Slow-Motion Sound

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In the fascination which descends from a close-up and weighs on a thousand faces knit together in the same moment of shock, on a thousand souls seized by the same emotion; in the magic which glues the eye to the slow-motion image of a runner taking flight at each stride or the fast-motion image of a seedling expanding into an oak; in images that the eye is incapable of shaping, either as large, or as near, or as enduring, or as fleeting as these, you come on the essence of the cinematographic mystery, the secret of the hypnosis-machine: a new knowledge, a new love, a new possession of the world through the eyes.

Until these last few years, and virtually until these last few months, the sound track, consecrated to the old forms of speech and music, revealed to us nothing of the acoustical universe that the ear itself had not always been accustomed to hear. Drowned in this superabundant banality, the prophetic murmur of the train-wheels that carried off Jean de la Lune had to wait a long while for someone to continue in that direction. Nevertheless, today, a number of foreign films show the results of research which has tended to improve the recording of the sound—in the direction of a true high-fidelity, both psychological and dramatic, a deeper and more precise realism than that within the means of all-purpose sound, taken as impossible to regulate.

Already, it's no longer a matter of simply hearing people speak but of hearing them think and dream.

Already the microphone has crossed the threshold of the lips, slipped into the interior world of man, moved into the hiding places of the voices of consciousness, of the refrains of memory, of the screams of nightmares and of words never spoken. Echo chambers are already translating not just the space of a set but the distances within the soul.

In this refinement of the sound film, it would clearly seem necessary to experiment and find out what the process of slow-motion, which is still enriching the visual realm with so many yet unseen aspects, might be able to add. I posed this problem, from the technical standpoint, to a sound engineer, M. Leon Vareille, who became interested in it and solved it in a simple and elegant manner, as the mathematicians say. And so, throughout *Le Tempestaire* I was able to use the noise of the sea-wind, rerecorded at variable speed, up to a ratio of 4:1.

The effect of this slow-motion sound, of this stretching of acoust-

ical vibrations in time, is double. On the one hand, with the lowering of the frequency of the vibrations, the tone drops one octave each time the ratio is increased by one unit. Thus, the same sound can be recorded in several different registers. This permits, by editing and mixing, the creation of a true score, purely out of sound. The composer Yves Baudrier, who created this score with a great deal of intelligence, also had enough talent to introduce only an extremely restrained instrumental melodic line through this natural music, which does not detract from the sound experiment, and does not tend to warp the public's judgment on the experiment itself.

Another effect of slow-motion sound is the analysis into parts of complex sounds. Like the eye, the ear has only a very limited power of separation.

The eye must appeal to a bringing-closer and an enlargement in space, obtained by a telescope, to perceive that a fence, which appeared to be a continuous surface, is in fact made up of stakes planted at intervals. The eye must use a slowing-down; which is to say an enlargement in time, to see that a boxer's jab, which appeared a single and rectilinear movement at constant speed, is in reality a combination of multiple and infinitely varied muscular movements. In the same way, the ear needs a glass to magnify sound in time, which is to say slow-motion sound, to discover, for example, that the monotonous and blurred howling of a storm breaks up, in a more refined reality, into a crowd of very different and never before heard sounds: an apocalypse of shouts, cooings, rumblings, squealings, boomings, tones, and notes for most of which no name exists. A less rich example can just as well be chosen: the sound of a door opening and closing. Slowed down, this humble, ordinary sound reveals its complicated nature, its individual characteristics, its possibilities of dramatic, comic, poetic, or musical meaning.

Of course, this inarticulate language of things is, for our poor ear, most often nothing but a neutral or irritating noise, sometimes barely perceptible. The normal impressions on the sound track give back too little discourse in too little time: mixed, compressed, crushed into each other in an undecipherable brouhaha.

In drawing out the detail, in separating the sounds, in creating a sort of close-up of the sound, slow-motion can allow all beings, all objects to speak. And so that misunderstanding of the Latinists, which made Lucretius say that objects cry, becomes an audible reality.

We already know how to watch the grass grow, now we shall be able to hear it.

(Translated by Robert Lamberton)