

either draw from a life model, or from the facial expressions they make themselves into a mirror in front of their boards. For the life classes we have an excellent model—the small son of one of the Film Unit staff. We draw him in all sorts of positions and with all kinds of expressions on his face. He enjoys it as much as we do—so much in fact that if we don't get him down here for a few days he starts asking them at home when he is going to 'go to work' again. Of course for a lot of the expressions we are after I have to demonstrate myself. It's all a matter at this stage of getting hold of the basic principles of acting and timing.

"So that is the set-up as I see it now," Morrow continued. "Once the boys have got hold of the elementary mechanics of animation all they need is more and more experience of animating on their own, working out the detail from the basic ideas in a film according to their own inclinations, but following my example in general as the key artist. They should acquire complete confidence and ability through working on these two-minute health films we are going to do. The subjects we have in mind include one film about the common cold, another about tuberculosis among the Maoris, and one or two about diet—such things as showing the benefits of drinking plenty of milk, and so on."

Like Disney, Morrow and his team are aiming at quality as the thing to strive most for in their pictures. They have to keep in mind that the main appeal of the cartoon film lies in its freshness, lyricism, and colour. Apart from the drawing, the dialogue spoken by the cartoon characters must be simple, bright and amusing, and the voices, even the music, have to be specially selected for this type of work. For these additional effects Morrow relies of course on the general resources of the Film Unit. His artists supply the visual images, but all the rest comes from associates who spend most of their time on more normal film work.

### Speeded-up Dialogue

Just before *The Listener* arrived Morrow had been recording the voice of a woman employee of the Unit on his tape recorder. She spoke a passage

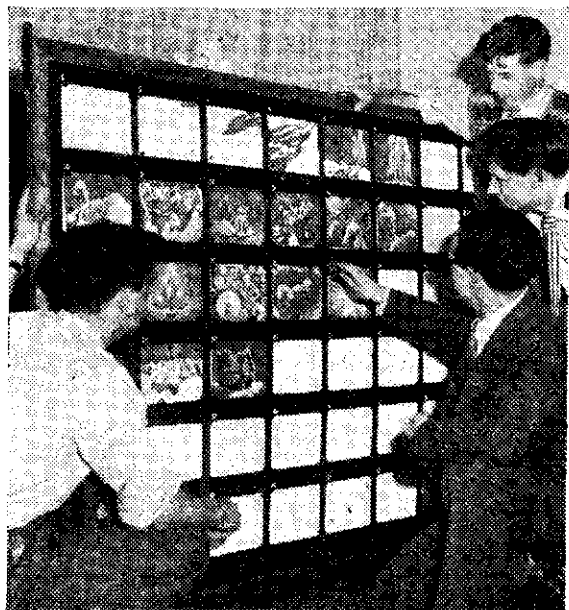
of dialogue (it might have come out of a nursery rhyme) into the microphone, speaking very slowly and distinctly. When the record was played back, however, not at normal speed, but about one and a-half times as fast, the voice sounded like that of a child, with all the brightness, rhythmic intonation, and slurring over the more difficult consonants, that characterise the speech of very small children.

In the completed cartoon film image, sound and colour have to move rhythmically from incident to incident with fluidity, imagination, and precision. Humour and simplicity are the paramount considerations, but there must also be a dramatic pattern, with the conflict of two opposing forces and a little business of chase, climax, and resolution to keep the excitement going. The images must move rapidly and blend smoothly, with both sound and colour paralleling the movement from scene to scene.

"Very few people realise just how much work is involved in making even a two-minute film like the ones we are going to do," Morrow continued. "Basically there are about 3,000 frames to every two minutes of film action. Actually, 3,000 rough drawings have to be made first of all, following the general pattern of ideas laid out on the story board. These 3,000 are photographed with a movie camera and then viewed through the acmiola. From the acmiola we can pick faults in timing and design which will probably result in the whole 3,000 having to be redrawn and photographed again. After the 'clean-up process,' as this is called, is finished, we trace all the drawings on to acetate sheets, using ordinary ink with a little sugar added to make it stick well.

"Then the tracings are filled in with coloured paint on the back (we are using only three colours at present compared with the 3,000 used by Disney) and finally they are photographed for the last time with a technicolor camera, and the sound track is synchronised with the photography. Thus you have about 21,000 separate camera moves in the production of a two-minute film—without all the other work. You can see that it's a slow business, and at the moment we've only got a small staff of animators. Disney, you will remember, with his thousands of workers, took two years to make *Snow White*.

"I tell you one thing though," he added when we mentioned that Walt Disney is said to owe over a million pounds to the bank, "this is one cartoon unit that is going to pay its way." It may have been just ordinary Scots thriftiness, but that remark seemed to reflect more than anything his confidence in the ability and enthusiasm of his three young assistant artists.



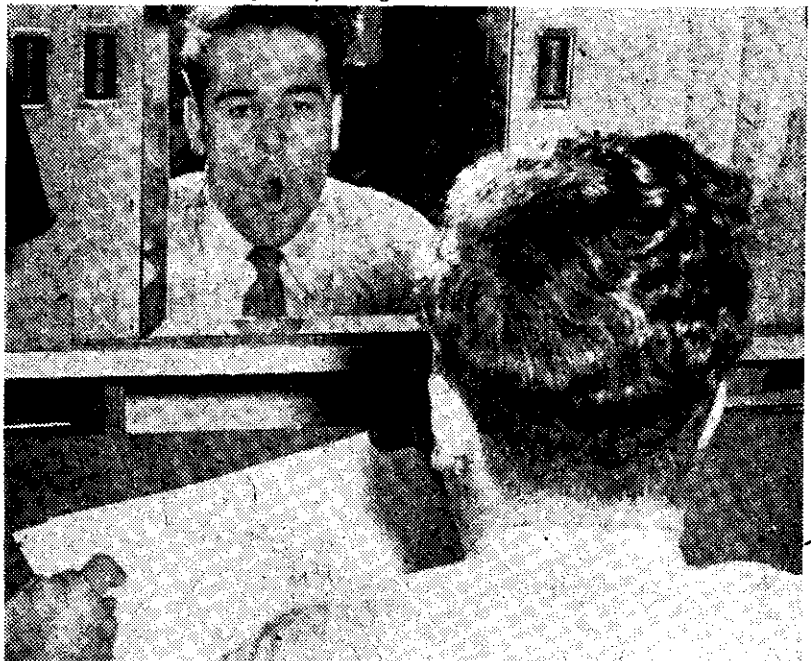
**STORY CONFERENCE:** The Film Unit cartoon staff around the "story board," on which the sequences and high points of a cartoon subject are built up



**ARTISTS** of the Cartoon Department of the National Film Unit sketching backgrounds from the beach at Miramar. From left, John Dear, Robert Morrow, Rodger Harrison, and Bruce Bryant



**JOHN DEAR** works on the model sheet illustrated on page 6, at one of the desks specially designed for animation work



**IN "character work"** the artists may draw either from a model or from facial expressions they themselves make in a mirror. Here Bruce Bryant uses the latter method