a) Redstart. (b) Blue tit. (c) Willow tit. (d) Chiffchaff.

The redstart is quite closely related to the nightingale, robin, and other famous songsters, and has a voice of considerable musical power, but its song is unfortunately very fragmentary and disjointed, and has a habit of being uttered in such a way that the listener is unlikely to form a good impression of it. The present record is typical in finding the redstart continually being interrupted or overwhelmed by other more aggressive voices, owing partly to the long and irregular intervals between the short and inconclusive snatches or bursts of song. One of these voices is that of the starling, which, as a fellow-inhabitant of hollow trees in the breeding season, is a frequent neighbour of the redstart, and another belongs to the nuthatch, also often found in the same places, as both birds have an attachment to old deciduous trees. The nuthatch's clear whistle is heard again at the end in the intervals of chiffchaff music, but as only this one note has been recorded, mixed up with other voices, we did not feel justified in giving the species a section of the record to itself. The redstart is followed by the cool, assured voice of the blue tit and the deep, chiding whisper of the willow tit—a rather scarce local and little-known

species whose voice is its most striking characteristic. The record concludes with the familiar and pleasant although slightly monotonous notes of the chiffchaff.

COMMENTARY.

| Min. | Sec. | |
|------|------|--|
| 0 | 00 | The short musical warble of the redstart is heard, followed by a cuckoo calling. |
| 0 | 04 | A great tit calls. |
| 0 | 09 | The crow of a cock pheasant. |
| 0 | 10 | The redstart sings again. |
| 0 | 17 | Third song of the redstart, followed immediately by some rather inward song from a starling. |
| 0 | 19 | The long repeated penetrating whistle of the nuthatch. |
| 0 | 23 | The redstart's fourth song, followed by wood-pigeon cooing. |
| 0 | 30 | The redstart's fifth song. |
| 0 | 33 | The cuckoo begins calling, and goes on for seven seconds. A blackbird also sings. |
| 0 | 38 | A cock pheasant crows. |
| 0 | 42 | Sixth song of the redstart, immediately |
| 0 | 44 | followed by another nine seconds of cuckoo calls, and a great tit in the background. |
| 0 | 51 | Another cock pheasant crow. |
| 0 | 52 | Seventh and last song of the redstart. |

Band.

- | | | |
|---|----|---|
| 0 | 58 | The blue tit starts calling, with a very faint wren singing some way off. |
|---|----|---|

- | Min | Sec. | |
|-----|------|---|
| I | 06 | A farmyard cock can be heard crowing. The blue tit goes on calling at frequent intervals. |
| I | 35 | An ejaculation from a moorhen followed by more notes of the blue tit. |

Band.

- | | | |
|---|----|---|
| I | 45 | The low chiding call of the willow tit begins, and is several times repeated. |
|---|----|---|

Band.

- | | | |
|---|----|--|
| 2 | 06 | The chiffchaff strikes up. In between the series of loud familiar notes can be heard the curious low whispered chirp by which the bird seems to link them for his own ear alone. |
|---|----|--|

There is a wood-pigeon in the background.

- | | | |
|---|----|---|
| 2 | 24 | Again the loud repeated piping whistle of the nuthatch followed by more chiffchaff, and then at |
| 2 | 35 | the nuthatch again. |

For the remaining twenty seconds the chiffchaff has the record to itself, except for a wood-pigeon in the background and the very faint song of a wren.

Record 4B. (a) Mistle-thrush. (b) Stock-dove.
(c) Heron. (d) Nightjar.

Of all the species suggested as needing recording after the success of *Songs of Wild Birds*, the mistle-thrush was demanded most often. Only too appropriately the bird on this record had to be recorded in stormy weather, in which the mistle-thrush loves to shout down the gale. In general form the song is much nearer a blackbird's than a throstle's, for it consists of a brief warbled phrase continuous for just one or two seconds and followed by an interval usually at least as long as itself, while the throstle's consists of a series of clearly pronounced single notes, each as a rule being repeated three or four times before a different sound is uttered, and each being followed by a very brief pause, enough to separate the notes but not generally enough to be measurable in time. The mistle-thrush's song may be told from the blackbird's by being as a rule much louder, more bawling, rougher and wavier. The greater apparent leisureliness of the blackbird's easy effortless delivery is reflected in the output, for while a blackbird rarely produces more than from half a dozen to a dozen songs a minute, even when in full vigour, the mistle-thrush will go up to as many as twenty. The mistle-thrush commands a lesser range of pitch than either of the others, not going down below a frequency of 1500 on our records, whereas the throstle goes down to 730 and the blackbird as low as 620. The throstle also goes higher than the mistle-thrush at the other extreme, while the blackbird stops short at the same

point, about 4500 cycles. For comparison, apart from the good selection of throstle and blackbird songs given in *Songs of Wild Birds*, there is an excellent blackbird on Record 5B of the present work, and a throstle can be heard in the background of 5A.

The second "song" on this record is the cooing of the stock-dove—a remarkable and easily memorised sound, which may be contrasted with the wood-pigeon cooing heard clearly in the background of the heronry noises rather more than a minute before the end of the record. These heronry noises give a vivid idea of the variety and expressiveness of the language of what is often supposed to be a rather silent bird. Mr. C. L. Collenette, the official observer of the park in which this heronry is situated, has contributed the following notes :

"The tack-tack-tack of the young.—Made by hungry young birds with or without the presence of the parents, but louder and more continuous when the parent is at the nest and preparing to feed them.

"The single note of the adult.—Used as a warning or alarm note when an intruder is in the heronry. Also used in flight when away from the heronry, sometimes when no other bird is in sight.

"The long and varied notes of the adult.—Used when one bird returns to the nest at which its mate is present. It starts as a greeting, and the rest is 'conversation' in which both of them join. On your record this is extremely well done, and I have never heard it better in the heronry."

The "single note" referred to is the one usually written "frank," which gives the species one of its local names—"Old Franky." The heron's language is the lowest in pitch of any so far recorded on the gramophone, ranging between frequencies of 140 and 550. The next and final notes are those of the night-jar, the eerie churring or jarring song being plainly audible, while a quick ear will catch the much higher pitched "kwik" just before the start and just after the finish of the churr.

COMMENTARY.

| Min. | Sec. | |
|------|------|---|
| 0 | 00 | The mistle-thrush sings a brief snatch, followed by another after only a second's interval. House-sparrows around a neighbouring house—it is the White Lodge in Richmond Park, the Duke of Windsor's birthplace—are heard chirruping briskly. |
| 0 | 18 | A stock-dove's grunting coo is heard in the distance. |
| 0 | 23 | A particularly loud gust of wind pre-ludes the "storm-cock's" ninth song. |
| 0 | 26 | Immediately afterwards a cock pheasant crows, and the sparrows again become noticeable. |
| 0 | 39 | A chaffinch sings some way off. |
| 0 | 40 | The fourteenth mistle-thrush song is accompanied by distant cawing of a carrion crow. |
| 0 | 48 | The sixteenth and last mistle-thrush phrase is followed by another crow note. |

Band.

- 0 53 The stock-dove starts cooing with vigour.
 A cock pheasant is heard crowing in the
 0 59 background, and then a redstart sings,
 1 00 followed by a carrion crow calling.

Band.

- 1 10 Now we are in the heronry, listening to
 the lively conversation of the adults, its
 deep tones contrasting with the voice of a
 blackbird singing in the background. We
 hear what Edmund Selous described as
 "almost a gabble of excited welcoming,
 crowned and dominated by the deep and
 long-drawn-out tenderness . . . of the true
 1 20 nuptial note, the expressive 'choo-oo-
 oor.'"
 1 29 A quite different note begins, the im-
 patient "*tack-tack-tack*" of the hungry
 young in the nests.
 1 43 The blackbird is heard very loudly
 singing.
 1 46 The "tacking" of the young again
 gives place to a welcoming conversation
 between a sitting bird and its returning
 1 55 mate, leading up rapidly to the nuptial note.
 2 07 The heron's striking alarm-cry rings out,
 2 09 and is repeated two seconds later.
 2 16 More excited conversation, with a wood-
 pigeon cooing in the background. Then
 more of the food-cry of the young and
 another burst of adult conversation, in

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Min. Sec.

the course of which the blackbird sings loudly again, until the end at

2 52

Band.

2 54 The nightjar utters a sharp and rather distant alarm note, which needs listening for carefully.

2 55 A second later the characteristic churring begins,

3 00 rising and falling slightly for just over

3 26 thirty seconds. The churring ends and a

3 27 second later we again hear the sharp "kwik" alarm.

**Record 5A. (a) Wood-wren. (b) Blackcap.
(c) Garden warbler.**

As the most high-pitched bird-voice of which we have yet made records, the wood-wren's raises the difficulty of going right up to the limit of the compass of an ordinary gramophone. So distinctive, however, is the pattern of this tripping, accelerating trill that even though part of its quality may be lost on some instruments it cannot fail to be clearly recognised. The length of both the stuttering preamble and the final trill vary, and this bird's song is less prolonged than some. It is uttered in an unhurried fashion, a new song beginning on an average every ten seconds, with an interval in most cases of six or seven seconds between the performances. The wood-wren is remarkable for having what is believed to function as a

second alternative song, heard at the same season as the first, from late April to July, and usually uttered in a fairly regular proportion of once to every five to twelve repetitions of the trilling song. This second song, occasionally blended with the first, is a clear piping "dür-dür-dür-dür," which can be heard well on this record. It sounds fairly deliberate but is really very quick; this bird utters it at the rate of three times a second.

The blackcap's loud melodious warble, heard next, is often confused with the song of the garden warbler, the last bird on this record. Careful listening will show the many differences which exist between the two. The blackcap's song is much wavier and more erratic in delivery, and is broken up into much briefer phrases, with longish intervals in between. Occasionally a blackcap will rise to a lovely burst of music lasting anything up to half a minute or more uninterrupted, but these are always followed fairly soon by relapse to the typical briefer phrase. On this record we hear the bird at the beginning in the middle of one of these bursts of sound, but after the third song the normal pattern reasserts itself.

The garden warbler is a much more continuous and even singer than the blackcap, with a greater range of compass but a less pure and sweet voice. A really good garden warbler has, all the same, few equals as a songster. It will be noted that the bird on this record, which is a good one but not so near the microphone as the blackcap, goes on singing for over half a minute in the first burst and then pours out another eighteen seconds of music with an interval of only two seconds in between. A blackcap would never do so

much continuous singing except in the occasional conspicuous and passing frenzies mentioned above.

COMMENTARY.

| Min. | Sec. | |
|------|------|--|
| 0 | 00 | The wood-wren's clear piping "dür-dür" is repeated fourteen times in just over four seconds. |
| 0 | 07 | A throstle is singing in the background. |
| 0 | 09 | Now comes the first trilling song of the wood-wren, lasting about two seconds. |
| 0 | 15 | We are close to the heronry, and a few of the noises heard on Record 4B can be made out in the background. |
| 0 | 18 | The wood-wren's second trilling song. |
| 0 | 26 | The wood-wren's third trilling song, immediately followed by the throstle again. |
| 0 | 34 | The wood-wren's fourth trilling song. |
| 0 | 36 | immediately followed by a pied or great spotted woodpecker drumming. |
| 0 | 39 | More throstle song immediately followed |
| 0 | 40 | by the wood-wren's fifth trilling song. |
| 0 | 45 | Another drum from the woodpecker. |
| 0 | 49 | The wood-wren's sixth and last trilling song. |
| 0 | 52 | The wood-wren concludes with another of the piping songs, of thirteen notes uttered in four seconds. |

Band.

| | | |
|---|----|--|
| I | 04 | The first song of the blackcap is an unusually long one, showing that he is in |
|---|----|--|

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Min. Sec.

the middle of one of his special bursts. Notice how it works up to a climax near the end. There is a distant cuckoo.

I 16 After only two seconds' pause the blackcap begins again, and this time goes on for thirteen seconds, once more with a very pronounced climax at the end. There is a chaffinch in the background.

I 32 Careful listening here will catch the very low inward warbling subsong described by Gilbert White in well-known words. After about four seconds it bursts once more into the loud, pure, true song, which now relapses to its typical length and interval.

I 42 Song of a chaffinch.

I 44 The cuckoo calls twice.

I 48 The blackcap's fourth song is a short one, again interrupted by the chaffinch.

I 56 A throstle is heard for about four seconds.

2 00

2 02 Now comes the blackcap's fifth song. Notice that the interval on either side of it has now spread out to over ten seconds. This is about double the usual, probably in reaction after the special burst at the outset.

2 04 A cuckoo strikes up with eight loud calls

2 15 in eleven seconds, which seems to be about the normal rate.

2 20 A chaffinch sings, and simultaneously the blackcap's sixth and last song begins.

Band.

| Min. | Sec. | |
|------|------|--|
| 2 | 32 | The garden warbler is heard singing a song not altogether unlike the blackcap's, but very differently delivered. In contrast to the passion of the previous singer, the matter-of-factness of the garden warbler's output is conspicuous. Notice that the song is one of the longest unbroken utterances we have heard, going on for more than half a minute. It is normally more broken up, but the rather breathless pace, with pauses briefer than the song, is characteristic. A wood-pigeon is heard ten seconds after the start. |
| 3 | 03 | The garden warbler stops, only to begin |
| 3 | 05 | again after some two seconds' pause. |
| 3 | 14 | The wood-pigeon again coos in the back- |
| 3 | 19 | ground for five seconds. |
| 3 | 23 | The garden warbler finishes. |

Record 5B. (a) Little owl. (b) Carrion crow. (c) Jackdaw. (d) Jay. (e) Magpie. (f) Rook.

This record, unlike the others, is put together as a whole, instead of being broken up by bands. Those not familiar with the various notes will, however, be able to identify them from the timed programme. The first minute of the record is given up to a woodland scene at dawn in spring. A little owl hoots loudly, and as so often happens excites alarm among the blackbirds, which are heard chiding. A chaffinch

and a robin are heard singing, a green woodpecker utters its laugh, and the owl strikes up a duet with another at some distance. Finally the great tit is heard uttering a spring call. Just before the end of the first minute the listener is surprised by the harsh arresting note of the carrion crow. Several other crow-notes follow, the most remarkable being the fifth, known as the motor-horn note, and the sixth—the "raven note." The crow's frequent victim, a breeding woodlark, is heard in song. Next come two notes of the jackdaw, the familiar "jack" first. A green woodpecker follows with loud cries of alarm, and then the rending harsh notes of the jay are heard repeated, followed by the chuckle of a magpie and some wonderful phrases of a blackbird.

Then we find ourselves in a rookery at the height of the nesting season, and the air is filled with continuous cawing. A relative silence follows, in which the little owls can be heard again, with a chorus of songsters in the background. Apart from its interest as a remarkable selection of spring noises the record is particularly valuable for placing side by side the most usual notes of no less than five species of crow. The difference between the clearly enunciated far-carrying usually triple call of the carrion crow and the cawing of the rook can therefore be readily grasped.

COMMENTARY.

| Min. | Sec. | |
|------|------|--|
| 0 | 00 | A little owl hoots loudly. |
| 0 | 07 | A blackbird gives the alarm with the well-known "mik - mik - mik" clamour. Gusts of wind can be heard. |

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| Min. | Sec. | |
|------|------|--|
| 0 | 14 | A second blackbird joins the clamour. |
| 0 | 19 | A robin can faintly be heard singing. The |
| 0 | 24 | blackbirds can be heard again chiding the owl. |
| 0 | 27 | We hear the "yaffle" call of the green woodpecker. |
| 0 | 30 | A chaffinch sings, followed by a robin, and at the same time the little owl begins a duet with a second and more distant one, heard answering. |
| 0 | 49 | The owls finish, and a great tit's spring call is heard rather faintly. |
| 0 | 58 | An arresting first call of the carrion crow. |
| I | 00 | A wren is heard faintly. |
| I | 02 | A crow calls again, with a deeper note. |
| I | 07 | Third call of the crow. |
| I | 12 | The fourth call, harsh and very loud. |
| I | 17 | The fifth call (the peculiar "motor-horn note"). |
| I | 20 | A woodlark is heard singing overhead for a few phrases. |
| I | 24 | The sixth call of the crow (the "raven note"). |
| I | 27 | Last call of the crow. |
| I | 34 | The jackdaws are heard uttering the typical "jack-jack." |
| I | 47 | The jackdaw's second common note, which may be written "kour." |
| I | 54 | This is the note a green woodpecker uses when excited or alarmed. It is often rendered "plu-plu-plu" and is distinguished by its explosive manner. |

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- | Min. | Sec. | |
|------|------|--|
| 2 | 00 | |
| 2 | 02 | The rending cry of the jay comes faintly, followed by a |
| 2 | 05 | wood-pigeon cooing. |
| 2 | 09 | There can be no mistake about the jay this time. It is a brutally harsh note deliberately prolonged, and is several times repeated, a carrion crow being heard once in the background. |
| 2 | 23 | The magpie's hoarse suspicious chuckle, easily recognised by its extremely low and uniform pitch and its resemblance to the bleat of a goat. It is followed by faint |
| 2 | 26 | blackbird music and a last rasp from the jay. |
| 2 | 30 | The magpie's second bleat, very close at hand. |
| 2 | 33 | The blackbird's song is now close. |
| 2 | 39 | An outstandingly lovely carol from the blackbird. |
| 2 | 42 | The scene changes to a rookery, full of the varied cawing which is such a familiar element of English country. |
| 3 | 00 | The cawing is now very loud, being taken close to the nests. This is what a rookery sounds like to a rook. |
| 3 | 02 | The din ceases, and we again hear the little owl duet gradually getting fainter and more distant, with a background of the dusk chorus. |

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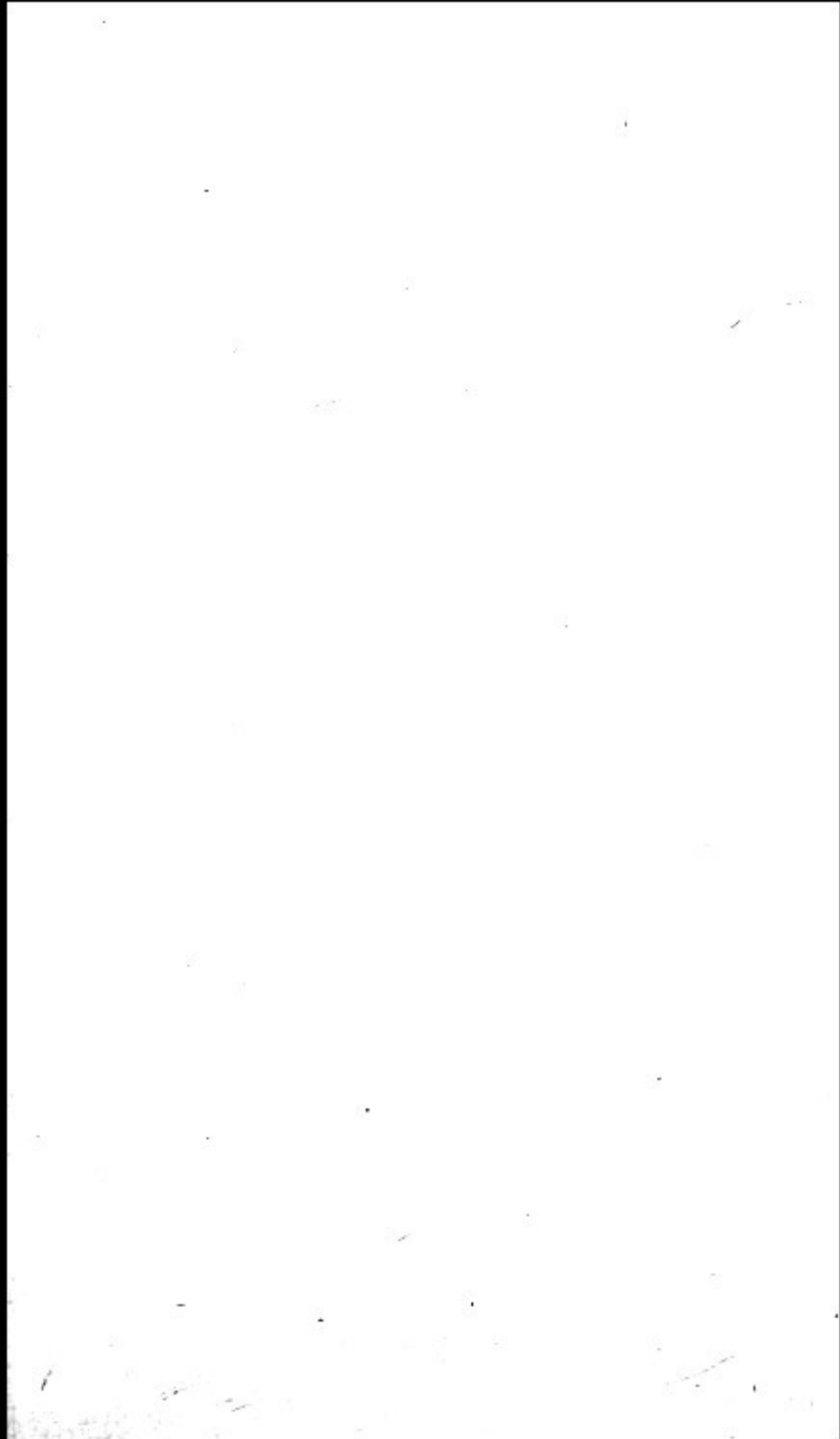
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comparatively quiet. We also got a number of flight-notes, mostly with a touch of annoyance in them, as the birds flew up and down, no doubt wishing their territory could be left to themselves. The fondness of this pair for this one site, in spite of their hours of absence from it, made it seem that they must have a late nest or more probably hidden young very close, but we failed to find any, and as we now thought we had enough curlew music I tried to find a suitable meadow-pipit for recording.

There was one very near the mikes, singing freely, but unfortunately it suffered, like so many meadow-pipits, from an inability to sing more than a few halting notes. A good singer among meadow-pipits is not so wonderful, and a poor specimen is hardly worth while. There was a much better one only about a hundred yards off, and we therefore changed the disposition of the mikes—a job by no means as easy as it sounds, for it means shifting great lengths of unbelievably heavy cable bristling with tiny loose ends of wire which are most unpleasant to handle, as well as going through the whole business of siting and testing out the mikes themselves in order to pick up as

a noise-ridden world we have managed to make for ourselves to live in.

On the way back we looked at some possible places for recording other species and discussed the next day's work. While the others were able to retire after breakfast to resume their interrupted sleep, I had to shave in a hurry and catch a business man's train to London in order to start the day again in my office. I missed, therefore, the finish of this expedition, and only heard afterwards what happened. That evening the tawny owl started hooting again, and the recording party attempted to get it on the wax. They failed, and after a very long wait were just going to give up about one o'clock in the morning when the owl was heard hooting a long way off. Koch was able to locate it and come very close, and after some discussion it was agreed to be worth moving the van. Unfortunately, however, the owl had taken up quarters close to a good-sized house, and the appearance in the small hours of an immense and sinister-looking motor vehicle with a fairly tough-looking crew aroused the worst suspicions in a neighbourhood which apparently gets a good deal of attention from burglars.