

*Journal of the
American Musical
Instrument Society*

VOLUME XII • 1986



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Preparation and Management of a Descriptive Inventory for a Collection of Flutes

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INDIVIDUALS OR INSTITUTIONS having musical instruments in their possession or care need to preserve a written description of their holdings. This is not solely to establish an insurance claim or tax deduction in case of loss or damage to the instruments, but, more important, so that the data will not be lost to scholarship. Such descriptive material may be of great value in the exchange of information among collectors and students even when the instruments are not in their original condition or are no longer in existence. This report will propose a structure for a descriptive inventory suitable for a collection of Western European and American flutes. It is intended as an example, the principles of which may be applicable to other instrument collections.

In this application, "catalog" is a nonspecific term for anything from a brief checklist to an exhaustive monograph. "Descriptive inventory" is used here as something in between and is intended to provide as complete a description as can be obtained without major dismantling of the instrument or using sophisticated analytical instrumentation and without extensively reviewing the historical background. The description of each instrument is designed to be complete in itself without constant reference to glossaries.

The greatest deterrent to the preparation of any inventory or catalog is that it is so often obsolete soon after it is issued, due to acquisitions, de-acquisitions, and additions or corrections to the data. With the advent of the now-ubiquitous personal computer or micro-computer, this no longer need be true. Using readily available technology, an inventory can be revised day-by-day, and a completely current printed copy can be obtained at the moment needed. This will encourage the collector to enter information into the inventory without delay even though the data may be incomplete at the time. When a personal computer is available, the simplicity and speed of this procedure commends itself for the management of even a modest collection.

The computer used in the preparation of this report is the IBM "PC"

The author is indebted to Laurence Libin and John Solum for comments and suggestions.

with 128,000 bytes of memory. Many other computers would be equally useful. The program (software) is *Total Information Management (TIM) IV*.¹ Other data-management programs would be satisfactory. No knowledge whatever of computer programming is needed, since TIM IV is adaptable without custom modification. The parameters to be recorded are first set up as field titles in a "questionnaire" format; the data, so far as they are known, are then entered, using the computer keyboard, and completed and corrected as new information becomes available. The program allows fifteen characters for field titles and sixty characters for data on each line. Where data are brief, more than one field can be inserted per line, and where extensive, more than one line may be assigned per field. Each record may have a maximum of forty fields and forty lines. Both field titles and data are stored on a 5¹/₄ in. magnetic diskette (floppy disk). Double-sided, double-density diskettes can store roughly 100 records corresponding to the same number of instruments. The records may be grouped for convenience into files each having an identifying code name or number (in our case: RAL-SS-A and RL-BS-B2). The recorded diskettes have many years of life when properly cared for. Copies on blank diskettes can be made by the collector for mailing to others who have compatible equipment and as a precaution against loss or damage. Print-outs can be made readily of all or a selected part of the data for study or distribution.

The following two groups of flutes were selected to serve as examples in designing a format for recording the data:

Group A: Simple-System Transverse Flutes. Two to four sections with cap included in head or treated as an additional section; head section with cylindrical bore; body conical, diminishing in diameter toward the foot, which may flare at the end; one to six closed-standing keys, zero to three open-standing keys, sometimes additional special-purpose keys; holes spaced generally to fit the fingers rather than in the acoustically desirable positions; marked variation throughout the range in scale, volume, and timbre; late seventeenth century to mid nineteenth century. This appears to be a reasonably homogeneous group acoustically.

Group B: Boehm-System Transverse Flutes. Three sections with cap included as part of the head section; head usually tapered (frequently described as paraboloid); body and foot usually a cylinder; mostly open-standing keys in acoustically correct positions; keys for A, G, F, E, and D may be perforated or not, or the hole may be surrounded by a ring touch-piece; relatively even in scale, volume, and timbre; 1832 to the present.

1. Produced by Innovative Software, Overland Park, Kans.

In most cases there will be enough space under "addenda" in the format to describe nineteenth-century variations, such as the 1832 conical Boehm-system flutes and the many hybrids that have features of both groups A and B.

Renaissance flutes, fifes, vertical flutes, vessel flutes, and duct flutes (recorders and flageolets) do not fit into groups A and B. Similar formats to the ones here proposed could easily be devised wherever the collection contains enough original examples of the foregoing instruments to make this worthwhile.

Photographs of computer monitor screens for flutes of group A are shown here in figure 1. Field titles for flutes of groups A and B are given in tables 1 and 2 with explanatory notes. Examples of print-outs of several flutes from the inventory of the author's collection are shown in figures 2-4 (group A) and 5 and 6 (group B). Table 3 gives the more-or-less standard configuration of the mid-twentieth-century Boehm flute with closed G# key. The inventory for flutes of group B gives only the variations from table 3.

The inventory can be printed out on continuous feed paper, single sheets, or, more conveniently, on standard file cards. The program provides for forty lines, but a maximum of thirty-four to thirty-six is all that is needed since it is possible in some cases to put two and sometimes even three fields on one line. Thus 5 × 8 in. cards are satisfactory for printing at eight lines per inch, twelve-pitch (characters per inch), or 6 × 9 in. cards at six lines per inch, ten-pitch. Since lines may be caused to drop out where no data have been entered, only rarely will the full capacity of the card be required.

In figure 7 is shown an example of a print-out of data from the inventory for a random selection of five simple-system flutes. In this way it is possible to compare one or more parameters for a group of instruments. The order may be alphabetical by maker, numerical by accession number, or any other way desired. Field titles may be included or omitted.

The foregoing approach to data management is suitable for a collection of any size so long as the instruments are relatively homogeneous in their most important characteristics. Once set up, the management of the inventory is simple and permits continuous revising and virtually instantaneous retrieval of any or all of the data as needed.

It is to be understood that no description, no matter how detailed or well organized, can substitute for good photographs, which can be an invaluable complement to the inventory.

```

FILE: B:RAL-SS-A EOF      KEY: SEQ  DIR: +  SCREEN: 1
RECORD: 7 ( 7 )          DEL:N    TYPE:A

1 FILE/RECORD NO: _____
2 ACCESS NO-YR : _____ 3 PITCH DESIGNTN: _____
4 "MARKING"-LOGO: _____
5 MAKER OR FIRM : _____
6 BRN-DIED/ACTIU: _____
7 PLACE/WHEN MDE: _____
8 PROVENANCE : _____
9 KYS:NO/SHP/SUP: _____
10 TUNING SL Y/N?: _____ 11 HD LINING Y/N?: _____
12 CORK ADJR Y/N?: _____ 13 PLAY COND Y/N?: _____
14 LOWST SOUND HZ: _____ 15 NRST NT @ A440: _____
16 PHOTO AVAILABL: _____
17 ..<MATERIALS>.: _____
18 HD/BARREL/BODY: _____
19 KYS/MOUNTS/EMB: _____
20 ..<DIMENSIONS>.: _____
21 ..(mm; +=0.5): _____
22 SECTNS L T-B=t: _____
23 EXTRA SECTNS L: _____
24 CTR EMB TO END: _____ 25 EMBOUCHURE LxW: _____

+ Lft + Rt ↑ Up ↓ Dwn 5=Insert 6=C dlt 7=Last 8=Date 9=F dlt 10=Exit

```

```

FILE: B:RAL-SS-A EOF      KEY: SEQ  DIR: +  SCREEN: 2
RECORD: 7 ( 7 )          DEL:N    TYPE:A

26 HEAD ID AT EMB: _____ 27 FOOT ID T/B : _____
28 HLS D-EMB DIST: _____
29 ..w/o KEYS : _____
30 ..w 1-6 CL KEYS: _____
31 ..w SPEC CL KYS: _____
32 ..w OPEN KEYS : _____
33 <REFS/ADDENDA>: _____
34 ..IDEM 34-40..: _____
35 .. " ..: _____
36 .. " ..: _____
37 .. " ..: _____
38 .. " ..: _____
39 .. " ..: _____
40 .. " ..: _____

+ Lft + Rt ↑ Up ↓ Dwn 5=Insert 6=C dlt 7=Last 8=Date 9=F dlt 10=Exit

```

FIGURE 1. Photographs of two computer monitor screens prepared for entering data on simple-system flutes of group A, using the computer keyboard. The operator can go back and forth between screens with a single key command.

```

1 FILE/RECORD NO: RAL-SS-A (5)
2 ACCESS NO-YR : 96-83 3 PITCH DESIGNTN: D
4 "MARKING"-LOGO: "CAHUSAC/LONDON"
5 MAKER OR FIRM : Thomas Cahusac(Sr-or-Jr)
6 BRN-DIED/ACTIV: T.C.,Sr...-1798/2nd half 18C
7 PLACE/WHEN MDE: London/2nd half 18th C
8 PROVENANCE : Sotheby auction, NY ex Moskovlitz ex Champlon collections
9 KYS:NO/SHP/SUP: One/square flat with body contour/Integral saddle
10 TUNING SL Y/N?: N 11 HD LINING Y/N?: N
12 CORK ADJR Y/N?: N 13 PLAY COND Y/N?: Y
14 LOWST SOUND HZ: 277 15 NRST NT @ A440: c1#
16 PHOTO AVAILABL: N
17 ..<MATERIALS>.: .
18 HD/BARREL/BODY: Ivory/ivory/ivory
19 KYS/MOUNTS/EMB: Silver/none/no lip plate
20 ..<DIMENSIONS>.= .
21 ..(mm; +/-0.5).. .
22 SECTNS L T-B=+ : 230/150/136/100=616
23 EXTRA SECTNS L: None
24 CTR EMB TO END: 540 25 EMBOUCHURE LxW: 8x 7+
26 HEAD ID AT EMB: 19+ 27 FOOT ID T/B : 13+/14
28 HLS D-EMB DIST= .
29 .w/o KEYS : 6 -217/ 6 -253/ 5 -290/ 6 -349/ 5+-385/ 4 -419
30 .w 1-6 CL KEYS: . . . . . 6+-478
31 .w SPEC CL KYS: None
32 .w OPEN KEYS : None
33 <REFS/ADDENDA>: *

```

FIGURE 2. A print-out of records from the inventory for a simple-system flute of group A (Cahusac, one key).

```

1 FILE/RECORD NO: RAL-SS-A (1)
2 ACCESS NO-YR : 60-77 3 PITCH DESIGNTN: D
4 "MARKING"-LOGO: "L.L./LOUIS LOT/PARIS/668" device
5 MAKER OR FIRM : Louis Lot
6 BRN-DIED/ACTIV: ...-1890/1855-1875
7 PLACE/WHEN MDE: Paris/...
8 PROVENANCE : D.A.Jacobson, Ft Lauderdale, FL
9 KYS:NO/SHP/SUP: 5/round flat hollow/pillars
10 TUNING SL Y/N?: Y 11 HD LINING Y/N?: N
12 CORK ADJR Y/N?: Y 13 PLAY COND Y/N?: Y
14 LOWST SOUND HZ: 294 15 NRST NT @ A440: d'
16 PHOTO AVAILABL: N
17 ..<MATERIALS>.: .
18 HD/BARREL/BODY: Cocuswood
19 KYS/MOUNTS/EMB: Silver/silver/no lip plate
20 ..<DIMENSIONS>.= .
21 ..(mm; +/-0.5).. .
22 SECTNS L T-B=+ : 231/178/120/94=623
23 EXTRA SECTNS L: None
24 CTR EMB TO END: 545 25 EMBOUCHURE LxW: 12 x 9+
26 HEAD ID AT EMB: 19 27 FOOT ID T/B : 12 /14
28 HLS D-EMB DIST= .
29 .w/o KEYS : 7 -229/ 7+-264/ 6 -301/ 7 -363/ 7 -397/ 5 -430
30 .w 1-6 CL KEYS: 6 -247/ 5 -282/ 4+-320/ 6+-414/11 -486
31 .w SPEC CL KYS: None
32 .w OPEN KEYS : None
33 <REFS/ADDENDA>: .

```

FIGURE 3. A print-out of records from the inventory for a simple-system flute of group A (Lot, five keys).

```

1 FILE/RECORD NO: RAL-SS-A (6)
2 ACCESS NO-YR : 62-48 3 PITCH DESIGNTN: D
4 "MARKING"-LOGO: "NACH/H.F.MEYER/HANNOVER/HP"
5 MAKER OR FIRM : Meyer(workshop)
6 BRN-DIED/ACTIV: ...
7 PLACE/WHEN MDE: Hannover, Germany/late 19th C
8 PROVENANCE : Theis Altken, Bethel, VT
9 KYS:NO/SHP/SUP: 12/round, hollow/Pillars
10 TUNING SL Y/N?: Y 11 HD LINING Y/N?: Y
12 CORK ADJR Y/N?: Y 13 PLAY COND Y/N?: N
14 LOWST SOUND HZ: ... 15 NRST NT @ A440: ca b
16 PHOTO AVAILABL: N
17 ..<MATERIALS>.: .
18 HD/BARREL/BODY: Ebonite/"ebony"/"ebony"
19 KYS/MOUNTS/EMB: Silver/silver/no lip plate
20 ..<DIMENSIONS>.: .
21 ..(mm; +/-0.5)..: .
22 SECTNS L T-B+: 10/145/76/173/305=709
23 EXTRA SECTNS L: None
24 CTR EMB TO END: 625 25 EMOUCHURE LxW: 12 x10
26 HEAD ID AT EMB: 19 27 FOOT ID T/B : 14 /11
28 HLS D-EMB DIST= .
29 .w/o KEYS : 7 -219/ 7 -253/ 7 -292/ 7 -350/ 6+-382/ 5+-418
30 .w 1-6 CL KEYS: 6 -234/ 6 -274/ 6 -313/ 7 -400/ 7 -400/10 -470
31 .w SPEC CL KYS: D tr 9+-160/A 6 -218/lg G# 6 -313
32 .w OPEN KEYS : 9+-505/ 9+-543/ 9+-575
33 <REFS/ADDENDA>: Original case and tenon covers; mount end of foot missing;
34 ..IDEM 34-40...: touch piece for long F missing; 2nd touch for Bb (R1)

```

FIGURE 4. A print-out of records from the inventory for a simple-system flute of group A (Meyer workshop, twelve keys).

```

1 FILE/RECORD NO: RL-BS-B2 (2)
2 ACCESS NO-YR : 93-82 3 PITCH DESIGNTN: C
4 "MARKING"-LOGO: "BO...MENDLER/MUNCHEN" on tenon
5 MAKER OR FIRM : Boehm-&-Mendler
6 BRN-DIED/ACTIV: Theobald Boehm 1794-1881; Carl Mendler 1833-1914/1862-95
7 PLACE/WHEN MDE: Munich, Germany/...
8 PROVENANCE : Abraham Segol, New York
9 BORE;CONE/CYL?: Tapered head; cylindrical body
10 KEYS: NO/KIND : 11 open, 3 closed keys; 7 touches; 2 rollers
11 PLAY COND Y/N?: Y
12 LOWST SOUND HZ: 254 13 LOWST NT @A440: 50 cents flat to c'
14 PHOTO AVAILABL: N
15 ..<MATERIALS>.: .
16 HEAD/LIP PLATE: Grenadilla/no lip plate
17 BODY/KEYS/MNTS: Grenadilla/nickel silver/nickel silver
18 ..<DIMENSIONS>.: .
19 ..(mm; +/-0.5)..: .
20 SECTNS L T-B+: 233/298/128=659
21 CTR EMB TO END: 579 22 EMOUCHURE LxW: 11+x10+
23 HEAD ID T/B : 17 /19 24 BODY ID T/B : 19 /19
25 FOOT ID T/B : 19 /19
26 HLS:D-EMB DIST= .
27 C"#CBBbAA(G#) : 7+-223/12+-251/12+-271/12+-292/12+-313/... /12+-336
28 GF#FE(D#)DC# : 12+-360/12+-385/12+-413/12+-443/12+-473/12+-504/12+-540
29 <VARIATIONS ON= : .
30 BOEHM KEY SYST: B ky(LT) closed also by Bb touch similar to Briccialdi
31 ..IDEM 29-33...: c'# closed by a roller; open G#.
34 <REFS/ADDENDA>.: .

```

FIGURE 5. A print-out of records from the inventory for a (cylindrical) Boehm-system flute of group B (Boehm & Mendler).

```

1 FILE/RECORD NO: RL-BS-B2 (4)
2 ACCESS NO-YR : 28-76 3 PITCH DESIGNTN: D
4 "MARKING"-LOGO: Device"L.LOT/PARIS"device
5 MAKER OR FIRM : Louis Lot
6 BRN-DIED/ACTIV: ...-1890/1855-1875
7 PLACE/WHEN MDE: Paris/...
8 PROVENANCE : Tepper Galleries auction, New York
9 BORE: CONE/CYL?: Cylindrical head, conical body and foot
10 KEYS: NO/KIND : 12 non-perf keys; 5 rings; 7 touches; one roller
11 PLAY COND Y/N?: Y
12 LOWST SOUND HZ: 262 13 LOWST NT @A440: c'
14 PHOTO AVAILABL: N
15 ..<MATERIALS>.: .
16 HEAD/LIP PLATE: Grenadilla/no lip plate
17 BODY/KEYS/MNTS: Grenadilla/nickel silver/nickel silver
18 ..<DIMENSIONS>.: .
19 ..(mm; +0.5)..: .
20 SECTNS L T-B=t: 238/305/135=678
21 CTR EMB TO END: 593 22 EMBOUCHURE LxW: 13 x11
23 HEAD ID T/B : 19 /19 24 BODY ID T/B : 18+/12
25 FOOT ID T/B : 12 /11
26 HLS:D-EMB DIST= .
27 C"#CBBbAA(G#) : 9 -223/cf f 30/ 8 -267/ 8r-291/ 9 -341/ 9 -341/ 8r-316
28 GF#FE(D#)DC# : 9 -365/ 8r-390/ 8r-417/10 -484/ 8r-447/11 -515/11 -549
29 <VARIATIONS ON= .
30 BOEHM KEY SYST: Double open keys and 6 mm holes for B at 249 and 263; see
31 ..IDEM 29-33..: ref below.This is a conical Boehm but with modern closed
32 .. " : G# and Briccialdi B/Bb
34 <REFS/ADDENDA>: Toff, Development of the Modern Flute (NY, Taplinger,
35 .. " : 1979) p 56.

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FIGURE 6. A print-out of records from the inventory for a (conical) Boehm-system flute of group B (Lot).

```

RAL-SS-A (5) 96-83 D
5 MAKER OR FIRM : Thomas Cahusac(Sr-or-Jr)
30 .w 1-6 CL KEYS: . . . . . 6+-478

RAL-SS-A (2) 70-79 D
5 MAKER OR FIRM : Firth-Hall-&-Pond
30 .w 1-6 CL KEYS: 4 -268/ 4+-308/ 6 -398/10 -477

RAL-SS-A (3) 106-84 D
5 MAKER OR FIRM : A. R. Jollie
30 .w 1-6 CL KEYS: . . . . . .7 -483

RAL-SS-A (1) 60-77 D
5 MAKER OR FIRM : Louis Lot
30 .w 1-6 CL KEYS: 6 -247/ 5 -282/ 4+-320/ 6+-414/11 -486

RAL-SS-A (6) 62-48 D
5 MAKER OR FIRM : Meyer(workshop)
30 .w 1-6 CL KEYS: 6 -234/ 6 -274/ 6 -313/ 7 -400/ 7 -400/10 -470

```

FIGURE 7. A print-out showing selective information for five simple-system flutes:

- File and record no.; accession no. and year; pitch designation
- Maker or firm
- Position and diameter of hole(s) with closed-standing key(s)

TABLE I
Field Titles with Explanations
Group A: Simple-System Flutes

	Fields 1–16: General, no subheading
	Fields 17–19: (MATERIALS)
	Fields 20–32: (DIMENSIONS)
	Fields 33–40: (REFS/ADDENDA)
1 FILE/RECORD NO	: These numbers identify the file and record within the file on diskette for instruments of group A and are used for retrieval of data on a particular instrument.
2 ACCESS NO/YR	: Collector's accession number and year.
3 PITCH DESIGNTN	: Note at which register break occurs. On the one-keyed flute it is the tonality that can be played without forked fingering.
4 "MARKING"—LOGO	: No distinction made as to the sections on which the markings are found. Markings given in quotation marks exactly as they appear but without replication.
5 MAKER OR FIRM	: For a firm with more than one surname, hyphens are inserted between names so that the first surname will be indexed. Any notes appended to the indexed name should be connected to the latter with hyphens.
6 BRN—DIED/ACTIV	:
7 PLACE/WHEN MDE	:
8 PROVENANCE	:
9 KYS:NO/SHP/SUP	: "KEYS: NUMBER/SHAPE/SUPPORT." Shape is limited to square, rectangular, trapezoidal, round, hollow round, and salt-spoon. Other forms may be described under ADDENDA.
10 TUNING SL Y/N?	: Tuning slide present or absent in original flute; if missing in the instant example, this should be entered under ADDENDA.
11 HD LINING Y/N?	: As in field 10 with respect to head lining.
12 CORK ADJR Y/N?	: As in field 10 with respect to cork adjuster.
13 PLAY COND Y/N?	: Playing condition but not necessarily mint condition.
14 LOWST SOUND HZ	: This may be measured with a strobe tuner having a vernier that will divide a semitone into cents (such as the "Scanning Strobe Tuner," model 700, Peterson Electro-Musical Products, Worth, Ill.). Player should attempt to use a mean embouchure position. Estimation should be made as nearly as possible at normal indoor conditions of 70° F. and 50 percent

- relative humidity, since substantial variations in these factors will change the pitch, and correction cannot readily be made by calculation.
- 15 NRST NT @ A440** : Nearest note to lowest sound if A is taken as 440 Hz.
- 16 PHOTO AVAILABL** : Photo in the collector's possession or reference to a publication or other source.
- 17 .. <MATERIALS>** : On the basis of the collector's judgement. Quotation marks used where there is substantial doubt.
- 18 HD/BARREL/BODY** : Fields 18 and 19 refer to subheading "<MATERIALS>."
- 19 KYS/MOUNTS/EMB** : "EMB" (= embouchure) refers here to lip-plate material; elsewhere it refers to dimensions as the context indicates.
- 20 . <DIMENSIONS>.** = : Measurements of holes and bores to the nearest 0.5
- 21 .. (mm; + = 0.5).** : mm. In most cases, measurement closer than this would give a false sense of accuracy. To save space "+" is used for 0.5. Lengths of sections, etc., are measured to the nearest mm. No measurements would be indicated for the distance from the cork to the center of the embouchure, since there is no way to tell where the cork was originally placed. This would be approximately equal to the diameter of the head section at the embouchure.* Where the cap is no more than a mount and does not function as a cork adjuster, it may be treated as part of the head section; otherwise it may be considered a separate section.
- 22 SECTNS L T-B = t** : "SECTIONS LENGTH TOP TO BOTTOM = TOTAL." Longest sections entered ignoring tenons; extra sections under field 23.
- 23 EXTRA SECTNS L** : Length of *corps de rechange*, extra head sections, etc., ignoring tenons.
- 24 CTR EMB TO END** : Center of blowhole to end of flute, using the longest sections where options exist; all tenons fully inserted into sockets.
- 25 EMBOUCHURE L x W** : Blowhole dimensions: length and width.
- 26 HEAD ID AT EMB** : Inside diameter of head section at center of blowhole.
- 27 FOOT ID T/B** : INSIDE DIAMETER TOP (proximal)/BOTTOM (distal) of foot section.
- 28 HLS D-EMB DIST** : "HOLES DIAMETER-EMBOUCHURE DISTANCE"; HLS D measured across the instrument; EMB DIST from center of blowhole to center of hole listed from head to foot and right to left on the page. Fields 29 to 32 refer to field 28 with respect to four categories of holes.

(Continued)

TABLE 1 (*Continued*)

29 .w/o KEYS	: WITHOUT KEYS
30 .w 1-6 CL KEYS	: WITH 1-6 CLOSED (standing) KEYS. Farthest right entry will be the closed D# key.
31 .w SPEC CL KYS	: WITH SPECIAL CLOSED (standing) KEYS. Trill (tr) keys, etc.
32 .w OPEN KEYS	: WITH OPEN (standing) KEYS: C#, C, and B, etc.
33 <REFS/ADDENDA>	: References to obscure features; dates and historical matter not readily available, etc. "Addenda" is intended to cover information that could not be accommodated in other fields: significant damage, replacements or missing parts, ornamentation, accessories believed to be original (case, crutch, grease container, swab, tenon covers), etc.
34 . . IDEM 34-40 . .	: Fields available to continue field 33. Lines not used will drop out of the print-out.

*See Philip Bate, *The Flute* (London: Ernest Benn Limited; New York: W. W. Norton & Company, 1969), p. 34.

TABLE 2
Field Titles with Explanations
Group B: Boehm-System Flutes

(Given only where different from table 1)

1 FILE/RECORD NO	: As in table 1 for instruments of Group B.
9 BORE: CONE/CYL?	: Conical or cylindrical bore.
10 KEYS: NO/KIND	: Kinds of keys: open- or closed-standing, perforated or nonperforated, touches, rollers.
11-15	: See table 1, fields 13-17.
16 HEAD/LIP PLATE	: See table 1, field 17.
17 BODY/KEYS/MNTS	: See table 1, field 17.
18-20	: See table 1, fields 20-22.
21-22	: See table 1, fields 24-25.
23 HEAD ID T/B	: HEAD (section) INSIDE DIAMETER TOP (proximal)/BOTTOM (distal).
24 BODY ID T/B	: BODY (section) INSIDE DIAMETER TOP/BOTTOM.
25-26	: See table 1, fields 27-28.
27 C" #CBB b AA(G#)	: Letters refer to the note that sounds when the hole is
28 GF#FE(D#)DC#	: open. These are the principal holes from top to bottom (omitting trill keys) as usually designated and without regard to pitch. All have open-standing keys except those in parentheses. Note that a typical

(Continued)

TABLE 2 (Continued)

29 (VARIATIONS ON =	twentieth-century Boehm flute with closed G# will
30 BOEHM KEY SYST	have a second hole below the A hole for venting.
	See table 3 for summary of a typical mid-twentieth-
31-33	century Boehm key system. Variations from this
34 (REFS/ADDENDA)	would be entered in these fields.
35-40	: Continuation of fields 29-30.
	: See table 1, field 33.
	: Continuation of field 34.

TABLE 3
Chart of the Boehm Key System Typical of
Flutes of the Mid Twentieth Century

Keys and touches are arranged here from top to bottom and from left to right according to the viewpoint of the observer. All keys are open-standing except those in parentheses. Letters refer to the note that sounds when the key in question is depressed. Key systems described in the inventory are deviations from this scheme. (LT) = left thumb; (R1) = right first finger; etc.

Body Section

(D#) trill key	
(D) trill key	
.	C key
B \flat touch covering B key in	
Briccialdi configuration (LT)	C touch (L1)
B touch (LT)	B \flat key tied to F
.	A key (L2)
.	G key (L3) (G#) touch (L4)
(G#) key	Open key tied to G for
	venting
B \flat second touch (R1)	F# key tied to D (R3)
.	F key tied to B \flat (R1)
.	D trill touch (R2)
.	E key (R2)
.	D# trill touch (R3)
.	D key tied to F# (R3)

Foot Section

D# touch (R4)	
C# touch (R4)	C roller (R4) (D#)
C# key	
C key	

There are other ways in which a computer can be used to inventory an instrument collection. For instance, one can simply enter the information in essay form using a word processor. This also can be revised continuously. However, the use of a format such as the one proposed here takes up less space, provides greater likelihood that information will not be overlooked when data are entered, and permits retrieval of selected portions of the data as required. It is to be hoped that ultimately the standardization of computer programs will greatly facilitate the exchange of information among institutions and individual collectors.

New York, New York