EXPERIMENTING WITH SOUND FILMS

DARIUS MILHAUD

FROM the moment I first heard the Vitaphone in New York in 1927, I was convinced of the great possibilities of this new way to use music for the movies. The film, a long one of Sidney Chaplin's, had an accompaniment, played by the Philharmonic, which deluged our ears with a dull confused sound, a sort of tonal fog, which, though full of the best intentions, kept us restless and irritated. It was followed by a demonstration—some jazz music, a singer accompanied by an organ, a flight of shrieking sea gulls, the roaring of an airplane motor, a string quartet—and relief settled on us, we breathed more easily; for the sound of the solo instruments and the piano, the human voice, the various noises, all came over. The purpose of the operation was achieved, namely the faithful reproduction of the sound. The mistake with the long film had been the use of the full orchestra, an impression which the experiments made in the Baden-Baden festival of 1927 and 1928 with the "Tri-Ergon" confirmed.

The talking pictures have since definitely arrived, with their good qualities and bad, their menace, their promise, and their snares. And with what a sudden avalanche of elementary, superficial methods. It is impossible to resist synchronizing the twelve strokes of a clock with the image showing the hour, or the sound of an automobile, a train, a passing airplane, a crowd in tumult. What nonsense! An actor with a good voice is found and a thousand excuses are dug up to have him sing, retarding the action in the most tiresome fashion. There is always the temptation to blindly abuse a new invention. It is so wonderful to be able to make some one sing on the screen, it seems a waste of opportunity not to have him render ballad after ballad; just as, before the war, actors were made to move violently and excessively to show that movement could be photographed, that here was no magic

lantern. It was up to the actor, expressing himself only by pantomime, to demonstrate that his gestures were eloquent enough to replace words.

Sound movies are in their infancy, it is true, but their application has already become important. What was the condition formerly, when a composer wrote special music for a film? Only a few theatres had orchestras large enough to execute it. In the provinces any sort of accompaniment was used and the score disappeared without a trace. Thanks to talking pictures, the music will be recorded forever and will be heard everywhere, simultaneously with the view of the film. For records of folklore the sound movies will be invaluable. Worse music than is used to accompany the dances of Africa or any other exotic country is hardly conceivable. Now it is possible to join the authentic music to the dances which the screen has long shown us. It is also easy to imagine the application of sound movies to education. Scientific courses with experiments, lessons by conservatory professors, all sorts of lectures with demonstrations, photographed simultaneously for the eye and ear, can be presented to the schools of a whole nation at once.

In the relation of music to the movies, the primary problem is synchronization. There are two existing methods. The writer can create a film—as the choreographer does a ballet—for an existing musical work, and the picture is, of course, no worry to the composer. Or a musician can write for an already existing film, and here he must work out a new technique. In Germany synchronization has in the main been solved by the chronometer of Dr. Karl Blum. This apparatus unrolls two spools on a plate, one with the film, the other with two blank staffs. The latter unreels much more slowly than the first. The starting points once marked, it is only necessary to divide the second into equal divisions, spaced more or less according to the metronomic movements used (which allows as frequent change in measures as the music requires). All that is needed is to let imagination flow and fill the prepared spaces. Making my own experiment with this device, I wrote music for a German newsreel (*Wochenschau*), and found it possible to make as many little pieces of different character as there were events, and to relate them with absolute

synchronization. On reproduction, the photographic images on one spool are thrown on the screen, the other spool unrolls on the conductor's desk under a little glass window. It is possible to have the time of each measure exact, since it is mechanically determined by the composer's spacing.

A step further is to make real sound films by registering the music on records or films, and then sending it through a loud speaker while the action unfolds on the screen. By making several recordings, it becomes possible to select the most exactly synchronized. I don't know for what mysterious reason the great German sound studios of Tobis, on the Ufa grounds, do not use this device, which gives maximum precision. In these studios I recorded the score I composed for *La Petite Lilie* of Cavalcanti.

For this composition, I used a technic especially adapted to the present requirements of the microphone: suppression of the oboe, which is poorly heard, a moderate, often faint use of the flute, as also of the cymbals and the percussion. It is probable that the microphone will soon be sufficiently perfected to record all different sounds equally well, so that musicians will not have to consider these difficulties. But I, on the contrary, had to use the most empirical methods to match the music to the picture. I measured the film with a ruler and took notes; made all kinds of calculations on the relations of the number of images per second and per meter; composed gropingly with my eyes on the second hand of my watch. Because of the absence of scientific method, the music runs the risk of varying in the time of the measures and of following the interpretation of the orchestra leader.

There was a similar difficulty in the recording studio. A hundred meters were recorded at a time—about three and a half minutes of music. Several recordings of each hundred meter section were necessary to afford an opportunity for selection. The orchestra leader had only approximate synchronization marks and was compelled, in spite of all the precautions taken, to speed up or slow down in order to exactly accompany a certain image with the corresponding music.

Having tackled this job, one can appreciate the ease of a transcription on films. Several versions of different parts of each

section may be interchanged. It is just a question of cutting and pasting. I remember a false cornet note which was replaced by a correct one, sounded after the recording was over. This of course means a great advantage over disks, where the least error, the slightest sound—an accompanist turning pages noisily, a scraping chair—makes it necessary to start again from scratch. This happened to me with a record I was making for Columbia when a dog barked in the street.

Once the final choice of the different pieces of film is made, they are joined. The work is over, but alas, not all one's troubles. The tone quality depends on the projection. Poor projection may make the music sound as if it came through a layer of wadding. *La Petite Lilie* was perfectly recorded through the efforts of the orchestra leader, Zeller, and the technicians, who were supervised by a young composer, Wagner Regeny. When I heard it in the Tobis Studio in Berlin it was perfect but when presented at the Baden-Baden festival a poor projection resulted in an unfortunate audition, muffled and dull. It is not encouraging to think of one's film making the rounds of German cities with no guaranty as to the quality of the reproduction.

We must remember that sound movies are just beginning. Methods of synchronization, recording and reproduction will be perfected. Meanwhile, for our personal entertainment, why does not some one construct a small device that will enable us to record the voices of our friends, the laughter of the children who surround us, street noises, etc., to synchronize with the amateur movies we can take?