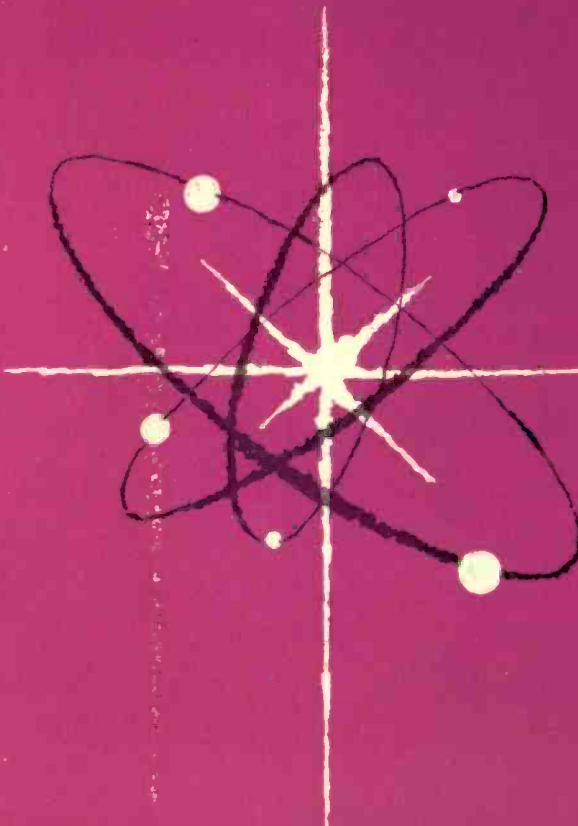

high fidelity recording

C. G. McPROUD

editor • publisher • "Audio" Magazine

W-LAB 7012

LABORATORY SERIES

NATURAL BALANCE

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An Engineering Guide to the

Westminster Laboratory Series recording of

Respighi's "Feste Romane"

Westminster W-LAB 7012

by C. G. McProud,

Editor and Publisher, "Audio" Magazine

Musical Analysis

by James Lyons

Music means many different things to different people. To the musician, it is only necessary that he be reminded of the music—his memory prompted, so to speak, as the music unfolds. He knows the music, note by note, possibly even better than those who are performing it. He may have played it many times himself, and he pictures himself on the stage with many of his fellows themselves making the music he is listening to. If he happens to play the viola, it is probable that he will find the reproduction to be somewhat lacking in emphasis from the viola section; if he plays the contrabass, he may think that the violins are too prominent. But, in any case, the musician is likely to hear what he *expects* to hear, rather than what is actually played, and he is prepared to make allowances here and there because he knows how it should be.

Take the case of the conductor. Normally, he is on the podium, close to the instruments. He hears the direct music with a minimum of reverberation from the hall itself, and he may not be conscious of the acoustics of the hall in which the music is performed. Sound engineers have long believed that a conductor is a poor judge of how music should sound to the typical concert-goer, for the conductor rarely hears the same over-all balance that is heard by the people in the balcony or 'way back in the orchestra seats.

Meetings of audio engineers are often taken up with discussions of "perfect reproduction." And here is where there is likely to be considerable difference of opinion. No one can define accurately the exact seat in an auditorium which is the one perfect point. In balancing a sound system for a musical presentation such as "Cinerama," for example, someone has to decide where the "perfect" reproduction is to be. Is it the center seat in the tenth row, or is it the middle of the balcony? Is it at the front of the stage or well to the right or left? At best, it becomes necessary to make compromises, for there is considerable difference in the sound at these various places.

To make a good recording, this same factor has to be considered. Instead of the concert-goer in his favorite seat—or just possibly the one he was able to get at the last moment—or even worse, the only seat he could afford—instead of this hypothetical person it is necessary to place a microphone, a device which represents only *one* ear.

This may seem a waste of time, but it gives some idea of the problem of the recording engineer who is faced with the selection of the correct place for a microphone. The next time you go to a concert, try stopping up one ear to see what the music sounds like. The entire orchestra becomes a hodge-podge of sound—instruments blur together, and the listener cannot distinguish one from another.

Human ears can distinguish original sound from reverberant sound, and with two ears working, a person is able to separate one from the other. Thus, a violin playing at the left of the conductor appears to be to the left of the conductor; the horns are farther away, and the contrabasses are far to the right. Wherever the listener may sit in a concert hall—even though it may be an outdoor concert, and our "concert hall" is Grant Park—he is able to evaluate the direct sound and to place in its proper perspective the sound which is reflected from the surrounding walls, trees, buildings, etc., or what not.

Not so the microphone—it has only one ear, and it must convert exactly what it "hears" into an electrical signal that finally ends up as a small wiggle on a phonograph record. Now if we may assume that this microphone hears everything—both direct sound and that which is reflected from the surroundings—let us consider what happens if we use several microphones, the usual case. The oboe plays an "A" and one microphone which is eleven feet away hears this note one-thousandth of a second later, approximately. Since it is close to the oboe, it records a fairly high level, and is relatively insensitive to the same "A" reflected from the back wall of the auditorium 110 feet away, even though the sound returns to the microphone—having traveled 110 feet to the wall and 110 feet back—one fifth of a second later. Thus we have two sounds—the louder 1/1000 of a second after the note was played, and the very much softer one 200/1000 of a second later.

Now let us put another microphone out in front of the orchestra at a distance of, say, 55 feet from the oboist. The "A" reaches this microphone 1/20 of a second after it is played, and since it is some distance from the orchestra, the sound is fairly weak. The reflected sound from the back wall reaches this microphone after having traveled 110 feet to the wall and only 55 feet back, with a time lapse of 3/20 of a second. And since the direct sound traveled 55 feet and the reflected sound traveled 110 plus 55, or 165 feet, it is not too weak in comparison. Thus we hear two sounds from this microphone with a difference in intensity of less than ten times (compared to a difference at the first microphone of nearly 100 to 1) at approximately 1/10 of a second apart. And in addition we have the two sounds from the first microphone which arrived before and after the two from the one out in the audience.

Thus, instead of one simple oboe note, we have four—the loudest almost instantly after it was played, another 1/20 of a second later and almost as loud (if we were going to record from the distant microphone alone it would be *just* as loud), a third sound 1/10 of a second later, and a fourth one—very weak—1/20 of a second after that.

These figures are approximately correct for the example given, and they are not easily glossed over in considering the making of a good recording, which depends greatly on the proper placement of the microphone. The more microphones we use, the more of a mish-mash we are likely to have. So much so, in fact, that it is a common saying amongst recording engineers that "You can't make a good recording with a dozen microphones, and you can't make a bad recording with one microphone."

To be sure, we are getting away from our original thought—what does music mean to its listeners? One would certainly not care to judge a cake-baking contest if one or more ingredients were missing from each of the cakes entered. Similarly, one can not judge a recording unless it is technically as good as it is possible to make it. The only way to compare recordings is to compare them with "live" performances. Does the string section sound as though it were there in your living room? Can you shut your eyes and see the orchestra assembled in front of you? Can you tell the cellos from the violas, or the oboe from the English horn? You can in a good "high-fidelity" recording.

That, of course, gets us into the need for a definition. Just what is a high-fidelity recording? Or, in fact, just what is high fidelity?

We have always tried to define high fidelity as "reproduction which is as near as possible to the original sound." Anyone who has ever seen a newspaper within the past two years knows that the term "high fidelity" is very much misused, being applied to fantastically cheap (and poor) phonographs, to records, to furniture for housing phonograph equipment, even to pianos. A piano is a thing to play and enjoy, but it is still a piano. True, there are good pianos and there are poor pianos, but why a "high-fidelity" piano? Fidelity means faithfulness, and it is only necessary that the reproduction be faithful to the original sound. In the case of the piano, it *creates* the original sound, and there is nothing to be faithful to. It may, possibly, sound somewhat like a fine piano, but it is still the originator of sound. High fidelity, then, can only be applied to something which recreates a sound (or more truly which reproduces something else faithfully, regardless of what it is) that is a good image of the original.

A good amplifier and speaker, together with a good phonograph pickup and changer or turntable may be capable of reproducing the recording of an orchestra so that you feel that the orchestra is right there in the room with you. And if it does, it is high fidelity. But in reproducing this phonograph record faithfully, the record itself must be part of the chain which has to include microphone, recording amplifier, the recording medium itself—which in these days includes tape as well as the final disc recording. It has to include the microphone placement, the acoustics of the hall, the mixing technique, the dubbing of the tape to the master disc, and the entire processing operation. Actually it is a wonder that records sound as well as they do—even the worst of them. But the very best records—and the Laboratory Series may be considered in that category—are exceptionally good reproductions of the original sound. Just how these various steps affect the final result is covered in the following paragraphs.

MICROPHONING

It is generally conceded that the minimum number of microphones that can be used to pick up the orchestra properly almost invariably gives the best quality, and that minimum *can* be as low as *one single microphone*. Occasionally it is necessary to use a second microphone to help with certain of the instruments which make relatively little sound, but when you go to a concert you sit in only one place—you do not have an ear over the violins, another by the clarinets, a third by the percussion section, nor possibly a fourth strategically located to pick up the conductor's humming. In any location which is acoustically good enough to make an acceptable recording there is certain to be one place where a microphone can be put to pick up the entire orchestra in proper balance. It may take hours to find that place, but once it is found the orchestra will sound right—assuming it is properly balanced to sound right to the ear.

MIXING

The second requirement is that the mixing be done properly. In many instances the recording engineer will constantly be varying the volume during the recording session—lowering it for the *fortissimo* passages so as to avoid overloading the recording equipment, and raising it during the *pianissimo* passages to keep it above the noise level. The maximum usable volume range of even the best of recording equipment rarely exceeds 55 decibels (abbreviated db) which represents a sound volume range of 316,000 to 1, yet a full symphony orchestra has a volume range of approximately 70 db, which represents a power ratio of 10,000,000 to 1. Obviously, if the orchestra is playing exactly as it does for a concert, some "mixing" must be resorted to, but there is no reason why an orchestra playing for a recording cannot limit its maximum volume slightly, and raise its minimum to keep it above the system noise. If this is done in the *orchestra*, then no mixing is necessary, and the recording engineer can set his levels and then just twiddle his thumbs while the orchestra is playing.

TRANSMISSION

It is in the "transmission" area that high-fidelity records differ most—the part that occurs after the sound is fed to the recording machines. It goes without saying that the equipment must be capable of a wide frequency range—that is comparatively easy—but it must also be capable of recording over that wide frequency range with a minimum of all kinds of distortion. And to make sure that the dynamic range from the loudest to the softest tones is brought out faithfully in the finished record, it is imperative that noise be kept to a minimum. Furthermore, it is especially desirable that "echo" be avoided.

INTER-GROOVE "ECHO"

One very objectionable form of distortion is that caused by "echo" from one groove (in a phonographic record) to the adjacent grooves. Everyone has heard the silent grooves at the beginning of a record disturbed by the opening chords of the music, at a very low level, some two seconds on LP's before the music actually begins. Now while this echo is hardly recognized at all during the music—being covered up almost entirely by the current sounds—there is not the slightest doubt that the disturbance is still there, not only from the music to be played two seconds later, but also from that which was played two seconds before.

This "echo" is the result of the grooves being so close together that the undulations of one groove deform the side walls sufficiently that the adjacent grooves are disturbed—just slightly, of course, but enough to be objectionable. And the effect is worse where three adjacent grooves all have music in them, which is the condition throughout most of the record, for when a groove is unmodulated—as in the lead-in grooves—it is right in the center of its prescribed path, and thus is less susceptible to disturbance from the adjacent grooves. When the groove is modulated, however, it swings from right to left almost to the limits of its path, alternately closer to the next groove and to the previous groove. Thus while we may not hear the disturbance actually as an "echo," it is still sufficiently strong to "muddy up" the recording, preventing the crystal clear tones from being reproduced as they should be. Obviously this particular trouble can be eliminated by spreading the grooves farther apart—as is done here. And while this gives less music on a side, it does give us better quality of reproduction and the complete elimination of echo. Then, you ask, why not record still further into the disk toward the label so as to give the same playing time per side? It is true that more playing time would result from recording further toward the center, but that would introduce another trouble. At high frequencies, the distance between successive cycles recorded on the inside grooves becomes so small that the tip of the stylus—small though it is—cannot follow the undulations of the groove but instead tends to bridge over them, thus reducing the high-frequency response. As a practical limit, the minimum inside diameter to which a 33-1/3-r.p.m. long-play can be recorded to avoid attenuation of the high frequencies is about 5½ inches. This is the reason for the relatively large space at the center of this disc, and upon playing it will be noted readily that there is no detectable difference in quality from the outside to the inside.

"BRIDGING"

DISTORTION ELIMINATION

In this series of records, spacing between grooves has been increased to a practical limit, compromising with the minimum inside diameter which would ensure good quality. Thus the total length of the recorded selection is appreciably less than the maximum that can be put on a long-play record. But when one strives for the best possible recorded quality, something has to be sacrificed—30 minutes and more of music *can* be recorded on one side, but quality will suffer. The playing time could be increased by recording closer to the center, but that would narrow the frequency range toward the end of the side, giving a muffled effect quite different in quality from the outside grooves. Therefore, it is necessary to make compromises—to get the best in quality it is necessary to space the grooves out, which reduces the playing time; the recording cannot be carried in too close to the center or we lose the high frequencies.

EQUALIZATION

This record (unless otherwise specified) will play with optimum quality on a system equalized in accordance with the RIAA curve,* with a low-frequency turnover of 500 cps modified by a bass pre-emphasis of 3 db at 500 cps, and with a high-frequency rolloff of 13.75 db at 10,000 cps. The correct playback characteristic is specified by the figures in Table I.

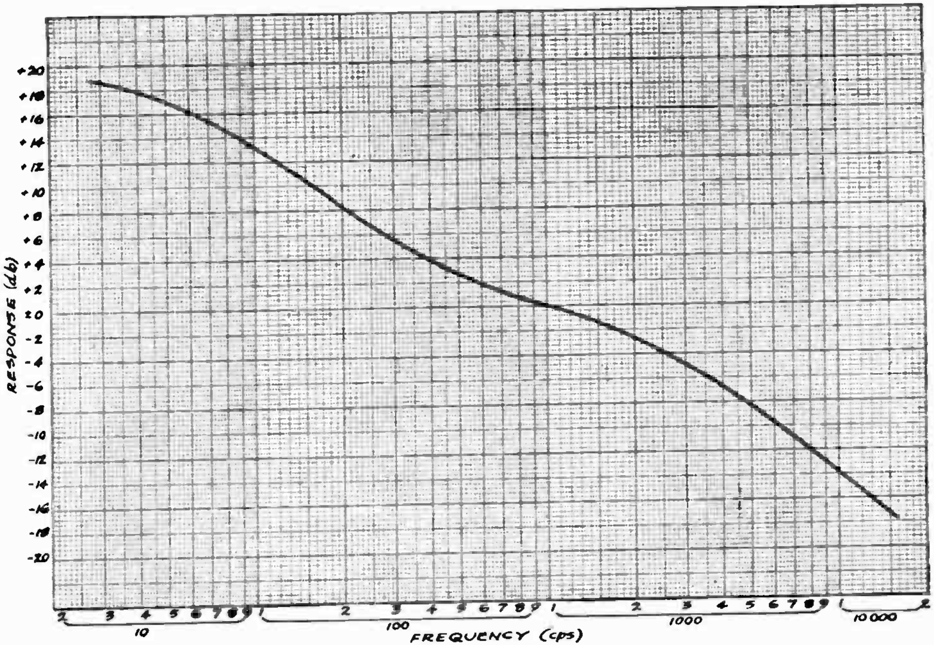
* Variations in listening rooms and playback equipment, however, may require additional adjustment of bass anl treble controls to obtain *natural balance*. Let your ears be the final judge.

TABLE I

PLAYBACK CHARACTERISTIC

Frequency cps	*Decibels*	*Frequency cps*	*Decibels*
30	+18.61	4000	— 6.64
50	+16.96	5000	— 8.23
70	+15.31	6000	— 9.62
100	+13.11	7000	—10.85
200	+ 8.22	8000	—11.91
300	+ 5.53	9000	—12.88
400	+ 3.81	10000	—13.75
500	+ 3.00	11000	—14.55
700	+ 1.23	12000	—15.28
1000	+ 0.0	13000	—15.95
2000	— 2.61	14000	—16.64
3000	— 4.76	15000	—17.17

FIGURE 1


+20
+18
+16
+14
+12
+10
+8
+6
+4
+2
±0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
RESPONSE (db)
2 3 4 5 6 7 8 9
10
1 2 3 4 5 6 7 8 9
100
1 2 3 4 5 6 7 8 9
1000
1 2
10 000
FREQUENCY (cps)

RECORDING LEVEL

DYNAMIC RANGE

The peak recording levels on this disc are considerably lower than average in order to minimize distortion during loud passages. The dynamic range is more than 50 db, but this figure will be modified by the number of times the record has been played, and by the hum and noise of the amplifier in addition to the inherent rumble of the turntable on which the record is played. Realizable volume range on this record with high-quality record changers should be around 45 db—with slightly more being obtainable from a professional-type single-play turntable.

One must remember that there is a far more important element to sound reproduction than that of frequency response alone. Although we demand wide-range recordings, we are not so likely to demand a minimum of distortion, yet here is where lies the characteristic of a system or of a recording that enables us to listen for hours without being fatigued.

HARMONIC DISTORTION

INTERMODULATION DISTORTION

The two major types of distortion are "harmonic" and "intermodulation". In both, frequencies which were not present in the original are heard in the reproduction, and engineers are constantly striving to eliminate both. Actually, however, the first type of distortion—harmonic—is not especially objectionable because the undesired frequencies are harmonically related to the original tone, and the distortion serves only to change the timbre of the sound produced by the various instruments. Intermodulation distortion, on the other hand, is that caused by the interaction of two frequencies to produce another, which is rarely related to the musical tones.

Such distortions are avoided in this recording because it was produced for the connoisseur—the person who has a high-quality reproducing system and who wants a technically excellent recording which will put him in his favorite seat in the concert hall. For while that phrase is overworked—being applied to all kinds of equipment and all qualities of records—it is believed that it certainly applies to this particular record most aptly. Throughout the music you will hear the instruments as clearly reproduced as though they were right in the same room with you. Trumpet blares, the thin notes of the oboe, the rich tones of the French horns, the true sound of the strings—all will come to you with freedom from distortion. The bells, tambourines, and the triangles will come alive right in your living room. You are due for a pleasant surprise.

"ENGINEER" LISTENING

When an engineer listens to music, he is likely to hear something entirely different from what the musician hears. Of importance to the engineer is lack of distortion, wide frequency range, and low noise. All of these characteristics are present on this record; listen to it yourself and hear the difference. The result definitely justifies the additional care taken in the recording process—and proves to the critical listener that it is possible to make records which re-create the original to a remarkable degree.

So far in this series, this observer has come to believe that the greatest possible Music Appreciation Course comes from a study of the score with the reproduction of the music on truly high-quality equipment. It is an education in itself to follow the music, note by note, bar by bar, for it teaches one how the various sounds which may not be identifiable by themselves are made up. As an engineer, the writer has been curious about the various sounds. As a music lover, the makeup of these sounds has taken on a new meaning to these ears, and fuller appreciation of the music is the natural result. In analyzing a recording, one must resort to the tools of the trade in addition to one's ears, although it is well known that an experienced sound engineer can listen to a sound system playing a known phonograph record and practically plot a curve of the frequency response of that system. On the other hand, it is possible to listen to an unknown phonograph record over a known system and describe the frequency response quite accurately. This faculty comes from years of practice—of listening to systems and then measuring them with accepted and standard methods. The final test is that a sound engineer must often attend a live concert in order to continue to evaluate his hearing. If, for example, one were to listen to reproduction which was slowly degraded little by little each day, his standards would become lowered, ever so slightly as time went on, until finally he was unable to make a reliable evaluation of the reproduction. As with any other measuring instrument, we must occasionally compare our ears with the standard—live performances—to make sure that we are still able to measure the reproduction in realistic and valid terms.

High fidelity does not mean "high frequency" although good reproduction of the high frequencies must be present if the entire system—from microphone to loudspeaker—is to be labeled "high fidelity". Similarly it does not mean "lows" although they, too, must be reproduced faithfully. In the case of amplifiers, for example, it is easy to build one that is "flat" from 20 to 20,000 cycles per second, but it is not so easy to keep distortion of all kinds down to a minimum. The absence of distortion is one of the most important elements in a good high-fidelity system or record.

All the measurements that can be made on a phonograph record are useful to show us where to look for trouble—but our ears tell us whether or not there is any trouble to look for. We cannot tell just exactly how much volume of sound occurs at any given point—for which measurement we can determine the velocity of the pickup stylus. But if we hear overload, we make the measurement to find out how much we have exceeded the capabilities of our recording system. If we hear a certain tonal balance on the original tape—or if we remember it from the recording session—and do not hear it on the disc, we make measurements to determine where the trouble is. But the final criterion is still the ear—we don't make recordings to entertain microphones and meters. If the ear is satisfied, there is no need to look for trouble; if the ear isn't satisfied, we measure to find out why it isn't. And while we can describe the performance of a record in technical terms, the true test is one anyone can perform with no equipment but a high-quality music system and his own two ears—just listen.

The comments on the technical aspects of this recording are related to the time at which they occur, so if you care to follow the comments as you play the record, have a clock with a second hand where you can see it. I would not suggest that you try to do this during your first playing—if you care to follow them at all, do so after you have listened to the music a few times just for the enjoyment of it. Don't be disturbed if your times and those found in the analysis do not happen to coincide exactly—not all turntables turn at exactly correct speeds.

And so to the music, which we hope you enjoy as much as we do.

RESPIGHI:
FESTE ROMANE

The sights and sounds of Rome are all things to all people, even to her own. Nothing daunted, native son Ottorino Respighi (1879-1930) set out to capture them in a cycle of three symphonic poems. In his *Fontane di Roma* of 1916 he "sought to reproduce, by means of tone, impressions of certain natural aspects of the Eternal City". In his *Pini di Roma* of 1924 he "resorted to Nature as a point of departure in order to recall memories and visions". The final tableau, herewith recorded, dates from 1928.

It should be understood that *Feste Romane* does not purport to depict any specific holidays. It is rather a panoramic evocation of the festival *spirit* in all of its historical aspects, back to a time when the suppressed masses found their meager gaiety in martyrs' gore. The composer, tacitly acknowledging that a certain ambiguity attaches to his title, clarified its implications in explanatory paragraphs affixed to the autograph manuscript. The following translations preface the standard miniature score published by Ricordi:

Circenses—A threatening sky hangs over the Massimo Circus, but it is the people's holiday: "Ave Nero!" The iron doors are unlocked; the strains of a religious song and the howling of wild beasts float on the air. The crowd rises in agitation: unperturbed, the song of the martyrs develops, conquers and then is lost in the tumult.

The Jubilee—The pilgrims trail along the highway, praying. Finally there appears, from the summit of Monte Mario, to ardent eyes and gasping souls, the Holy City: "Rome! Rome!" A hymn of praise bursts forth; the churches ring out their reply.

The October Festival—The October festival in the Roman "Castelli" covered with vines: hunting echoes, tinkling of bells, songs of love. Then in the tender even-fall arises a romantic serenade.

The Epiphany—The night before Epiphany in the Piazza Navona: a characteristic rhythm of trumpets dominates the frantic clamor: above the swelling noise float, from time to time, rustic motives, saltarello cadenzas, the strains of a barrel-organ of a booth and the appeal of the proclaimer, the harsh song of the intoxicated and the lively stornello in which is expressed the popular feelings. "*Lassàtece passà, semo Romani!*" ("We are Romans; let us pass!")

Parenthetically, remembering that Respighi's acceptance of recording as a permanent adjunct of music was manifest in his actually including a phonograph in the instrumentation of *Pini di Roma*, it is not altogether fantastic to suggest that the sequel could have been conceived as the ultimate challenge to the then infant science of musical reproduction.

Respighi himself felt that *Feste Romane* represented his "maximum of orchestral sonority and color". Indeed, few if any pieces in the repertory can approximate the splendor of its sonic spectrum.

The orchestration consists of 2 flutes, piccolo, 2 oboes, English horn, piccolo clarinet in D, 2 clarinets in B flat, 1 bass clarinet, 2 bassoons, 1 counter bassoon, 4 French horns, 4 trumpets, 3 Buccine (military trumpets), 3 trombones, 1 tuba, tympani, hard drum, rattle, sleighbells, side drum, bass drum, triangle, cymbals, bass drum with cymbals, tam-tam, glockenspiel, 2 sets of chimes, xylophone, 2 wood blocks, harp, piano, organ, mandoline, plus the usual complement of strings.

With due allowance for the imperatives of high fidelity, the chronological guide that follows will be especially helpful to those listeners who are concerned with musical values.

SIDE ONE

A portentous flailing figure, punctuated by a tremendous wham after three bars, summons a brace of *buccine* (clarion-voiced military trumpets) to present the elaborate fanfare that opens *Circenses* with a gruesomely
1:20 festive air. A sustained solo peal is succeeded at 1:20 by the section that introduces, in the seventh measure, the so-called "Martyrs' Hymn". It is sung *Andante* by the violins over a heavy tread of lower strings and wood-

winds. Almost at once the roar of ferocious animals threatens to drown
2:43 out this religious motive, but it endures. A *Più mosso* at 2:43 combines
the two in a maelstrom of orchestral color until, after three frantically
Precipitando bars, an echo of the opening flourish brings back the *buccine*
3:52 at 3:34. Then a furious *Allegro vivo,* beginning at 3:52, leads by way of
a stunning chord series to a *Largo* of four bars that provides a non-stop
transition to the second movement.

4:28 Muted strings, *Doloroso e stanco,* open *The Jubilee* at 4:28 in a
5:13 hushed three-two rhythm. In the ninth bar, at 5:13, the clarinet and bassoon
6:41 in unison intone the theme—a paraphrase of the twelfth-century German
hymn for Easter, *Christ ist erstanden von der Marter alle.* At 6:41 the
timpani signals an *animando un poco* that subsides after a loudly restive
7:08 five measures. Now, at 7:08, the English horn takes the elegiac melody.
The muted strings stir restlessly as the theme passes among the woodwinds.
8:26 At 8:26 a trio of violins is heard above their fellows, *Allegro moderato,*
and then the orchestra begins to pick up momentum. The massed brass
8:53 and timpani at 8:53 fortell a *Più allegro* and then an *Allegro festoso* that
spends itself in sonority. In its wake, playfully Ravelian pizzicati come
9:48 into focus at 9:48. In due course they diminish to a *Più calmo* in which,
11:24 after a scattering of chords in the piano, the horn at 11:24 previews the
joyous *Ottobrata* that is about to get under way.

SIDE TWO A single timpani blow at the beginning of the second side waves in
the rush of the traditional October festivities. For a while the horn dom-
0:17 inates; at 0:17 the trumpet humorously mimics the larger instrument. An
Allegretto vivace section sets the violins to a unison scramble that does not
1:32 abate until they sing a gorgeous melody at 1:32 to the rataplan of trumpets.
2:08 The clarinet echoes it at 2:08 over trills in the upper strings. As the horn
3:32 disappears in the distance a very soft pizzicato suddenly is host, at 3:32,
to the dulcet sound of a mandolin, which enters *Andante sostenuto*. After
a concertante exchange the solo violin soars aloft, *Andante lento de*
4:34 *espressivo*, at 4:34. The movement expires peacefully, serenade-like, over a
tender tinkle of tempered bells.

6:03 The riotous finale opens *Vivo* at 6:03 with the eerie sound of the
clarinet in D, which is answered immediately by snarling trumpets. Men-
dacious growls from elsewhere quickly build the disturbance to melee
proportions, with sonic consequences too numerous to detail. At length an
obtrusive timpani sequence, echoed by the strings, ensues in a *Vivacissimo*
dominated in turn by the trumpet and, in a waltzing mood, the horn. This
leads through a see-saw of violins to a *Vivo* return of the timpani pattern,
this time in the trumpet. The strings take up an anticipatory figure under
7:48 it. All at once a thump of the timpani at 7:48 underlines the unexpected
lapse into a *Tempo di Saltarello*, with clarinets carrying the jaunty melody.

8:13 After a short short bridge passage in the trumpet this is succeeded at 8:13
by a slightly tipsy *Tempo pesante di Valzer*, with the horn and trumpet
riding an infectious tune under a flute filigree. The trombone reels in at
8:39 8:39 with a really drunken variant in unsteady saltarello tempo. Then,
Molto vivo, there is a steady rise in tension culminating in three yawps in
9:15 the woodwind and strings at 9:15. After a second of suspense the lushest
of Italianate melodies is sung proudly by the strings. The theme lingers to
9:52 welcome the peroration, which is ushered in *Molto vivo* at 9:52 by a
trumpet flourish over fast-moving strings. The sonorities pile up with
10:52 incredible speed, lurching awesomely forward until, at 10:52, a brass
Sostenuto braces them for the *Presto*, then *Prestissimo* apotheosis that fol-
11:28 lows with deafening effect, ending at 11:28.

JAMES LYONS

NATURAL BALANCE

Westminster®

LONG PLAY HI-FI RECORDS

LISTEN — AND COMPARE!