

Impressive Audio Quality in *Les Miserables*

by Kenneth P. Wacks (Massachusetts)

I recently bought a Blu-ray disc of *Les Miserables* and found the vocals and orchestral performances extraordinary. Upon investigation I discovered that the director used an unusual technique to record the music.

Most movie sets have poor acoustics, as portrayed in the 1952 movie *Singin' in the Rain*. The story was set in the late 1920s as sound was being introduced to films, and shows the challenges of recording dialog and vocals during filming using hidden and boom microphones.

Singers usually record their movie vocals with accompanying music before filming. During filming, the recording is played back while the performer acts and sings. The actor must lip-sync precisely for a believable performance. I have noticed that in some films, as the singer transitions from dialog to song the background noise changes from the ambience of the set to that of a sound studio.

On set, the scene and interactions with other actors contribute to an emotional setting that is absent in a sound studio. *Les Miserables* is mostly an operetta with continual singing. The director wanted to capture more of the actors' emotions during both dialog and vocals. Therefore, he had the actors sing on set and recorded their vocals for the soundtrack. Singing on set also allowed for tighter shots of extended duration to capture the emotion of the song, since there was no lip-syncing slipage.

On set, a pianist nearby played the song on an electric piano that was audible only through the actor's earpiece and pianist's headphones. The pianist was in a soundproof booth so the keystrokes did not disturb the scene. Hidden lavalier microphones on the actor's clothes picked up the vocal. Some clothes mikes were covered with costume fabric or digitally removed in postproduction.

DPA 4071 lavalier microphones were chosen because the sound quality was close to that of a boom mike. According to production sound mixer Simon Hayes, "We tested various models and found the DPAs were clearly the best. In fact nothing else came close. The sound quality, frequency response and dynamic range were easily good enough to master, and they were able to handle very high SPL levels from vocals without sounding harsh as they approach their maximum SPL. I have never heard a vocal make them square off, yet such is their dynamic range and sensitivity that they can faithfully reproduce even the smallest 'breathed' vocal." [1]

In a Blu-ray bonus feature the director explained the unusual challenges of this technique. The pianist needed special skills to adapt to the singer's tempo, which changed slightly according to the emotional content of the scene. Damping materials such as horsehair were needed on the studio floor during a rain scene, plus the rain drops needed to be made finer to avoid interference with the singer's audio. Much of the ambient street noise was recorded on set rather than in a sound-effects studio. This required careful attention to using real rather than simulated building materials.

Les Miserables won the 2013 Academy Award for Best Achievement in Sound Mixing. Simon Hayes explained, "Where [the *Les Mis* movie] is unique, and I think is

groundbreaking and we are indeed the first, isn't just the live singing element. What was really exciting about director Tom Hooper's vision was that he didn't want to tie the actor's performances to a prerecorded track."[2]

In postproduction the orchestra followed the tempo and the singers' slight tempo variations. Hayes commented, "That obviously presented huge difficulties in postproduction when the score was finally recorded. If you listened to a piece of the music on it's own, you'd say, 'The tempo is shifting, it's unacceptable!' However, what we found — and this is exciting — was that you would gain so much in the connection between the audience and the performers, and you don't even notice the wavering in the tempo."[2]

Anne Hathaway won the 2013 Academy Award for Best Performance by an Actress in a Supporting Role because of her outstanding rendition of "I Dreamed a Dream" that captured the highly-charged emotion of the scene. The Huffington Post reported, "Though she only appears in a fraction of the film, her turn as Fantine has been hailed as the movie's emotional apex. Hathaway sang 'I Dreamed a Dream' live on the movie's set, offering a haunting portrayal of a single mother who turns to prostitution and sinks to utter despair in order to provide for her child."[3]

The sound quality of the singers and the orchestra were captured with exceptional fidelity. I recommend this disc to show off the sound quality of your home theater.

Sources of Simon Hayes quotes:

1. www.DPAMicrophones.com/en/news/archive/press%20releases/recording%20the%20unique%20film%20sound%20of%20les%20miserables%20with%20dpa.aspx
2. www.BTLNews.com/awards/contender-sound-mixer-simon-hayes-les-miserables
3. www.HuffingtonPost.com/2013/02/24/anne-hathaway-oscar-best-supporting-actress_n_2727305.html