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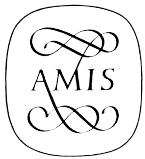

Two Reed Contrabasses (*Contrabassi ad ancia*) At Claremont

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TWO LARGE WIND INSTRUMENTS in the Curt Janssen Collection of Musical Instruments of Claremont University Center (Claremont, California)[1] were recently found to be catalogued incorrectly. These instruments had for several decades been misidentified as contrabass sarrusophones, when in fact they are *contrabassi ad ancia*.[2] The instruments

1. The instrument collection of Curtis W. Janssen, trumpeter and educator, was purchased by Claremont College (now the Claremont University Center) in 1955. Janssen began collecting musical instruments while he was a member of a U. S. Navy band during World War I and, later, as he travelled through the United States performing in concerts sponsored by the Chautauqua Institution. In 1921 he became one of the youngest members of John Phillip Sousa's band. Afterwards, he earned a Master of Music degree at Columbia University and was appointed the director of music at the Chateau du Bures in Paris. For two years he spent his summers travelling in Europe, where he collected a number of unusual instruments. After returning to the United States, he taught at Kansas State Teachers College at Emporia, where he developed the nation's first course for the training of musical supervisors. In 1928, he became professor of music and director of bands at Ohio University in Athens, where he displayed his collection in three large rooms. At Ohio, Janssen also introduced a course on the history of musical instruments, which he called "Instrumentology." He left Ohio in 1946 and taught music courses for two more years at Springfield College in Springfield, Massachusetts. From 1946 to 1950, he toured the midwestern states and Florida with his wife, Constance Clare Janssen, presenting lectures entitled "The Romance of the Trumpet" and "The Trumpet Shall Sound" with the aid of a vast array of trumpets, cornets, bugles, and non-European instruments such as conch shells and shofars.

The Janssen Collection is displayed in a large room on the first floor of the Mabel Shaw Bridges Auditorium of the Claremont Colleges. (The Claremont Colleges include the Claremont Graduate School, Claremont McKenna College, Harvey Mudd College, Pitzer College, Pomona College, and Scripps College; each is an independent institution, yet the campuses are contiguous, and the Colleges cooperate to provide the services and facilities of a 5,000-student university, for which the Claremont University Center is the central coordinating institution.) Several instruments have been added to the original collection since it arrived in Claremont, bringing the total to more than 400. Almost every type of European woodwind, brass, and string instrument is represented in the collection, which is especially rich in the variety and quality of its brasses, particularly trumpets, cornets, and bugles. The collection also includes a number of fascinating ethnic instruments collected by Janssen and by Henry Purmont Eames, professor of music at Claremont College (1928–50) and Scripps College (1928–41). A catalogue of the European woodwind instruments has recently been compiled by Albert R. Rice.

2. See Roderick H. Van Horn, "Catalog of the Claremont College Curt Janssen Collection of Musical Instruments" (M.A. thesis, Claremont Graduate School, 1958), pp. 183–84.

have the form of a long, slender tuba (the tube having four **U**-bends) and are normally played with a large double reed, although a single-reed mouthpiece may also be fitted on the bassoonlike crook (see figs. 1 and 2). They were constructed by the modern Italian makers O. Borgani (Macerata) and A. Rampone & B. Cazzani (Milan),[3] hence our use of the Italian name rather than the usual French designation, *contrebasse à anche.* These instruments represent the most successful among the many attempts by makers to construct a satisfactory metal contrabassoon.[4]

The reed contrabass has been seen as a development of the *Tritonikon* or *Universal-Kontrabass* made about 1839 by F. Schöllnast & Sohn of Pressburg (now Bratislava, Czechoslovakia).[5] According to Curt Sachs, this double-reed instrument had a total tube length of 4.56 m. (14 ft. 11 1/2 in.) folded on itself five times, with fifteen keys (thus no octave keys), of which only the first was open. This arrangement allowed a fingering pattern resembling that of the piano and gave a chromatic compass of sixteen notes from *DD* to *F*.[6] Another instrument having the same range was the *Harmonie-Bass,* built by J. Stehle of Vienna in the 1840s. According to Jürgen Eppelsheim, this instrument can be overblown from *F*♯ upwards

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Contrabassi ad ancia are often incorrectly described as sarrusophones, double-reed instruments that utilize keywork and fingering closely resembling those of the saxophone. An example of such misattribution is found in Adam Carse, *Musical Wind Instruments* (London, 1939; reprint ed., New York: Da Capo Press, 1975), p. 328, pl. 15; the particular error was corrected in the catalogue of the Horniman Museum (London), E. A. K. Ridley, *Wind Instruments of European Art Music* (London: Inner London Educational Authority, 1974), pl. 9, no. 46. A further indication of the confusion between the reed contrabass and the contrabass sarrusophone is found in Sibyl Marcuse, *Musical Instruments: A Comprehensive Dictionary,* 2d ed. (New York: W. W. Norton & Company, 1975), where the former is identified as the *controbasso* [sic] *ad ancia* (p. 124) and the latter the *contrabasso da ancia* (pp. 122, 457).

3. Rampone & Cazzani included the contrabasso ad ancia in E♭ in their price list of 1948, according to Lyndesay G. Langwill, *An Index of Musical Wind-Instrument Makers,* 6th ed. (Edinburgh: The Author, 1980), p. 143. The two reed contrabasses at Claremont were made sometime in the late nineteenth or early twentieth centuries. The Rampone & Cazzani instrument has the serial number 2031.

4. The contrabasso ad ancia was included in the instrumentation of several opera transcriptions (such as the one made of Puccini's *Turandot* in 1927) that were played by large municipal bands in major Italian cities. See Harold C. Hind and Anthony Baines, "Military Band," *The New Grove Dictionary of Music and Musicians* (1980), vol. 12, p. 313.

5. Victor-Charles Mahillon, *Catalogue descriptif & analytique du Musée instrumental du Conservatoire royal de musique de Bruxelles,* 2d ed. (Ghent: A. Hoste, 1893), vol. 1, p. 234; restated by Anthony Baines, *European and American Musical Instruments* (New York: Viking Press, 1966), p. 118.

6. Curt Sachs, *Real-Lexikon der Musikinstrumente* (Berlin, 1913; rev. and enlarged ed., New York: Dover Publications, 1964), pp. 392b–393a; restated by Lyndesay G. Langwill, *The Bassoon and Contrabassoon* (London: E. Benn, 1975), p. 123.

FIGURE 1. Back view of reed contrabasses by (left) A. Rampone & B. Cazzani of Milan and (right) O. Borgani of Macerata. The Curt Janssen Collection of Musical Instruments of Claremont University Center (Claremont, Calif.). Photograph by Lynda Hoch.

FIGURE 2. The reed contrabass by Rampone & Cazzani, held in playing position by Albert R. Rice. The Curt Janssen Collection of Musical Instruments. Photograph by Lynda Hoch.

without the aid of octave keys.[7] A slight modification of Stehle's instrument, called the *Tritonikon,* was made by V. F. Červený of Königgrätz (now Hradec Králové, Czechoslovakia) in about 1854 and exhibited the following year at the Paris exhibition.[8] By 1867, Červený developed an enlarged Tritonikon a fourth lower than his earlier model, having a fundamental scale from *AA* to *C*.[9] Victor-Charles Mahillon of Brussels refined Červený's design in his contrebasse à anche of about 1874. This instrument has seventeen keys, all closed (including the two octave keys) except the highest in the bell, which is open. The range is from *DD* to *f*, an octave more than on Stehle's instrument.[10] Mahillon's reed contrabass served as the model for the two Italian instruments in the Janssen collection.[11]

The unique feature of these Italian reed contrabasses, which has been noted in several sources, is a fingering system with keys opening holes so

7. Jürgen Eppelsheim, "More Facts about the 'Subkontrafagott', " *Galpin Society Journal* 32 (May, 1979): 104; photographs are given in pl. 27, c–e. The Berlin instrument maker Carl Wilhelm Moritz is said to have invented the *Klaviaturkontrafagott* in 1845 as a result of his desire to simplify the fingering system of Stehle's *Harmonie-Bass.* Moritz's instrument, for which a Prussian patent was issued in 1856, had a small keyboard of fifteen keys, with black and white touches arranged as on the piano; it also had an octave key. Langwill, *The Bassoon and Contrabassoon,* discusses this instrument (pp. 122–23) and includes an illustration, dating from the 1860s, showing it in the hands of a military bandsman (pl. 20, fig. 14).

8. Edmund Schebek, "Blech-Blasinstrument," in *Bericht über die Allgemeine Agricultur- und Industrie-Ausstellung zu Paris im Jahre 1855,* ed. E. A. Jonák (Vienna: Kaiserlich-Königlich Hof- und Staatsdruckerei, 1857–58), 27th class, p. 57. L. A. de Pontécoulant claimed that Červený's Tritonikon was constructed according to the Boehm system in 1853! (see *Organographie* [Paris, 1861; reprint, Amsterdam: Frits Knuf, 1972], vol. 2, p. 507). Cf. Langwill, *The Bassoon and Contrabassoon,* p. 123, and Eppelsheim, "More Facts about the 'Subkontrafagott', " p. 106.

9. Eppelsheim, ibid., p. 108; photographs are given in pl. 24.

10. Mahillon, *Catalogue descriptif & analytique,* vol. 1, p. 234; idem, *Éléments d'acoustique musicale & instrumentale* (Brussels: C. Mahillon, 1874), p. 173. Illustrations of an early design are found in C. R. Day, *A Descriptive Catalogue of the Musical Instruments Recently Exhibited at the Royal Military Exhibition, London, 1890* (London: Eyre & Spottiswoode, 1891), p. 83, no. 1743. The improved model is shown in Langwill, *The Bassoon and Contrabassoon,* pl. 19, no. 8; Baines, *European and American Musical Instruments,* no. 661; and Eppelsheim, "More Facts about the 'Subkontrafagott', " pl. 25.

11. A small photograph of a reed contrabass by Rampone is found in Anthony Baines, *Woodwind Instruments and Their History,* 3d ed. (London: Faber and Faber, 1967), pl. 16. Mahillon's design was also made by E. Albert in Brussels and Boosey & Co. in London. An example by Albert, made ca. 1870, is in the Glasgow Museums and Art Galleries; another by Boosey & Co., made ca. 1890, is in the Royal Pavilion Museum, Brighton (see G. Melville-Mason, ed., *An Exhibition of European Musical Instruments: The Galpin Society 21st Anniversary Exhibition* [(Edinburgh): Reid School of Music, Edinburgh University, 1968], p. 38, nos. 271, 272.

large that only a single hole need be opened for each note. The seventeen keys are employed as shown in table 1, a fingering chart derived from the authors' experience in playing the instruments. As can be observed in the fingering chart and in figure 1 (which shows the instruments upside-down), the left thumb operates five keys. Counting clockwise from the top (in playing position), these are: the second octave key (used for *c*♯ through *f*), the first octave key (*F*♯ through *c*),[12] the *EE* key, the *FF* key, and the open-standing *DD* key. The right thumb operates two keys, *GG*/*G* above and *FF*♯/*F*♯ below. There is one key for each index, middle, and ring finger (numbered 1, 2, and 3, respectively), and each little finger (no. 4) controls two keys (see fig. 2).

Anthony Baines has said of the contrabasso ad ancia:

> . . . the instrument is fingered somewhat like a piano. To assist the illusion, the touches of the main series of keys are so arranged that the little finger of the left hand . . . has the key for the lowest fundamental, and the right little finger that for the highest, the other fingers falling in between in the order of a pianist's fingers. . . . all that a pianist would find strange at first is that his left hand is held palm-uppermost.[13]

This description and others that mention pianolike fingering are a little misleading in that they fail to consider the thumbs. The lowest notes of each register are produced by a key operated by the right thumb rather than the left little finger, as Baines suggests. Based on the piano analogy, one would expect that the order of fingers *and thumbs,* ascending the scale would be: left fingers, left thumb, right thumb, right fingers. In fact, as the fingering chart indicates, the left thumb is reserved for the touches of the lowest notes of the instrument plus the octave keys, while the right thumb operates the keys for the two half-steps at the bottom of both the lower and the upper registers. Thus, the order of fingers and thumbs for the lower register is: left thumb, right thumb, left fingers, right fingers—clearly a different pattern from what one would find on the piano.[14]

12. Compare the range of these octave keys given by Eppelsheim, "More Facts about the 'Subkontrafagott', " p. 110.

13. Baines, *Woodwind Instruments,* p. 168.

14. Gunther Joppig, *Oboe und Fagott* (Bern: Hallwag, 1981), p. 122, fig. 3, cites and illustrates a reed contrabass in the Horniman Museum that has closed keys organized in a genuine piano pattern. Ridley, *Wind Instruments of European Art Music,* p. 86, reports that this instrument is a "reed bass" by D. Rancillo & C., made during the first quarter of the twentieth century (Horniman Museum no. 14.5.47/306, formerly Carse collection). Its overall length (98 cm.) and bell diameter (12.1 cm.) are smaller than the measurements of the Horniman's unmarked reed contrabass (no. 14.5.47/191), which has an overall length of 102 cm. and a bell diameter of 21.5 cm. Ridley also describes the "keyboard" system of closed keys.

TABLE 1

Fingering Chart for the Reed Contrabass

Tone	*Left thumb*	*Left-hand fingers* 1	2	3	4	*Right thumb*	*Right-hand fingers* 1	2	3	4
DD	D									
DD♯*										
EE	E									
FF	F									
FF♯						F♯				
GG						G				
GG♯					G♯					
AA					A					
AA♯				A♯						
BB			B							
C		C								
C♯							C♯			
D								D		
D♯									D♯	
E										E
F										F
F♯	Oct. 1					F♯				
G	Oct. 1					G				
G♯	Oct. 1				G♯					
A	Oct. 1				A					
A♯	Oct. 1			A♯						
B	Oct. 1		B							
c	Oct. 1	C								
c♯	Oct. 2						C♯			
d	Oct. 2							D		
d♯	Oct. 2								D♯	
e	Oct. 2									E
f	Oct. 2									F

*This note is played with none of the keys depressed.

Both of the Italian reed contrabasses were played by the authors and tested for the pitch of their notes with an electronic tuner. The range of both was found to be *DD* to *f* (as indicated in the fingering chart) at A–440, with the crook pushed all the way in. Both instruments were played with a contrabassoon reed, and a single-reed mouthpiece made by Conn, which may have been intended for use with a contrabass sarrusophone, was also tried on the Rampone & Cazzani instrument (the crook of the Borgani was too large in diameter to accept it). The results of these tests were that the

tones produced by both sound generators were practically identical in pitch and were of a loud, full-bodied quality. While the authors found that the holes on the instruments were so large that it was necessary to open only a single key to produce each note (in addition to octave keys as needed), this does not mean that opening holes lower on the tube did not have an effect. In fact, opening additional holes alters the intonation of various notes and, to a lesser degree, also changes their tone quality. It is presumed that sophisticated players of the instrument are aware of this characteristic and make effective use of it.

Both specimens examined for this study have rollers fitted onto the keys operated by the little fingers (see fig. 2), facilitating rapid movement between the adjacent notes in question. More problematical is movement between the two keys operated by the right thumb, for on both instruments they are not closely spaced or fitted with rollers (see fig. 1). Given the fact that these keys are used in both registers, some difficulty might be expected. Likewise, the keys operated by the left thumb are both widely spaced and lacking in rollers.[15] One might observe, however, that except for the spacing of the keys, the dexterity required of the left thumb is not much greater than that required on the modern bassoon. In spite of the fact that fingering the reed contrabass would be distinctly foreign to any woodwind player, an experienced player surely could develop considerable facility on the instrument. The reed contrabass seems capable of playing parts at least equal in difficulty to those assigned to the modern tuba.

An important reason for the development of the contrabasso ad ancia's unique system of large, closed tone holes was to encourage the instrument's use by offering a relatively simple fingering system. The authors have found, however, that the most difficult aspect of playing this instrument well, lies in controlling the tone produced by its double reed in combination with its large bore.[16] The simple fingering system, therefore, was not a compelling enough reason for a wide adoption of the reed contrabass.

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15. The thumb keys of the reed contrabass in Adam Carse's pl. 15 (*Musical Wind Instruments,* p. 328) are clearly illustrated by a photograph in Joppig, *Oboe und Fagott,* p. 122, fig. 1.

16. Compare Langwill's assessment in *The Bassoon and Contrabassoon,* p. 125.