


IN THEIR OWN WORDS

Pseudo-Odo of Cluny, *Dialogue on Music* (c1000 C.E.)

Medieval music theory is not always preserved in a neat, tidy package. Sometimes extracts from a treatise will appear without an author's name or will appear anonymously bound together with other related theoretical writings, which makes it difficult to know who wrote exactly what. Such is the case with the treatise *Dialogue on Music*, occasionally identified in early sources as the work of Odo, a ninth-century abbot at the famous monastery of Cluny in Burgundy, France. In truth, however, this work was written later, around 1000 C.E. by a monk living in the area of Milan. It is thus of Italian origin and soon influenced the thinking of the important Italian theorist Guido of Arezzo (see next Chapter 4 In Their Own Words). The *Dialogue on Music* consists of eighteen chapters, beginning with an exposition of the monochord and how it is divided, moving on to a discussion of intervals, and ending with a presentation of the modal system. Typical of many theoretic treatises since Greek antiquity, this one appears in the form of a discussion between an inquisitive student and omniscient master, hence the title "Dialogue" on music. Needless to say, because the treatise is written by the master, it makes him look good.

Aside from the useful description of how the monochord is constructed and how it is employed to teach melodies, there is one enormously important innovation encountered here in the writing of Pseudo-Odo: octave duplication. While octave duplication as a means of identifying pitches by assigning (and reassigning) them a specific symbol (a, b, c, etc.) may seem obvious to us today, around the year 1000 C.E. that was by no means the case. At that time there were as many as six competing ways to identify intervals: Greek musical notation, so-called daseian notation, neumatic (note signs) notation, Latin letters (t = whole tone, s = semitone, d = ditone for major third, etc.), Latin alphabetical with no octave duplication (through which singers declaim the pitches "k" and "m," for example), and finally Latin letters with octave duplication, as Pseudo-Odo advocates here. By around the year 1000 C.E. the idea of a scale with the letter names that we use today was first proposed and within the course of the next hundred years became standard.

The opening discussion of the monochord is of interest because it gives us a sense of how singers taught and learned chants in this era prior to a standard notational practice, and before the advent of the piano on which to bang out a melody during a rehearsal. It is clear from this that a primary method of teaching involved using chalk on a slate board (little has changed in a thousand years!) and that the pitches of a melody were first sounded out on a monochord and associated with letter names. Gradually, with months of practice, the student could generate the melody, only by looking at the pitch letter names—he had begun to sight-read. Rote aural memory had begun to give way to visual recognition.

Chapter 1: On the Monochord and Its Use and How It Is Divided

Disciple: What is music?

Master: It is the science of singing truly and easy route to the perfection of singing.

Disciple: How so?

Master: Just as a master first shows to you on a slate all the letters, so a master musician demonstrates on a monochord all pitches involved in singing.

Disciple: But what is meant by a monochord?

Master: A monochord is a rectangular wooden box, hollow inside as with [the resonator of] a kithara, upon which a string sounds and that can easily generate a variety of pitches.

Disciple: How is the string placed?

Master: Along a line down the middle of the box from one end to the other, but with a space left, an inch in length, from either side. At each of these two points a fulcrum is placed, and they hold the string suspended, and so the string between the two points of the fulcrum corresponds to the line on the box below.

Disciple: How can one string produce many, varied pitches?

Master: The letters or signs that musicians use are written on the line that is beneath the string in the order in which they should appear. A measuring device (a bridge) slides along between the string and the line, and by means of these letters miraculously generates every chant as it shortens or lengthens the string. And thus boys learn a given antiphon more easily and better by the string than if they heard some man sing it. And trained in this manner for some months, they are able, when the monochord is removed, confidently to produce by sight alone [using only letters] a melody that they have never heard.

Disciple: What you say is astonishing! Indeed, our singers have never aspired to achieve such perfection.

Master: They are completely wrong, brother, while they fail to seek the right path they will labor in vain their entire lives.

Disciple: How is it possible that a string teaches better than a man?

Master: A man, to the extent that he can or wishes, sings. A string, however, is artfully divided, across the above-said letters, by the wisest men, and because the process will be diligently observed and considered, it cannot lie.

Chapter 2: How the Monochord Is Divided

In Chapter 2 Pseudo-Odo describes how to fashion a scale through the process of dividing, again and again, the string of the monochord. The method that he advocates is just one of several recommended by medieval theorists. Pseudo-Odo first takes the string of the monochord and assigns it the name low G, which he uses as his pitch of reckoning; then he divides this string into nine segments, thereby producing a 9:8 ratio (a whole-tone), allowing him to set the pitch A above the G; then he takes that length of the string of A and divides it into nine segments thereby generating the pitch B. Next, returning to G, he divides that string into fourths to fashion the c and the g above. Then, dividing the string produced by low A into four, he gets the pitches d and a. By dividing the string on low B into fours, he then gets e and b. Finally, moving up to the low c string, he again divides into fourths to produce f and c'. This process of using the ratio 9:8 and 4:3 creates an entire scale from G to c'. To get the pitches above c,' return to any lower string and divide it in half, thereby creating the octave above.

From the preceding discussion of the division of the monochord, as well as from the following presentation of the disposition of the primary intervals, it is clear that Pseudo-Odo advocates a scale recognizing octave duplication—every time we proceed through the scale and reach an interval with a 2:1 ratio, the same letter name is given to the higher pitch.

Chapter 3: On the Tone and the Semitone

Disciple: But why is it, I wonder, that I see on the standard monochord at some places smaller and at others larger spaces, or intervals, between pitches?

Master: The large space is called the tone, as it is from low G to low A, and from low A to low B. The small space, however, is from low B to C, and it is called a semitone, and it pulls either up or down. By no measure or number, however, may the space of the semitone ever reach that of the tone, yet when the monochord is divided according to the preceding method, tones and semitones are formed. If you have followed them all to the last pitch, you will have a total of nine, running from low G to b [below middle c']. There are actually two forms of b [b flat and b natural] that together never make a tone and a semitone simultaneously; rather b flat down to a is a semitone, but b flat is a tone from the c' above. The b natural is, on the contrary, a tone away from the a below, but is a semitone away from the c' above. And so, one of them is always superfluous in a melody, and if one is present, the other is excluded, because it would be absurd to have both a tone and semitone at the same spot. . . .

Chapter 4: On the Consonances

Master: There are three divisions of tones that regulate the natural position of pitches, as said above. The first is a fourfold division as when a string representing the pitch A is divided into four segments and three of these produce the pitch d above [a 4:3 ratio produces the interval of a fourth]. It has four pitches and three intervals, that is, two tones and one semitone. Therefore wherever on the monochord you find two tones and a semitone, the distance between those two pitches involves a fourfold division, and for this reason it assumes the name "diatesseron" [Greek], that is, "involving four."

The second division is the threefold division as from low A to the e above in which space are contained five pitch names and four intervals, namely three tones and one semitone. Therefore wherever you see between two pitches three tones and a semitone, the distance to the end of the string involves a threefold division. Moreover, it is called a "diapente," that is "involving five," because there are five pitch names in this interval.

The third division involves a dividing by two, or in the middle, and is called "diapason," that is, "through all [of the tones]." This, as said above, you will recognize by the similarity of letters, as for example A and the octave above a. It encompasses, moreover, eight pitches and seven intervals, namely five tones and two semitones. It contains, in addition, one diatessaron and one diapente: A to d constitutes a diatessaron, and from the fourth step d to the eighth a, there is a diapente; and from the first A to the a above an octave is found, in this way: A, B, c, d, e, f, g, a.

Disciple: I have learned a great amount in just a few words about the divisions [of the monochord]. But why, I'd like to know, are the same letters used in the first and second segments [of the scale]?

Master: Because if you take the pitches beginning on g and match them with those beginning on G below (excluding b flat), the two parts agree with one another, so that whatever letters are present in the first segment regarding tones and semitones, or fourth or fifth, or octave, likewise are established in the second segment. In other words, from low G to A is a tone, and from A to B is another tone; tone plus tone equals two tones (ditone), to c a diatessaron, to d a diapente, and to g an octave. Similarly, in the second segment from g to a is a tone and so to b natural; tone plus tone; to c' a diatesseron, to d' a diapente, and to g a diapason. Thus every melody is sung similarly in the second segment as in the first. Moreover, the pitches of the first

segment relative to the second are similar to when adult male voices are joined to boys' voices—they sound concordant.

Disciple: Well done! Now I need to hear how to notate a chant, so that I can learn it when you, master, are not around, so that having given me examples of the rules, I may recognize it better, and if I forget how it goes, I can confidently go back to the letters.

Master: Place before your eyes the letters of the monochord as the song passes through them; and if you do not fully recognize it by the letters alone, pluck the string placed above the letters, and you will hear and you will learn, entirely unbeknownst to the master.

Disciple: Wow, master, you've given me some marvelous advice—music made by me can teach me, yet teaching me knows nothing itself. To be sure, I warmly embrace him [the monochord] because of his patience and obedience; for he will sing to me when I wish and will never, even when angered by the slowness of my mind, wound me with abusive words or corporal punishment.

Source: Translated from the original Latin *Dialogus de musica*, found online at THESAURUS MUSICARUM LATINARUM, <http://www.chmtl.indiana.edu/tml/start.html>.