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FELLOWSHIP OF MAKERS AND RESTORERS OF HISTORICAL INSTRUMENTS
7 Pickwick Road, Dulwich Village, London SE21 7JN, U.K.
A very happy and prosperous new year to about 50% of our members.

Not that we do not wish the same to all our members, but only about half of you will receive these greetings in (we hope) January - the rest will have to wait till late February or March, when I have returned from last year's summer holiday, dealt with the mountain of post which will be waiting, and finally processed the renewals of those who forgot to send them in time. So to those members, apologies for getting this late.

May we also thank particularly those generous members who sent some extra money to cover the subscriptions of members in countries which prohibit the export of currency; we and they are very grateful and appreciative of your help.

And thank many of you, too, for your greetings and for the nice things some of you have said about FoMRHI. We will try to keep it as useful, and as informal, as in the past. The usefulness does depend on you, as well as us. We can only print what you send us, so please keep the flow coming.

When you do send us material, especially notes for this Bulletin, please put your name on them. What happens to Bulletin material is that as it arrives, I put it all into a file until I'm ready to start typing it, when I fish it all out, put it into what I hope is a logical order, and then type, cut-and-paste, etc until I reach the end. What has happened this time (and it's happened before) is that I have found a couple of pages without a name, and although I must have known whom they were from originally, I now have no idea. This is my inefficiency, but it would help if you could make sure your name is on any separate sheets.

We have been doing the same thing by forgetting to put our address on the front cover. John Rawson did us a very nice cover, with FoMRHI at the top and the address at the bottom, but one or two issues had so many contents that there wasn't room for the address, and then it got forgotten when later there was room. Our apologies, and we will try not to forget again.

FINANCIAL REPORT: The 1980 books have not yet been audited, of course, but we seem to have ended the year in an excessively healthy condition. We ended 1979 with a surplus of about £280, bringing the accumulated surplus to £625; we have ended 1980 with just over £500 in hand for the year, an accumulated surplus of over £1,000. This is partly because we put up the subscriptions by an even amount last year, but chiefly because two issues last year were smaller than expected, because so little material came in for them that the printer's bill was much less than we had expected it to be. We shall probably run this down a bit due to the Post Office, who have sprung an unexpected increase of postal rates on us - it looks as though some of the air mail postings will run at a slight loss this year. But the best way of running it down is for you to send us more Comms and keep the printer's bill up where it should be. We do not want to make a surplus on FoMRHI. The ideal is for the subscription to cover the printing and postage and stationery with a margin of £100-£200 just so that we do not run a loss when the Post Office does the dirty, as they have this time, by announcing a 25% increase after we have sent out the renewal form. So please help us keep the costs up by sending Comms. There is always something you know that someone else doesn't, and writing a Comm for FoMRHI is not such hard work -- it doesn't need bibliographies and so on, just the information is all that's required.
FURTHER TO: Bull.20 p.6 & Bull.21 p.4: Marcel Glover says that he thinks Be Kottick's suggestion is right, but what really surprises him is that he was able to carry Werckmeister III in his head for a couple of weeks. Would anyone (JM writing now) like to work on a theory that one has a better memory for temperaments that one finds the more pleasing? And if so, why do some people find such as Werckmeister, others Pythagorean, others 7 equal steps, others seven differently unequal steps, etc, the more pleasing?

Comm.249: Paul Gretton says that John McCann told him that he was told by Friedemann Hellwig that the 'secret ingredient' added to hide glue to make it water-resistant, for use on such instruments as cornetti, was alum, though he didn't say how much was added. Paul goes on: It is indeed remarkable how well museum cornetti have held together (most of them, anyway!). I wonder to what extent the glue alone is responsible, or whether there are other constructional features which are as important. Of these the bindings and the generally excellent leather-work are the most obvious. In Cornett & Sackbut 1, Julian Drake referred (perhaps not wholly seriously) to the use of small screws and dowels. The X-rays of museum specimens which I have seen don't, as far as I remember, show screws, but presumably dowels wouldn't show up. Has anyone come across such features? Perhaps one could use the old cabinet-maker's technique of a veneer-keyed mitre; a saw-cut is made across the joint and a piece of thick veneer glued in.

Comm.251, 197 & Bull.14 p.4 (on old tools and techniques): Paul says on this: Bagpipe-making is an unbroken tradition, unlike the making of most 'early'instruments. I wonder if any of the old-established bagpipe manufacturers still have old tools? Roë Cameron mentions drills preserved in the Bagpipe Museum in Newcastle. It might be worth mentioning that the museum has quite a lot of old tools; just how old they are I don't know.

Comm.290 & 308: Marcel Glover says there is a Timber Bending Handbook published by H.M.S.O.; it was out of print when he tried to get it in the summer, but it might be useful to solid bentside makers.

The member whose name I've lost says: Having read what Malcolm Rose and David Way have written, and re-read what J.R. and D.G. wrote several bulletins ago, you must take your pick from several methods; the ideal one is that which suits you. Working on my own, I found it very difficult to get the wood to the form without losing the necessary heat. Using the hot pipe method has proved to be more effective in the long run although it takes more than an hour's continuous work to bend a plank 4mm thick. Liners and bridges are more easily bent, but you may have to correct the wind in narrower strips of wood. I should add that the case walls of the harpsichord are added after the soundboard, wrest-plank etc. have been glued into place, so that the knees and liners of the instrument do, in effect, serve as a form as D.W. suggests.

He also asks: Is David Way able to enlighten us on the survivability of British made harpsichords in the U.S.? I seem to remember that my colleagues in Connecticut, many years ago, suffered from chronic sinus trouble and the floors and stairways where we lived and worked creaked unnervingly; both conditions due to effective central heating. The Englishman (name now forgotten) who looked after the early keyboard instruments in the Metropolitan Museum reckoned that it would take him another life-time to put in order all the harpsichords stored, unplayable, in the basement; ruined, he said, by the excessive dryness of the atmosphere. So perhaps the atmosphere outside is not so important after all!

JM adds: my apologies to him again for separating his cover note from the
Comm.304 & 316: Jonathan Swayne writes:

I was very interested to read your Comm. on The Forked Shawm (No. 304). I have a comment in connection with your final paragraph where you say "It does not require any... reamer(s), simple or complex, ...." This is true, yet a short (320mm. approx) Turkish shawm in my possession has a fork which is tapered from below the cap to the top of the fork, and which only 'fits' the main body when fully inserted. The length of the taper is about 50mm, so that while a reamer is not strictly essential, it would certainly help in a production sense in preparing the body to take the fork. Has this feature been noted elsewhere?

I was also very glad to see your review of the Jajouka musicians, not having been able to hear them myself. I play in a 'folk' band in which we used to use two Breton shawms (bombardes) in a few numbers accompanied by drums, usually a large Balkan drum with heavy and light beaters, and long lather, and makers. Because it is such a high pressure instrument, we mostly played alternate phrases, usually overlapping by a few notes, rather in the manner of the traditional bombard/biniou technique except, of course, that the biniou is continuous. But we also used harmonic passages, and high and low drones. I quite agree that a high drone can be more exciting than the usual sub-drones. Unfortunately the other shawm player has left the band, but this has encouraged me to develop the continuous breathing technique to which you refer. To make things slightly easier I have taken to using a highland bagpipe chanter reed instead of the orthodox type as supplied by Glottin etc. It gives a lower pressure, is much cheaper, and gives a sound not unlike a forked shawm. I think the latter point has something to do with a larger degree of flexibility on each note, in other words the instrument is somewhat harder to control, but it also has to do with the sound quality itself. It is advisable to put extra binding on the staple to suit the tapered socket of the bombard.

Comm.305: Chris Isbell says that as a result of writing that Comm, he is now working with John Nicholson, using a microcomputer to help tune and voice organ pipes; he will keep us informed on any interesting developments.

Comm.315: Robert Spencer says: "See Early Music 4/4, p.407ff for clear difference of archlute to theorbo and chit. I still think theorbo and chit are synonymous. See JSJ 1974 plate 1 for original gytterne?"

JM replies: I know that I'm ignorant on lutes (as Eph has pointed out in the past) but I cannot see any real difference between Robert's plate 3 (the RCM Magno dieffopchar Chitarrone) and plate 17 (theBninburgh Harz Arcilluto), save that the latter is a foot shorter than the former (and there are others with lengths in between), nor between plate 15 (a Paris Conservatoire Liuto Attiorbato) and 16 (Mersenne's Arcilluto). OK, when there is a tuning schema and they're different, that's fine, but when you meet a corpse, with or without strings, in a museum, then what? I still think that we need terminology to distinguish between the thing with a couple of feet of blank neck between one pegbox and the other and the thing with a shortish hook or crank between the two pegboxes, and preferably also between those and the one with about six inches of straight neck between the two. I'd happily agree that theorbo and chit were, in their own day, synonymous, and for that matter that a century later either or both or a third were called archlutes. But I still maintain that we need terms to tell the shapes apart, just as we need terms to distinguish virginals from spinets. (P.S. This needs an update in the Comm. in this issue).
On the same Comm, Peter Forrester says: "About gittems (pre-Wright was mandora), there is in the Wartburg, Eisenach, an instrument which I am currently copying and have received photos and details of. By Andreas Oth of Nuremberg, date c.1450?, it is carved from the solid, round back etc, just like the pictures. It is illustrated in Lute Soc. Journal 1974. You'll be pleased to hear that it has a metal plate, probably a repair, between neck and pegbox. I cannot see any evidence that this instrument, although repaired, is not original. It has probably escaped much notice through having been originally catalogued as a lute (and now, of course, as a mandore!)."

And a final note on the same Comm, there is now a second edition, considerably enlarged, available from NRI.

JOB OFFER: I've had a letter from the Jobs for Coventry Foundation. It is from Keith Hudson, 1A The Burges, Coventry, tel: 0203-22233. It is dated 25th November, so it may be too late, but anyone interested might find it worth getting in touch with him as soon as possible:

I am wondering if you can help me. Early next year I shall be starting a new organisation concerned with giving a variety of craft and work experiences to young unemployed people. This is something we are already doing in Coventry. In the organisation, however, I am keen, for the sake of the balance, to have a musical instrument project, preferably stringed instruments.

I am wondering if you are aware of any qualified instrument maker who could be a supervisor of this project. My general idea is that such a position might suit someone who ultimately might want to set up on his own as an independent maker. The teaching element of the project would not be an onerous one because the trainees would only be attending the project for elementary training (there is no possibility of actually training qualified instrument makers). There might be someone who would like this job while he is independently establishing his own reputation. The salary is not precisely known yet but it will be in the region of £5,000 per annum.

If you can put me in touch with anyone I would be most grateful. I shall be holding some informal interviews in the next few weeks and travel expenses would, of course, be paid.

I sent him a Members' List, with an up-date of possible people in the Coventry area, so some of you may have heard from him; I told him that I'd put a note in this Bulletin, in case he could wait so long.

TRAINING AWARDS: The Crafts Council (12 Waterloo Place, London SW1Y 4AU, tel: 01-930 4811) has about £10,000 available for Conservation Training Awards for the coming financial year, and they invite applications from individuals and workshops for assistance with specific projects, including training both here and abroad, attending conferences, etc. More information and forms (which must be returned by 27th April or 19th October) are available from them.

Incidentally, they have published Conservation Papers on Textiles and on Stained Glass - list available from them. If anything appears on instruments, I'll let you know. Provided they tell me, of course.

STANDING COMMITTEE FOR EARLY MUSIC: This Committee grew up in an ad hoc sort of way after the Conference on Early Music at the Festival Hall in 1977 (see The Future of Early Music in Britain, ed. John Thomson, OUP, 1978) since when it has run a couple of excellent conferences, the latest of which was last November. This one was really designed to find out whether we who are involved in Early Music wanted it to go on, and if so how, because its members, who have done a lot of very hard work, feel that it is time that they a) were properly mandated and b) got some solid
of discussion, that within one calendar year the Standing Committee should organise itself into something more permanent or, if this proves impracticable, give up the whole idea. It will draft a form of association, union or council, which it will then circulate to interested bodies for discussion, and if the discussions are fruitful and practicable, it will then go ahead. The problem is the 'interested bodies' since most of us are individuals. We shall hear about it as FoMRHI, of course, and so will Galpin Soc, Lute Soc, Viola da G Soc, etc, and we shall all report to our members; there will also be reports in Early Music since John Thomson is Chairman of the S.C. and editor of E.M. If any of you have strong views of what the S.C. should become, or want to be in direct touch, Francesca McManus (in List of Members) will pass on comments, etc.

CO-OPERATION WITH ARCHAEOLOGISTS: Ian Morrison writes that he has just become editor of the International Journal of Nautical Archaeology and has written an editorial appeal for information on musical instruments. He says: "To complete the liaison, I enclose a Communication for your columns — and I shall do my best through IJNA's (literally world-wide) contacts to encourage those involved in archaeological work underwater to draw our attention to finds of musical instruments. Those who may make such finds are in danger of regarding them as passing curiosities — and giving little priority for conservation. The excavators are certainly unlikely to be specialists in early music, so they tend not to get round to thinking about publishing the instruments until they've got out their papers on all the other material that is of direct professional value to them. At the same time, having won the instruments from an uncomfortable, expensive and downright dangerous environment (one person was killed on the shawm site, which incidentally is 16th, not 15th, century, another on the whistle site this summer) they are perhaps understandably reluctant to hand over to others objects in which they suddenly realise there may be considerable interest. Tact and joint-publication seem the answer and I'll do my best to act as the diver/musician link."

I have replied that I'm certain that any of us would do anything we could to help in identification etc, as would the other Early Music societies, and that we also are world-wide, so that it should be possible for an archaeologist to find an early-instrumentalist within reach. I also said that we would be fascinated to hear of finds but that publication should be in GSJ, which is a Journal of record with a good reputation for archaeological reports, rather than in FoMRHIIQ, which is not a Journal of record in that sense.

While we're on archaeology, you may like to know that the February 1981 issue of World Archaeology (published by Routledge, Kegan Paul) will be a musical issue. I'll report further when I've seen it.

GUIDEBOOK OF RESTORERS: The Guild of Master Craftsmen (10 Dover Street, London W1X 3PH) is compiling a Guidebook for the public which will list all the experts they know of who can carry out restoration and repair work of all kinds. They have our list of members, but if you would be interested in being listed in this Guidebook, you should write to them direct with enough information that they can judge whether you really an expert. The closing date for information is January 31st; I have warned them that this Bulletin will only just be out by then, and expressed the hope that they will accept late comers, but whether they will or not, if you do want to be considered, get a letter off to them quick.

EARLY MUSIC EXHIBITIONS: The dates for the London Exhibition at the Horticultural Hall are 1st to 3rd October, setting up on 30th September. Previous exhibitors will hear from them in due course, but anybody who has not exhibited before should get in touch with Richard Wood, Early Music Shop, 28 Sunbridge Road, Bradford, West Yorkshire BD1 2AE.
If you've never been to the London Exhibition, it is not something to be missed if you can get there. I'm not sure how good the results are in direct sales because I have the impression that a good many of the 'customers' are making the rounds comparing the various makes available, rather than actually buying, but it does at least mean that you can compare, or be compared (depending on which side of the table you are standing) and it is an unrivalled opportunity to meet and talk to everyone else in the field. Last time, FoMRHI and I split the cost of our stand (the time before, I paid it all and was out of pocket) and we will do the same again. FoMRHI gains a number of members, and last time I sold just enough books to cover my cost; we both benefited by exchange of gossip.

I now have more information about the Boston Exhibition (see Bull.20, p.6 - nothing was heard in time for Bull.21). This is also at the Horticulture Hall, and at Brown Hall in the New England Conservatory. Booths are much the size of our show in London, 8ft square, and some 10ft, and cost £175; there are also some private rooms available. However, unlike our show (though like its original basis at the RCM), no sales, not even orders, may be taken in the exhibition area (ie, deals out on the steps, as at the RCM). A further letter which arrived this morning said that booths are going fast and that there look like being no spaces left by February, so if you are interested, write now to Jon Aaron, Boston Early Music Festival, 25 Huntington Avenue, Room 330, Boston, MA 02116, USA. I have one copy of the Exhibitor Application Form, and could xerox it (35p, incl.postage) for anyone who wants to cut a corner and save time.

COURSES: Arthur Robb says that he is running a course on instrument building, starting this month, for makers of psalteries, Appalachian dulcimers and lutes. He intends to run a second one in September, and perhaps another before then. If you're interested, write to him, and if you know of anyone who might be, put them in touch with him. He's in the Members' List.

Kevin Mercer is planning a summer school in Canberra which will include Ian Watchorn, Bryan Poynton, Stephen Murphy, Bill Elliott and himself. Anyone interested should get in touch with him. Address in the List.

The Vereniging voor Huismuziek (who issue Bouwers Kontakt) list a number of courses for 1981. Makers' courses include block-making (March 27-29), bows (March 28-29), bagpipe and hurdy-gurdy (11-12 April), recorders (27 June-4 July and 4-11 July), fiddle (11-25 July - my Dutch is nonexistent, and this may mean bowed strings, including viola), bagpipes, (25 July-1 Aug), folk instruments (3-4 October). Bouwerskontakt days (I think for general gossip, meet your friends and share your problems) are 7 March, 9 May, 12 September, 21 November; these are in Utrecht; the courses are in various parts of Holland. For more information, write to them at the address for Bouwerskontakt in the List. There are also players' courses of all sorts. I have the booklet here if anyone wants to come and see it.

PLANS: Three lists herewith. One from Berlin, one from Brussels, kindly sent on by Hirotaka Watanabe (if you get lists of plans we have not printed, or more up to date, like this one, it would be a kindness to send them on to us), and one from Hill's of the Ashmolean Hill Collection. With this one, David Hill has made a very generous special offer of 20% discount to all FoMRHI members ordering from Hill's (address in List), plus free postage within UK. The offer applies also to their reprint of the Boyden Catalogue of the Hill Collection.

MATERIALS: Richard Smith recommends David Dyke, The Hall, Horebeech Lane, Horam, Heathfield, East Sussex TN21 0HR, for all the usual woods, MOP, purfling etc; he will cut to any size required. He also recommends Ian

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bull.22, p.7
Robert Longstaff (address in Members’ List) can supply timber for instrument making, from English hardwoods, kiln dried, cut, planed and finished to size if required for string and wind instruments. Individually sealed to prevent moisture absorption. Timbers available should include box, tulipwood, cherry, sycamore, maple, plane, walnut, yew, pear, etc. Anyone interested should send him an s.a.e. for details of what is available at the moment, prices, etc.

Paul Hailperin writes:

Here we are again, awakened by the discussion in latest Quarterly of old paints. While on the subject of recipes, I’ll try your suggestion of backing up with reversed carbon paper. Sorry, I can’t afford a new typewriter and a son at the same time.

I’d like to offer an address for those interested in real paints. He doesn’t have ready mixed paints in pints, but all the materials you’re likely to need. Pigments, resins, oils, waxes, terpentine, etc. Dr. Georg F. Kremer

Am Gelben Erledebuse 27
Postfach 190
D-7407 Rottenburg 1
telefon (07472) 73 06.

Kevin Mercer says he has a good, cheap source of pumice, fine and very fine, of the quality normally only available from dental supply houses. NRI also had pumice available at one stage – I don’t know if they still have.

I’ve had a letter from Third Wave Carriers b.v., Ploegstraat 60, 1097 WJ Amsterdam Oost, Netherlands, to say that they are acting as agents and distributors of Titebond glue. Prices range from $1.85 (US dollars) for 2 oz., $4.16 for 8 oz., $5.64 for 12 oz., $10.58 for a quart to $120.75 for 5 gallons (since it is an American product, I presume that these are American quarts and gallons, smaller than ours). Mr. P. I. Kither rang me up from them a few weeks back and told me that they were becoming agents; he seemed quite happy with the idea of supplying small quantities (remember that the shelf life is short, about 6 months, and it won’t be new by the time it reaches Amsterdam). He hopes to have sufficient turnover that it will be fairly fresh there. He expressed an interest in finding a reliable wholesaler in Britain, but it would have to be one who could be trusted not to sell stale stock. If you know anyone interested, put them in touch with him.

In my note on p.6 of the last Bulletin about the Instrument Trade Show, I said that I hoped to have lists of tools. One has arrived from Barratts of Manchester Ltd, 652 Chester Road, Old Trafford, Manchester, M16 0RX. The list I’ve got is mainly for brass instruments, and it is the first I’ve seen in this country which includes such things as mouthpiece extractors (£15.34), dent balls and all other such tools – I didn’t even know they were available here (I had to get my mouthpiece extractor from America). Prices seem quite reasonable, and if their woodwind and string tool lists are as good as their brass one, they should be worth writing for.

Hirotaka Watanabe says he has received a Catalog of Instrument Makers from The Luthier’s Mercantile of California, who are successors to Lewis Luthier Supplies (Q8, p.13 has a note on them). He says the Catalog has a lot of useful information in it, as well as a list of woods, tools, etc, including all sorts of hints, advice, and so on. It costs $3 plus postage and their address is PO Box 774, Healdsburg, CA 95448, USA.

Bob Marvin came through two or three weeks back and showed me a Korg Chromatic tuner which was much better.
of the last Bulletin. For one thing, it had a full range of 50 cents either way, unlike the one I saw at the Trade Show, and it could be set off-centre (ie to show all notes the same number of cents away from 440) and it would either show what you put in or would produce a tone. I'm sorry I didn't have the sense to write down details at the time, but we were talking about a lot of things. My memory of the serial no. is that it was KT-12 and the price around £60, but both may be wrong. If I get more information, I'll pass it on.

Paul Mosby has sent me a list of the reed-making materials he supplies for oboists. All materials are available, from cane to gold-beater's skin, including wire, all necessary tools and so on. He has also written a book, Illustrated Instructions on Oboe Reed Making and Adjusting (75p). All materials for baroque reeds are available as well as modern, and presumably much of the material would be usable for shawms, bagpipes, etc. Lists from him (in List of Members), for an s.a.e.

OFFERS: Lawrence Brown has sent me a list of all the lutes etc he makes. He says that he has expanded his business to a much larger workshop where he now employs two apprentices and that he also retails handmade instruments from other makers and has a show-room for this purpose. I assume that this last is meant to be passed on to others who might be interested!

Paul Gretton (new address in this issue)"would be willing to translate short texts into or from Dutch and German. I am thinking specifically of letters to and from suppliers, key passages from books, etc. I don't want to get involved in doing whole Bouwbrief..." However, he has offered to take over reporting on what is in Bouwerskontakt from me, which should, if it arrives in time, lead to a considerable improvement.

REQUESTS: Paul also says that Jean-Claude Compagnon (address in July supplement) had asked in Bull.14 for the names of makers of musettes du cour and had never had any replies. If anyone knows of any, he is still looking.

Theodore Diehl (slight change of address in this issue) asks whether anyone can suggest a source for fish glue? I presume he's read Bull.18 & 19.

Sean Rawnsley asks if anyone can tell him where he can get a simple machine for winding overspun strings, or any information on how to make one, etc.

Kjartan Oskarsson (new address in this issue) is a clarinet student and is looking for plans or drawings of historical clarinets. He wants, as a beginner, to try to make one and would be grateful for any help or advice. He also asks whether anyone knows where he can get a copy of The Art of Clarinetistry by W.R.Stubbins, Ann Arbor, 1965. Can anyone help him?

Richard Smith asks for a Comm. on hurdy-gurdy construction, particularly on techniques peculiar to the hurdy-gurdy such as details of internal bracing differences, relative merits of different bearing materials, etc. It's an instrument we have had several requests for, so it would be a kindness if someone would oblige.

Bengt EEnnqvist writes that he visited a fairly new member, Lars Andersson, in Finland (address in main list). Lasse (as he is called by friends) has played the cello all his life and was encouraged to take up the viol. He has now built 9 viols but he is fairly isolated from colleagues and from instruments and would be very glad of contacts with colleagues (preferably in German, but he has sources that will translate to and from English). He also needs, fairly urgently, to fill an order, a plan or drawing of a late French basse de viole with 7 strings. He would be very grateful for any suggestions besides the one in the Brussels list morning).
Brian Lemin (new address in this issue) has four requests: a) can any­one provide measurements and constructional details of the Memlinc tromba marina - his own scaling seems very small to him (It looks to me - front cover of my Med & Ren and many other places - as though it is very small; ever since Ed Ripin wrote up the organ in the Ghent altar piece in Studia instrumentorum musicae popularis III, I've been a bit leery of Memlinc's 'realism'); b) measurements and constructional details of their ideas of what's in a symphony (I presume that both he and Richard Smith have read Marianne Brocker); c) plans for a renaissance racket (does one really need more than there is in Schlosser's Vienna catalogue? I've never tried to make one, so I don't know, nor do I know how accurate Schlosser was); d) how does one do the various embellishments of pain­ting on various instruments (he sketches various meander patterns, elabo­rated Greek keys, etc), can anyone provide a 'catalogue' of embellishments and, unless this is heresy, are there transfers available? If not, what sort of brushes, stencils, etc should be used? Much of this is again the problem of isolation; Brian is a few thousand miles from the instruments, and I don't know what the libraries are like. I have offered him a xerox of the relevant page of Schlosser, if he can't get it locally, but I can't offer the whole of Brocker (anyway, I haven't a copy). It is particularly our far-away members, such as Brian and Lasse, who need help, so please respond if you can.

Evert Kluter asks if anyone can get Gildas Jaffrenou's book Folk Harps, publ. Model & Allied Publ.Ltd. for him. Presumably he has tried the publisher. I gave him the address we had for Jaffrenou when he was a member, but I've not heard whether that produced anything useful.

Thomas Starks of 114 Monte Vista Ave, Watsonville, CA 95076 has been asked to repair the cracked ivory head-joint on a flute in his local museum. He asks if we can recommend the best procedure for closing the crack and what kind of glue to use. Can anybody help him before he uses something that will ruin it?

COMPUTATION: Chris Isbell writes: "The log to base two of a number is often of use in musical calculations. This is not provided on normal scientific calculators. However, I have found a simple way of calcula­ting it (from a book on computers): \[ \log_2(n) = \log_{10}(n) \text{ plus } \log_e(n) \].

Thus on a calculator you just add the common log of the number to the natural log, eg: \[ \log_2(4) = \log_{10}(4) \text{ plus } \log_e(4) \]

\[ \log_2(4) = 2.0 \text{ Error 0.6%} \]

SOUND-BANK: Brian Lemin says that he has recently realised that he has never heard the sound of many old instruments (see first paragraph on this page - he is not alone in this); despite the availability of tapes and records, there are still many instruments he has only read about. To satisfy his own curiosity, he has made several, scaling them as best he can from pictures after reading whatever was available. He is doubt­ful of the auth enticity of the result, but at least he heard something. He goes on: "Related to all this is the fact that Brisbane has a listener-supported radio station (FM stereo) to which I would like to contrib­ute a programme of early music sounds/instruments/music and I was wondering if members would be willing to make tapes of their instruments solo (at least for a few bars) and in ensemble. Perhaps this needs coordina­ting (I am willing but its a long way to Aussie). Perhaps collectors such as yourself would be able to meet this request. Another proposal could be a 'mass commission' in that a number of members could put up a share to have their recording needs met (I have no idea of the economics of making a professional tape by amateur players."

We have at least one member who is professional..."
who might have some ideas on this. There are, of course, at least two Early Instrument recordings on the market (one I was one of the players on with Musica Reservata, and I think David Munrow did one, which came with his book - I've got the book but not the records). Anyone who knows both may know whether there is need for anything else, but from my memory of the one I was involved in, there is such a need, particularly for the sort of people who are PoMHRHI members and who want to know the difference in sound, to take a few examples in this Bulletin, between English and French bass viols, and renaissance viols, and ren and bar rackets, and hurdy-gurdies and symphonies, and so on. If it were possible to build up such a sound-bank onto tape or disc, it could be very useful to many isolated members. If Brian is willing to coordinate, I don't see why it can't be done in Australia as easily as here - tapes have got to be posted somewhere, after all. If it seems a useful idea, please write both to Brian and to me (for passing on to others in the Bulletin).

BRASS COMM: Geert van der Heide has sent a Comm on which he would be very grateful for any comments.

STATISTICS: Felix Raudonikas asks me to insert the following:

I would like to mention in "TIBIA" magazine in connection with my "Blown resonance" comm's (Tibia 1/80, p.47). The judgement of Mister -m- is short and severe and it is my fault undoubtedly that I couldn't invent anything more successful than statistics. I am consoled only by the fact that for the last 300 years nobody succeeded in doing it. Up to the present all nature-scientific investigations are forced to use statistical methods, especially in those cases, when problem solution is connected with measurements. Therefore the reproach in redundancy of "room for subjective judgments" and in method complexity is more fair to apply to Mr. Laplace. I advise Mister -m- to read the work of John Coltman (J.Acoust.Soc.Amer. 40, 99-107 - 1966) who has overcome quite successfully both the complexities and the fear of room redundancy by far earlier than I have ventured to do it. In conclusion I ask Mister -m- pardon for my exceedingly difficult name.

FINALE: Unless anything arrives in the post tomorrow while I'm doing the Members' List Supplement, that's the lot. It reminds me, though, that the next issue will have the 1981 List of Members with it, so please check your entries for mis-spellings of your name (my apologies to Susan Andersen - not Anderson, which I've spotted just now), omissions of your interests (quite a few of you are reluctant to say which instruments interest you) and so on. I would be glad of any advice on alphabetization (that's a nice word); I have been putting Dutch members under their last names, ignoring van and der, hoping this is correct, and would be grateful for any comments on lack of know-how with your names, correct writing of phone numbers (which differs from country to country) and so on.

Have a good year.

Jeremy Montagu

GLUE: A note I forgot to add from Marco Tiella (sorry): "I found a recipe of a joiner in the 1550s who cooked (so I think) 2 libbre of 'old cheese' making the glue. Does anyone know anything about ancient glueing with casein?"

DEADLINE FOR NEXT ISSUE: Monday 30th March
BULLETIN SUPPLEMENT

COMPUTATION (Bull. this issue p10) What is wrong with the completely accurate expression \( \log_2 n = \frac{\log_e n}{\log_e 2} = \frac{\log_{10} n}{\log_{10} 2} \)?

COURSES (Bull. this issue p7)

Eph Segerman's evening course on Stringed Instrument Making at the Manchester College of Building is doing well. Each student decides on what he wants to make - historical, traditional, modern or creative.

The principles behind design and acoustic optimization as well as component fabrication, assembly, finish and setting-up are emphasized.

The Hill Collection, Ashmolean Museum, Oxford

The following plans are now available, at the prices listed from the Museum, or less 20% and postfree within the UK from David Hill, Messrs. Hill, Havenfields, Great Missenden, Bucks HP16 9LS.

- Bass Viol, Gaspara da Salb (Boyden no.2) £25
- Bass Viol, attrib. John Rose (Boyden no.4) 25
- Small bass (lyra) viol, John Rose, 1598 (no.5) 25
- Lira da braccio, Giovanni Maria of Brescia (no.8) 20
- Violin (Charles IX) by Andrea Amati, 1564 (no.10) 15
- Viola, ditto, 1574 (no.11) 15
- Viola, Gasparo (Bertolotti) da Salb (no.12) 15
- Viola, Antonius & Hieronymus Amati, 1592 (no.13) 15
- Violin (Alard), Nicola Amati, 1649 (no.15) 15
- Violin, Antonio Stradivari, 1683 (no.17) 15
- Violin (la Messie), Antonio Stradivari, 1716 (no.18) 20
- Guitar, Antonio Stradivari, 1688 (1680?) (no.41) 25


See note in Bulletin 18, p.8, for further information. Plans are by John Pringle and Stephen Barber and are complete in every respect, even peg dimensions.

/Continued on Page 19......
William Waterhouse, *Four Centuries of Bassoon*. This is the catalogue of the exhibition of bassoons, bassoon music, pictures, etc, from his own collection which Bill put on in Edinburgh for the International Double Reed Society Convention during the Festival last year. There are 16pp in FoMHIIQ format, listing 74 exhibits, 21 of them bassoons from Staneyby senior & junior to Heckel. Copies are available from him (address in Members' List) at 65p including postage, in UK; allowing for the weight of an envelope, anyone overseas ought to send most of £1 or $2; something round those figures.

Arthur Benade, *An Exhibition of Flutes in honor of Dayton C. Miller and in honor of the Centenary of Case Institute of Technology*. This also is a special exhibition catalogue, listing and illustrating 13 flutes from the Dayton Miller and Arthur Benade collections, ranging from Felix Krautonikas's copy of the Leningrad Hotteterre (lent by Igor Palley) to Boehm and Reform flutes. I don't know what it cost, but if you're interested it might be worth writing to Case Western Reserve University, Cleveland, Ohio 44106, perhaps to the Department of Music, or to the Institute of Technology, and asking.

The Hessische Landesmuseum in Darmstadt has published a catalogue: *Musikinstrumente aus dem Hessische Landesmuseum*, which costs DM 12. In 63 pages it lists 69 instruments, a good many of them illustrated, from 16th to 19th century. It's not one of the great collections, but if you want to know what's where, it's worth DM 12 to find out.

The Germanisches Nationalmuseum in Nürnberg is one of the great collections and the first volume of their catalogue has appeared, covering brass and percussion instruments (J.H.van der Meer, *Verzeichnis der Europäischen Musikinstrumente im Germanischen Nationalmuseum, Nürnberg Band I*, Heinrichshofen Verlag, Wilhelmshaven, 1979). I have reviewed it in detail for *Early Music* (April issue), so will only say here that it is a must. Lots of pictures, including X-rays.

Drs.R.van Acht has sent me the Haags Gemeentemuseum (address in Supplement in last issue) catalogue of their special exhibition *Spelen met muziek instrumenten*, a really well-designed and well-illustrated brief guide to how instruments work, drawing examples from all over the world and all periods.

The Sächsische Landesbibliothek (address in Members' List) have sent me lists of the facsimiles of manuscripts in their library. This includes the Silvius Weiss 34 Lute suites (DM 260), Quantz Trio Sonata in e minor autograph (DM 48), four Vivaldi violin sonatas (autograph) DM 86, a set of Vivaldi concertos (DM 160), and so on. The Weiss sounds expensive, but there are 296pp of tablature, and 160pp for the Vivaldi concerti. There is also a list of printed works, including the original edition of 1747 of the Bach *Musicalisches Opfer* (DM 85) and various theoretical treatises.

Arthur Robb writes: "I've run across an interesting book which I've not yet seen mentioned in FoMHIIQ. The title is Joachim Tielke, ein Hamburger Lauten und Violenmacher der Barockzeit by Gunther Hellwig, published by Verlag das Musikinstrument, Frankfurt am Main. The book, with a German text, includes the family history, a description of various instruments and decoration. The bulk of the book is a catalogue of known or existing instruments by Tielke. There are plenty of good quality photos." The reason it hasn't been in FoMHIIQ is that although Das Musikinstrument send me their catalogues, they don't send books for review when I ask for them. According to the catalogue, the price of this one is DM 108.
Paul Hailperin says that the same source as he gives (Bulletin, p.8) for paint also offers:

**H.F.A. Stöckels, Hofschreiners zu Schleiz, praktisches Handbuch für Künstler, Lackierschmuck und Oelfarben-Anstreicher. Zweite, rechtmäßige und ganz umgearbeitete Auflage Nürnberg 1799.**

Fotomechanische Vervielfältigungen, je 2 Seiten auf einer Seite DIN A4, quer, broschiert gebunden. DM 30.-

This means xeroxed. In my experience xerox copies in German-speaking countries are more expensive and less good than in English-speaking countries or France. I can't imagine why. But for my taste this book is well worth it. It has recipes for just about every kind of paint, varnish, stain in every color for use on every material. Water-proof glue, patch-ups for chinaware and for Masse, drawing inks, etc. I haven't tried anything yet, but it looks believable, and it certainly makes exciting reading while holding Isaac's bottle. One of the more simple recipes is designated as being for musical instruments, i.e. one of the spirit varnish recipes.

Wenn man 4 Unzen Sandrach, 2 Unzen Gummiack in Körnern, 2 Unzen Leatx, 1 Unze Gummi Elmi, in eine Kanne Weingeist thut, und im Herienbade etlichemal aufwimmen lässt, eisand noch 2 Unzen reinen Terpentin dazu bringt, und es völlig zusammen digeriren lässt; auch endlich wohl durchseihet and zum Gebrauche aufbewahret, so kann dieser Pinner zu allen musikalischen Instrumenten gebraucht werden.

The recipe is quoted from p.123 and is not listed in the table of contents.

Marco Tiella has sent me a copy of the handbook to a series of lectures and concerts at the Università di Trento, Musica all'Università Dal Clavicembalo al Pianoforte, which includes a number of what appear to be interesting articles (I've only had time for a very quick skim) including one of his, 'Strumenti a tastiera prima dell'800' and there are others on tuning and the evolution of western music, on the origins of the piano, and on the aesthetics and technology of the piano, and so on.

The Crafts Council have produced a Supplement (price 25p) to their Source Book (reviewed in Comm.242 in Q 17). They haven't sent us a copy.

I referred in the Bulletin (p.5) to a new edition of the NRI Catalogue of Instruments. This has two new sections, one on the Citterna, Citele and Cetra, and the other on the Bandora. Both interesting in their historical information, both on the instruments and their use. One statement, made without references, which I hope will be followed up by a supporting Comm is that pre-15th century Irish harpers and psaltery players probably drew their own copper-alloy or silver strings; is there evidence that players were capable (both in skill and time) of the required technology? And if they could, can we recreate the skill?

Mark Mervyn Smith has expanded his Comm.186 in Q 14 on the Viola Pomposa into a full paper on the Violoncello Piccolo. He has sent me a copy but has not said whether further copies are available, and if so for how much, but if you're interested, write to him. It is a very important question: was Bach's Violoncello Piccolo the small-size five-string cello which is usually employed for those parts, or was it the large-size viola, held across the chest? It makes no difference to the music, which can be played on either, but it makes a great difference to the sound, and the sound of the music is our main concern as FoMRHI members. If we were only interested in the music, we wouldn't give a damn whether Bach's oboe parts, for instance, were played on a saxophone or a baroque oboe, as long as it produced the right notes - the reason we belong to FoMRHI is that we believe the sound is just as important as the music, and small cellos and large violas sound very different.
I said at the end of the Bulletin that that was the lot 'unless something arrives tomorrow' — tomorrow is here and two books have arrived from the Leipzig Museum. One is Hubert Henkel's Beiträge zum historischen Cembalobau, at a quick glance a very detailed study covering materials, craftsmanship, technology, the various models, and the instrument itself. The other is, by the same author, the second volume of the Catalogue of the Musikinstrument-Museum der Karl-Marx-Universität, Leipzig, Kiel-Instrumente. It covers all the plucked keyboards in the collection, with full details of each instrument and copious illustrations, with line-drawing profiles of constructional details and many photographs, including colour plates of the decoration of many of the instruments and close-up photographs of roses. Both are published by Deutscher Verlag für Musik, Leipzig, 1979; no price is stated for the first, but the second is marked 45 DDR marks — it will doubtless be more when it gets into the Western catalogues. No time to review either of them now (we're trying to get this one out very punctually to beat the increase in postal rates this month which, on Jan.4th, the Post Office still hasn't announced the date of). Reviews in next Q.

FoMRHI Comm. 317

Early musical instruments from shipwrecks, lake dwellings and rivers.

Ian Morrison

Occasionally, early musical instruments have been recovered underwater, in remarkable states of preservation. As long ago as 1768 an almost perfect carnyx (a bronze horn of Iron Age date) was dredged from the River Witham in Lincolnshire (Piggott, S., 1954, 'The Carnyx in Early Iron Age Britain' Antio. J. 39, 19-32). Sadly, experimentally minded antiquaries, more interested in its metallurgy than its music, melted it down to study its bronze (Coles, J. N., 1979, 'Experimental Archaeology').

Few musical instruments could be expected to survive dredging, let alone such experiments, but now that proper excavations by archaeologically skilled divers are taking place, whole and partial instruments are beginning to come to light. British waters have recently produced examples at three sites.

The oldest has just been found during the excavation of divers of a "crannog" in Loch Tay in Scotland. This lake dwelling, around 2,500 years old by radiocarbon determination, yielded a small but well finished wooden whistle. Whether it is a complete single note whistle (perhaps a wild-fowler's lure) or the plug-in mouth piece for a fingered pipe may be established when microscopic examination is possible. It is undergoing conservation at present. A preliminary dimensional photograph is in the press (in N. Dixon, International Journal of Nautical Archaeology, v. 19, n. 1, 1981).
A much more sophisticated woodwind has been found during the excavation of Henry VIII's warship "Mary Rose", sunk in the Solent in July 1545. As noted in FoMRHI bull.21,p6, this shawm is also undergoing professional conservation. It is substantially complete, and has already been provisionally examined by Miss Frances Cooper of the Horniman Museum.

Stringed and percussion instruments are also being found. The "Trinidad Valencera" was a Venetian merchantman requisitioned to serve in the Spanish Armada, and wrecked in 1588 off County Donegal. Excavations directed by Mr Colin Martin have produced not only tambourine remains, but the well preserved neck of what appears to be a cittern. Again, conservation is well advanced.

From the point of view of those of us interested in early music, finds such as these have particular value. Firstly, although long immersion in fresh or salt water demands highly professional conservation work if rapid and disastrous deterioration is to be avoided, the state of the finds can be such as to allow detailed studies of tool marks, wear patterns and string impressions. Secondly, instruments lost in a catastrophe such as a shipwreck or casually misplaced or discarded amid the domestic rubbish of a lake dwelling, are likely to avoid some of the special selection processes that may make some other surviving instruments atypical of the work-a-day 'playing' instruments of their eras. We may suspect that some instruments that come down to us as 'heirlooms' (or in tomb deposits) may have been cherished more for their decorative qualities than their musical ones. Thirdly, the catastrophe of submergence sets a very definite terminus to the use of an instrument, and that is often closely datable (e.g., we know to the very day when the "Mary Rose" or "Trinidad" sank).

This kind of positive 'fix' in time can establish not only that certain practices were indeed current by that date, it can also help sort out a variety of other problems. These may include:

(a) helping to disentangle the histories and original form of other 'playing' instruments which have only survived on land in a modified form, rebuilt to accommodate later fashion; or
(b) giving insight into whether particular iconographic sources really reflect contemporary practice or were merely copying earlier pictures.

Quite legitimately, problems such as these are seldom in the minds of those who may come upon remains of musical instruments underwater. With the increasing amount of careful archaeological work by divers, it seems likely that the frequency of finds will increase. Already it is not clear just how many underwater sites may have yielded remains of instruments. Many excavation inventories run to thousands of objects, but have not been fully published. Even if pieces of instruments are recognised, their potential importance may not be.

A positive effort of liaison thus seems desirable. As editor of the International Journal of Nautical Archaeology, I am asking the diving archaeologists to draw our attention to such finds as they occur, and with the help of the FoMRHI membership, I hope we can put them in touch with the appropriate specialists to expedite the detailed publication of this intriguing material.
Do you find planing wood by hand hard work? Are you disappointed with the finish? Does the wood always take on a twist which you have to correct? Do not despair, it may not be incompetence but the result of using a bent plane. This comm. describes how you can diagnose the trouble and, if necessary, administer the treatment.

1 Background.

1.1 Metal plane bodies are made from iron castings and appear to be finished either by grinding with a coarse wheel or by linishing, a process akin to belt sanding. Deviation of the sole from a true plane may be the result of excessive rates of metal removal or insufficient support during machining or the unstable nature of cast iron.

1.2 That cast iron is dimensionally unstable may be verified by inspecting the fire bars of an old grate. The repeated cycles of heating and cooling will have magnified the distortion to the extent that it is readily appreciated by the unaided eye. Many companies using iron castings will leave them in the open for several months to allow the instability to work itself out before machining begins.

2 Supplies

The materials you will not already have in your workshop are simple and few.

2.1 A flat surface. An engineer's surface plate if you can borrow one or a piece of plate glass at least as big as your biggest plane and a minimum of 1 inch thick. The glass should be placed on a flat surface; if your bench is covered with glue spots scrape them off or put a piece of carpet underlay between bench and glass.

2.2 A tin of engineers' blue. This is an oily substance containing a blue dye. It smears and smears ad infinitum.

2.3 A couple of engineers' flat scrapers. These may be purchased or made from an old 10 inch flat file. They should be sharpened as shown in figs. 1 & 2.

3 The method.

3.1 Wipe the surface of your glass clean and ensure there is no dirt stuck on the working face. Lightly dab a finger into the blue and transfer it to the glass. Spread the blue until you have formed a reasonably even film at least as large as the sole of your plane. Several dabs into the tin may be necessary and if low temperature makes the blue stiff to spread, a couple of drops of oil or paraffin may be placed on the glass to aid spreading.

3.2 Take your plane, remove the iron and check that the sole is free of glue, resin or any other deposit. Place it on the glass and rub it against the surface with a circular motion taking care not to go over the edge of the glass. This will transfer blue to the parts of the sole that are nearer to the thickness of your film of blue. Inspection of the sole will reveal a pattern not dissimilar to that shown in fig. 3.

3.3 Clamp the plane carefully in the vice sole uppermost. Take the convex faced scraper (fig. 1) and holding it at 20°- 30° to the horizontal start scraping the metal under the spots of blue. Work methodically across the high spots until virtually all the blue has been removed. Wipe the sole clean with a rag and offer the plane to the glass to pick up another coat of blue. This little ritual must be repeated many times. Each cycle should be worked in a different direction (fig. 4) to prevent scraping marks from going too deep in one direction. The glass should be re-charged with blue when you feel the film is getting too thin. The edge of the scraper should be kept sharp on a medium oilstone.

3.4 After several evenings work you should find that the plane will pick up spots of blue over the whole area of the sole (fig. 5). Change to the flat faced scraper and carry on scraping but use a steeper angle (30°-45°) to take lighter cuts. The film of blue on the glass should be allowed to waste away as finishing progresses. The last few cuts may be made by very lightly scraping with a small circular motion in rows across the sole. This will produce quite an attractive finish. A quick rub with an 'Aloxite' or water of Ayr'stone lubricated with paraffin will complete the job. Fit the iron and you can be surprised at the improvement you
have wrought.

4 Words of advice and warning.

4.1 The hardness of the iron varies from plane to plane. The soft iron is medium grey and easy to work. The harder grades look brighter, more like steel than cast iron, and tend to chip the edge of the scraper. The finish will look a bit scratchy but will be good enough for our purposes.

4.2 When you have been using engineer's blue, before you do anything else, wash your hands thoroughly. Engineer's blue gets everywhere, particularly onto undergarments and the bits of your anatomy that lie beneath. Those of you who are married will get into serious trouble (not to mention the doghouse) should this occur.
**DRAWINGS OF MUSICAL INSTRUMENTS**

The following drawings of musical instruments from the Brussels Conservatoire collection are available. All these drawings are full-scale plans with many details, useful to organological research or to build copies.

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11-course lute Johann Christian Hoffmann, Leipzig 1716</td>
<td>drawing by Geert Vermeiren (Mahillon n° 1559) 250</td>
</tr>
<tr>
<td>2</td>
<td>13-course lute Johann Christian Hoffmann, Leipzig 1730</td>
<td>drawing by Geert Vermeiren (Mahillon n° 3188) 250</td>
</tr>
<tr>
<td>3</td>
<td>belly of chitarrone Pietro Raimich, Venice ? early 17th c.</td>
<td>drawing by Stephen Gottlieb (Mahillon n° 1569) 150</td>
</tr>
<tr>
<td>4</td>
<td>belly of chitarrone Matheus Buechenberg, Rome 1610</td>
<td>drawing by Stephen Gottlieb (Mahillon n° 1570) 150</td>
</tr>
<tr>
<td>5</td>
<td>5-course guitar Gérard-J. Deleplanque, Lille 1761</td>
<td>drawing by Geert Vermeiren (Mahillon n° 2915) 250</td>
</tr>
<tr>
<td>6</td>
<td>a treble crumhorn, Italian + 1575</td>
<td>drawing by A.M. Moonen (Mahillon n° 610) 200</td>
</tr>
<tr>
<td>7</td>
<td>a tenor crumhorn, Italian + 1575</td>
<td>drawing by A.M. Moonen (Mahillon n° 611) 200</td>
</tr>
<tr>
<td>8</td>
<td>a bass crumhorn, Italian + 1575</td>
<td>drawing by A.M. Moonen (Mahillon n° 614) 200</td>
</tr>
<tr>
<td>9</td>
<td>a Renaissance flute Claude Rafi, Lyon 1515-1553</td>
<td>drawing by A.M. Moonen + scanning by R. Cameron (Mahillon n° 1066) 250</td>
</tr>
<tr>
<td>10</td>
<td>a baroque traverso Tuerlinckx, Mechelen 1755-1827</td>
<td>drawing by A.M. Moonen (Mahillon n° 1089) 200</td>
</tr>
<tr>
<td>11</td>
<td>7-course lute Giovanni Hieber, Venice ca 1580</td>
<td>drawing by Geert Vermeiren (Mahillon n° 1561) 250</td>
</tr>
<tr>
<td>12</td>
<td>Renaissance-gamba Batista Ciciliano, Venice</td>
<td>drawing by Raymond Passauro (Mahillon n° 1425) 200</td>
</tr>
</tbody>
</table>
13 - gamba Edward Lewis (1687-1730) (rebuild into 7-string gamba)
drawing by Raymond Passauro
Mahillon n° 1431
200

14 - gamba Romain Chéron, Paris (7 strings)
drawing by Raymond Passauro
Mahillon n° 1432
200

15 - oboe Bormann, Dresden ca 1830
drawing by A.M. Moonen
instrument museum n° 3580
250

16 - oboe M. Lot, Paris late 18th c.
drawing by A.M. Moonen
Mahillon n° 1980
250

17 - oboe Grundmann, Dresden late 18th c.
drawing by A.M. Moonen
Mahillon n° 2331
250

Please don't send money with your order, but wait until you receive our notification.
FELLOWSHIP of MAKERS and RESTORERS of HISTORICAL INSTRUMENTS

1980 LIST OF MEMBERS - 3rd Supplement, as at 4th January 1981

* in left-hand margin denotes a change of address or other alteration from previous lists.

Bernard Adams, 2023-35 St.S.W., Calgary, Alberta, Canada T3E 2X5; tel: (403) 242-8946 (string instrs, ww; M,R).
* Flip Baart, add: virginals, clavicord.
* Ture Bergström, Smedstripsvej 4, DK-4720 Præstø, Denmark.
R. Blackstone, van Beenenpark 10, 1861 EL Bergen NH, Netherlands (harpsichord, clavichord; M,P).
* Neville Bland has changed his name to Benjamin Bland.
Lars Bohman, Vikingavagen 8, S-15138 Söderfälje, Sweden.
Cambridge University - see Pendlebury Library of Music.
* William Castle - add: violin family.
Olive Cole - correct phone no. to: 01-223 4250
* Ramón Pinto Comas, Carmen 8, Barcelona 1, Spain; tel: 317-61-36 (violin, guitar, piano, string instrs gen; M,R) (and delete from under P)
* Kevin Cordukes, 28 Blackhorse Road, Kingswood, Bristol, Avon BS15 2EF, UK; tel: 0272-670604
* Charles Crabtree - change phone no. to: Bradford 560550
* G.J. Cramer - add phone no: 01620-55246 and (guitar, fiddle, viol, organ).
* Euan Curtis - add: (dble reeds, esp. bassoon; M,R).
* Theodore Diehl, 18 Egelantiersdwarsstr.3, 1015 RW Amsterdam, Netherlands; tel: 264515 & 258056.
Le Droict Chemin de Musique, 5 rue Fondary, 75015 Paris, France.
* John Duncaif, c/o NRI, 18 Moorfield Road, West Didsbury, Manchester M20 8UY; tel: 061-445 0525.
* Bruce Du Vl - change phone no. to: 0009-83235.
* Aidan Edmonds - add: Strofton 2025.
* Colin Everett - add: phone code: (613).
* Catherine E.Folkers, 10612 Woodsdale Dr., Silver Spring, MD 20901, USA; tel: (301) 593-7629 (bar. traversi; M,R,P).
* Eric Franklin - add phone: Welwyn Garden City, 25944.
* Victor Alexandrovitch Prolkin, 33 Shossejnaja, Apt.141, Krasnodar-72, RSFSR, 350072 USSR.
* Donald S.Gill, 46 Beech Lane, Earley, Reading, Berkshire RG6 2PT, UK; tel: Reading 839686 (early ww; M,P).
* Stephen Gottlieb, 1st Floor, 14 Baltic St., London ECI, UK; tel: 01-250 1640.
* Robert Greensitt, 48 Fairfield Green, West Monkseaton, Whitley Bay, Tyne & Wear NE25 9SD, UK; tel:0632-513845 (harp, dulcimer, mm.ppe; M,P).
* Paul Gretton, Secr.Wijnandstraat 26, NL-6226 GB Maastricht, Netherlands; tel: 043-6268766 (add: Dutch, German, transl.).
* Yvonne Hamilton - correct PO Code to: CHE 4QQ.
* Leonard Hanna, 94 Courselette Rd, Scarborough, Ontario, Canada M1N 2T2; tel: (416) 691-4660 (sackbut, nat.horn, bar.tpt, cornett, ww; P).
The Thiele Library, Hartley College of Advanced Education, 15 Lorne Avenue, Magill, S.A.5072, Australia.
* Bruce Haynes, De Ruyterstraat 47, 2518 AN The Hague, Netherlands.
* Jan Hermans, Gen.Van der Meerschstr. 59, B-2300 Turnhout, Belgium; tel: 014/416540 (pfte, clavichord; M,R,C).
* David Holden - add: (viols, violone, violin fam; M).
* David Hunt - change phone to: 0223-277167.
* Chris Isbell, 6 Derby Road, Eastleigh, Hants. SO5 5QA, UK (winds, C,P; electronics, computers).
* Lewis Jones, Cedar Cottage, 13 Kingsmoor Road, Harlow, Essex CM19 4HP, UK; tel: 0279-22255.
* Tim Kendall - add code: NE49 0QY and: Tel: Haltwhistle 20977.
Hans Klijnsmit, 1710 E.Marion Street, Shorewood, Wis.53211, USA; tel: (414) 964-7483 (ww, esp. bagpipes; M,R,P).

Eugene Lambe, Creagach Woodwinds, Fanore, Co.Clare, Eire.

Brian Lemm, 55 Sussex Street, West End, Brisbane, Queensland 4101, Australia.

Kåre Lie, Semsasen, 3140 Borghed, Norway; tel: 033-85572 (add: harpsichord, harp, psaltery; delete: perc).

Robbin Linklater, The Stables, Kingston Hall, Kingston on Soar, Nottingham NG11 ODA; tel: Kegworth 2281.

Robert Longstaff - add phone: Bracknell 50551.

Bent Lønnqvist - alter code to: S-59132

Alec Loretto, Loretto Workshop, Box 67114, Mt.Bien, Auckland 3, New Zealand; tel: Auckland 604-017.

Ludolf Lützen, Friedrichstrasse 10, 5000 Köln 90 (Porz), West Germany; tel: 02205/53392 (shawm, crmhn, ob, fl, musette, hurdy-g, viol; C,P).

Thomas McGearry, 8744 Van Horn, La Mesa, CA92041, USA.

Bob Marvin, CP 71, Woburn, Province de Québec, Canada G0Y 1H0; tel: (619) 544-2091 (recorders; M,P,L).

Łukaś Matoušek - add phone: 4287134.

Bryan Maynard - add code: NN31 6EH and: (bar.vln, vla, vcl; M, R to bar.state).

Nicolas Mees, rue de l'Escrime 31, B-1190 Brussels, Belgium; tel: (02) 344 03 30.

Marcus Mevissen, Marcellienstraat 19, 6166 CP Geleen, Netherlands (lute;M).

David Miles - add code: SE27 5SA and phone: 01-670 4030.

Berdith Neumann, Fridolinstrasse 49, D-5000 Köln 30, West Germany; tel: 0201-55 27 70 (ren. ww; C,P).

Kjartan Oskarsson, Neumayrgasse 1/13, A-1160 Wien, Austria.

Christopher Page, New College, Oxford, UK; tel: 0865-48451 ext 269.

Steve Paris, 597 Tay Street, Invercargill, New Zealand.

Robert Peckham - add phone: 0332-781325.

Pendlebury Library of Music, University Music School, West Road, Cambridge CB3 9DF, UK; tel: Cambridge 61661 ext 47.

Joaquim Fernando Guimarães Pinheiro, Rua Almirante Sadock de Sá 22/102, Rio de Janeiro 22.411, Brazil; tel: Rio de J.2276412 (string instrs; M).

Robert A.Robertson - change to Angus Robertson.

M.W.Saaltink - add (strings, viols, keyboards).

George Sandberg - add phone: 08370-17425.

Hans-Joachim Schröder, Venepothoerv 23, D-4200 Oberhausen 1, West Germany; tel: 208/875621 (hpschd, virg, spnt; M,P; ww, bar rcdr, trvso,P).

Shannon Strings, 6 Pama Gardens, Brighton, MA 02135, USA.

Richard E.Smith, 52 Middle Street, Brockham, Betchworth, Surrey RH5 7HW, UK; tel: Betchworth 7385 (hurdy-g; M,P).

Norman Sohl, 513 Flora Vista Rd NE, Olympia, Wash.98506, USA (early ww;M,P).

Susanne Stahl, Am Kirchenkamp 26, D-4500 Osnabrück, West Germany; tel: 0541/434551 (add: fiddle, M,R; violone, lute, P).

Jörm Sternberg, Carlstrasse 128, D-2350 Neumuenster, West Germany; tel: 04321/51542.

Brian Target, 47 Southover High St, Lewes, Sussex; tel: Lewes 3898 (harpsichord; M).

Peter & Tina Tourin, The Tourin Musica, POBox 575, Waterbury, VT 05676, USA.

Henry M.Tracy, 137 Hurst Street, Oxford OX4, UK; tel: 49168 (keybs,esp, pft; R).

M.J.Turner - add: BR5 2NG; tel: 01-650 3332 (lute, bar.gtr, hurdy-g;M).

David J.Way, Zuckermann Harpsichords Inc, 15 Williams St, POBox 121, Stonington, CT 06378, USA; tel: (203) 535-1715 (keyboards; M).

Hirotaka Watanabe - add phone: 05-715 3425.

R.G.Weldon, 114 Riverdene Road, Tifford, Essex, UK; tel: 01-478 7061 (hartp;M).


Richard Woods, Pendragon & Co, 6517 N.Greenviwe, Chicago, IL 60626, USA; tel: (312) 973-7820.
General Facilities

Translation: Dutch: Henk van Dijk  German: Paul Gretton
Paul Gretton

Organological Index

All Instruments: Michael Nagy
String Instrs. General: Bernard Adams, David Miller, Ramón Comas

Strings: M.W. Saaltink
Dulcimers: Robert Dougan, Robert Greensitt, Arthur Robb
Psalteries: Kare Lie, Joaquim Pinheiro
Keyboards: Marcel Glover, Roger Lee, M.W. Saaltink, Henry Tracy, David Way
Piano: Ramón Comas, Jan Hermans, Henry Tracy
Harpsichord: R. Blackstone, Kare Lie, Hans-J. Schröder hvs, Brian Target
Clavicord: Flip Baart, R. Blackstone, Jan Hermans, Luis Pereira

Pretted Strings: Joseph O'Kelly

Lute: Marcus Mevissen, Joaquim Pinheiro, Susanne Stahl
Guitar: Ramón Comas, G.J. Cramer, M.J. Turner
Vihuela: Joaquim Pinheiro

Stringed: Evert Kluter
Rebec: Evert Kluter, Joaquim Pinheiro
Tromba Marina: Evert Kluter

Violin Family: William Castle, Ramón Comas, David Holden

Hurdy-gurdy: Ludolf Lützen, Richard Smith

Harp: Robert Dougan, Kare Lie, D.J. Weldon
Woodwind General: Bernard Adams, Donald S. Gill, Leonard Hanna, Hans Klijnsmit, Kare Lie, Berthold Neumann, Hans-J. Schröder, Norman Sohl

Transverse Flute: Catherine Folkers, Ludolf Lützen, Hans-J. Schröder
Recorder: Bob Marvin, Hans-J. Schröder
Whistle: Terence McGee
Organ: G.J. Cramer
Reed Instruments: Euan Curtis
Crumhorn: Ludolf Lützen
Curtal: Jörn Steinberg
Bassoon: Euan Curtis
Oboe: Ludolf Lützen
Shawm: Ludolf Lützen
Bagpipes: Robert Greensitt (s), Hans Klijnsmit, Evert Kluter, Ludolf Lützen
Brass (each section except Serpent): Leonard Hanna
Geographical Index

Belgium: Jan Hermans
Brazil: Joaquim Pinheiro
Canada: Bernard Adams (Alb), Leonard Hanna (Ont), Bob Marvin (Québ)
Eire: Paul Doyle
France: Le Droict Chemin de Musique
West Germany: Ludolf Lützen, Berthold Neumann, Hans-Joachim Schröder
Netherlands: R.Blackstone, Paul Gretton, Bruce Haynes, Marcus Mevissen
New Zealand: Steve Paris
Sweden: Lars Bohman, John Huber
UK: Donald S.Gill, (Bucks), Pendlebury Library (Camb), D.J.Weldon (Essx)
      John Duncalf (Manchester M20) delete Paul Doyle
      Henry Tracy (Oxon), Richard Smith (Surrey), Brian Target (Sussex)
USA: Thomas McGearry CA David Way CT Catherine Folkers MD
      Norman Sohl — Shannon Strings MA Hans Klijnsmitt WI
USSR: Victor Frolkin

Please check your entries here and/or in the other Supplements and Main List and let me know of any errors and omissions.

Jeremy Montagu

NOTES FOR CONTRIBUTORS - CHECKLIST

Communications are reproduced photographically direct from your typescript so please send them, as far as possible, laid out as follows:

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7. Photographs can be printed but the extra cost is not allowed for in FoMRHI's budget. Authors sending photographs will be asked for a contribution towards the cost.
8. Post flat or rolled — do not fold.
9. Send to Jeremy Montagu, 7 Pickwick Road, Dulwich Village, London, SE21 7JN. Deadline dates are approximately at the end of March, June, September and December. For the next issue the deadline is Monday 30th March 1981. Late contributions can be sent to Djilda Segerman, NRI, 18 Moorfield Rd, Manchester 20, who will, if possible, fit them in up to the last minute.
10. In the interest of speedy communication, Jeremy and I do not undertake to observe the usual editorial etiquette, unless you specifically request it with your contribution. (See our notes on p2 and 12).
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Die Preise der Zeichnungen:
DM 6,— bis DM 50,—
zuzüglich Porto und Verpackung.

654 | 654 | Choristfayott
5254 | 5259 | Theoric (Baptae)

Deutschland: 1648, zum der Wendelschina, Schenung
Joachim Thrink, Hamburg 1718
For the second year in succession, the Guitar Study Centre, Welling, Kent, organised two one-day courses on the repertoire and performance of music composed for the Baroque Guitar. These were held on the 9th. and 16th. of November, and were once again directed by Harvey Hope.

Part of the day was devoted to the construction and development of the guitar, and a remarkably wide selection of original 17th., 18th., and 19th., century instruments from Mr. Hope's extensive collection were on exhibition. Of particular interest were the six superb examples by the foremost of the early 19th. century makers - Lacote, Panormo, Pages, Stauffer, Fabricatore, and a rare guitar by Guypers.

To be able to examine and compare these guitars must be considered an unusual opportunity, but after coffee, the 17th. century instruments were on show, and these included a fine guitar by Georgiou Platestander of 1651, a Chitariglia, a Chitarra Battente, and hard to believe - two guitars by the Voboam family. One of these was by Alexandre Voboam dated 1652, and the other, in process of restoration with the back removed, by Jean dated 1681. Most of these instruments have been played by Harvey Hope on his recordings, and such a display of rare guitars attracted a number of makers; those present on the 16th. were Jose Romanillos, Peter Forrester, John Mack, and Maggie Ridout.

After lunch, discussion turned to more practical matters, such as the types of strings, tunings, and the availability of music. The intricacies of French, Italian, and Spanish tablatures were dealt with in depth, as well as the fascinating 'Alfabeto' or early chord symbol system. Mr. Hope demonstrated his approach to the instrument, encouraging players towards inventive and personal interpretations, free from academically dry limitations, but within the spirit and intent of the composer.

All of those attending the course will be looking forward in 1981 to what has become an annual event. The increase in numbers of those attending this year must point to a bright future in the revival of the Baroque Guitar, and it is to be hoped, will encourage the organisers to extend the one day into a weekend residential course next Autumn.

M.O'Sea.
Abstract

For the necessity of carrying out more deeply the historical researches on the musical instruments, the problem of better knowing the shape of these works has arisen. Through a collaboration of research, the photogrammetric surveying has been effected, by carrying out also in particular cases the analytical determination of curvatures. The graphical plotting has been carried out by a stereocartograph with automatic recording of coordinates. The electronic elaboration of the registered coordinates has further allowed to determine the analytical parameters of curvatures which have been then checked by means of a new plotting effected by the plotter of the electronic computer.

1. General considerations

Technical literature still offers, unfortunately, few detailed information about the structural and geometrical characteristics of many kinds of musical instruments. As it is well known, criticism and historical research in this field cannot abstain from the consideration of a wider and deeper knowledge of the works with the evident aim of providing to their best account and preservation. A new series of researches apt above all to document the state of preservation of historical instruments has been promoted by Vinicio Tai, Biblioteca del Conservatorio “Cherubini” di Firenze and the researches were possible thanks to the cooperation of Officine Galilei and S.I.A.A. of Florence and of the L.P.T. Centro of Pisa by Prof. Walter Ferri and Prof. Mario Bandelli (University of Florence) and with the assistance of Prof. Umberto Baldini, Direttore del Laboratorio di Restauro della Soprintendenza ai Musei di Firenze. This application of modern means of photogrammetric survey is particularly recommendable in view of the difficulties of the traditional means of “architectonic” survey and their relatively inexact results. Moreover it is unthinkable to touch any part of the surface of priceless objects with measuring instruments. Direct measurement with the precision required for good results would be a long, difficult and dangerous operation.

2. Photogrammetric survey and organology

This process opens a whole new perspective for documentation as well, and can offer new ways of ascertaining the behaviour of objects by furnishing indices of dilatation which up till now were measured either with great difficulty or not at all. It has already been planned to establish a laboratory furnished with the appropriate materials and instruments in order to exploit this method for restoration operations. It is possible to have at disposal an absolutely accurate document which none of the previous methods could give. The photogrammetric stereoplotting of contour lines gives an immutable and absolutely accurate facsimile of an object and permit to know its precise conditions at any time. Thus we can observe an instrument before restoration and follow its progressive deformation over a period of time, by running a series of photogrammetric stereoplottings. This will enable to study alterations or beginnings of alterations which cannot always be perceived by the naked eye. To give an idea of the excellent results of this system of transcriptions: errors were found to be on the order of a tenth of a millimeter. 
3. The photogrammetric taking

Although the photogrammetric stereoplotters are equipped with compensating rotation and translation devices to refer the optical model of the ground photographed from the air to the reference axes of the map being charted, it is easier and speedier to plot the contour lines when the optical model is well oriented. Thus the first step is to place the median surface of the object in a vertical plane whose margin of error from the theoretical plane is only a few millimeters, due principally to distortions of the wooden soundboard, for instance, of a keyboard instrument. Wooden surfaces are well adapted to stereoscopic fusion of the photographs that are to be made. The soft colors, the gradual transition from one to another tone, the wealth of surface "cracks", all contributed to a perfect and easily-read stereoscopic rendering of the photograms. An appropriate lighting allows to achieve perfect photographs. The precision required to measure the deformations and the dimensions of the object calls for wide-angle and long-focus lenses. Galileo's Mark IV apparatus for shooting nearby objects has two 23x23 cm. cameras with Comotor 15 cm. focal length lenses and relative aperture of 1:16. The principle distance, added to the object distance of two meters, is exactly 169.20 cm. The apparatus was designed for high-precision shots of automobile models, and includes special supports for setting the stereoscopic shooting base (bx) for orientating the cameras by means of small $\omega$, $\phi$, $k$ rotations. The position of at least nine well-determined points, at a reciprocal distance of more than half a meter from each other, would be measured with a precision of only a few hundredths of millimeters. This operation is routine in a laboratory but can be difficult in other cases. However it is not absolutely necessary to place the check points directly on the object as they need only to be placed nearby and appear with the object in the photogram. It is possible to use a simple control apparatus which consist of a series of cotton threads suspended from a steel beam and weighted with lead at its lower extremity whose dimensions can be exactly measured. When a three-dimensional object is to be shot photometrically, two or more beams may be attached together at preestablished distances and set up as a unit above the object to be photographed. In this way we have a system for depth control as well as for the instrumental x axis. The temperature varying during the shooting, it has to be calculated the variations in the dimensions of the beams.

4. The photogrammetric plotting

The procedure as described above simplified the stereophotogrammetric plotting. The system of plumb lines hung in front of the object permits to use the same plotting method employed for stereoplotting from aerial photographs. The plotting can be carried out with the Galileo-Santoni model IV stereocartograph used in conjunction with the Galileo electronic drawing board 030 m currently used at the E.I.R.A. of Florence. Before plotting the pairs of photograms the standard procedure of verifying the instrumental geometric conditions of the apparatus has to be controlled with a planimetric projection of a precision grid. Successively it has to be placed in the plotting cameras correction cam devices for distortion correction and for the principle distance ($f = 169.20 \text{ mm}$) of the photogrammetric camera lens. The ste
reosopic model may be made on a scale of every ratio. The photograms are oriented relatively by eliminating the parallaxes on the six classic points with an empirical mechanical-optic process until residual parallaxes of less than 0.05 mm can be observed visually. The absolute orientation of the model is made by observing the system of plumb lines hanging in front of the object. By orienting and scaling the plane defined by the plumb line control system and taken into account the predetermined distance between the lines, the conditions for plotting the object have been set up. To verify the intrinsic precision of the representation it is possible to check the plotting against some measurements made beforehand on the object. In conclusion it may be pointed out that the stereophotogrammetric plotting guarantees an altimeteric accuracy on the order of 0.15-0.25 mm.

Bibliography:
VINICCI GAI, Saggi di organologia musicale, Licosa, Firenze, 1970

Marco Tiella
John Downing

Philip Lourie in Comm 303 gave an excellent detailed description of the methods he has used in constructing lute backs with flattened sections. I think it would be useful to comment further on some of the points he raised in the course of his discussion.

1. The lute with a true semi-circular sectioned back is, I believe, something of a myth. All surviving instruments that I have studied have sections that are either flattened, "humpbacked" or vary between a flattened section at the clasp end and "humpbacked" at the neck block.

2. Likewise, no lute back is exactly symmetrical either in rib profile or in the arrangement of the ribs. Ribs vary in size and shape within each body construction meeting at the neck block, more or less, at a single point. At the clamp end however, the ribs may meet, more or less, at a point (see fig 1) or they may "run off" the mould in the manner described in Comm 303 for flattened backs (see fig 2). The arrangement selected by the luthier will depend largely upon the degree of flattening, the number of ribs and to a certain extent the material used, e.g. "banana" or 'S' shaped ribs will not do if shaded yew is used where the heartwood/sawwood interface is required to bisect each rib.

Two surviving instruments illustrating the extreme rib arrangements for a flattened back are the Chitarrone by Magno Tieffenbrucker in the Royal College of Music, London and the Liuto Attiorbata by Christofolo Choc in the Victoria and Albert Museum, London.

3. It is possible to construct almost any section of back and, providing rib width is correctly selected, arrange for the ribs to meet at one point at the clamp end if required.

This can be achieved for a particular body section by using all the degrees of freedom available to the luthier as construction proceeds i.e.

- a. Use wide rib blank (see fig 4)
- b. Vary rib width
- c. Twist ribs longitudinally by hot bending prior to jointing, (see fig 5)
- d. Reduce the degree of flattening
- e. Form a non planar rib joint (Comm 303)
- f. Vary the joint plane position relative to the body centre line, (see fig 3)

The latitude available is quite wide, limited not so much by construction difficulties as by the overall appearance of the completed instrument.

4. The method described in Comm 303 for forming each rib is perfectly legitimate but I would suggest that, in order to keep the jointing procedure as accurate and efficient as possible and avoid the unnecessary paraphernalia of jigs and templates etc. each joint should be formed as near as possible in a single plane (see fig 3), using an inverted jointer plane (see Comm 267). Should any run out of a joint occur during building requiring the formation of a corrective curve in the matching rib, then this curvature may still be formed on an inverted jointer by virtue of the longitudinal flexibility of each rib. In this case, use of the inverted jointer facilitates maintenance of the correct joint angle.
All joint planes pass thro line AB.

Individual joint planes pass thro lines A1, A2 etc.

Belly profile.

Joint surface.
Bill Sampson in Comm 300 notes the presence of the little wedges found between belly bars on lutes and suggests that they may have been used to locate the belly prior to gluing in order to check the action.

From the limited information I have available it would appear that these wedges tend to be located only on the lower half of the belly below the rose centreline.

I would guess, therefore, that they were used as additional location for the belly during the initial stages of gluing the belly to the back. It is easy for the belly at this stage to move downwards and out of alignment, as gluing proceeds from the neck block, if reliance is placed on the bar ends alone for location — rather like squeezing an orange p!p between your finge!s! Once located in this fashion, the belly is then temporarily restrained from moving during the gluing operation (as recommended by Thomas Mace) by driving a thin sharp awl through the belly at the neck.

FoMRH1 Comm. 322

FoMRH1 Conference on Pitch & Transposition:
some further observations.

Malcolm Rose

Eph Segermann's article in the October FoMRH1 gave a clear and concise account of our work on the mechanical behaviour of wire. I would like to add only one or two further observations. A piece of early wire of known history can yield an enormous amount of information, but you only get one chance to test it, and you have to be right first time. So this is an appeal not to test any wire you may have. Tests on early samples are done only after the highly sensitive equipment has been checked many times with pieces of expendable modern wire. Wire is notoriously difficult to test accurately, particularly because of the problems of gripping it without any danger of slippage, and yet without causing premature fracture, or friction against the grips. We have been developing devices to overcome these problems for the last four years. If you have any samples of early wire, please keep them safe and labelled, but please don't test them. We must keep the great majority of surviving wire for future generations to study.
The Problem of Nomenclature

At the risk of boring you, I want to come back to the problem raised at the foot of p.4 of the Bulletin. On some instruments we are in danger of the jazzman syndrome. A jazz musician who plays any wind instrument is liable to refer to it as a horn. Obviously he does not mean by this a French horn (I remember Dennis Brain playing jazz, which sounded singularly unconvincing on that instrument), and he knows perfectly well whether he is referring to trumpet, trombone, saxophone, flute, mouth-organ or whatever (I could cite references for all these) and, because jazz is a recent or current style, it is possible for a historian to sort out which instrument he did play, in most cases at least.

In our field, this is more difficult. There are the problems of synonyms, of geographical and of temporal variation. There are also the problems of what we mean today and, as I touched on in the Bulletin, the problem of what we call that thing standing there in that museum.

For the historian who is sorting out the use of the instrument in its own day, obviously what is important is what it was called in the time and place under study, but for the systematic organologist, such as myself, and the maker such as many of us, the answer may well be different. Some instruments we have sorted out. There is a general agreement to refer to the flute as the recorder, with the result that when somebody refers to an instrument as a flute, or says that he makes flutes, we are pretty sure that he is not referring to the flute at all but to the traverso, German flute, etc. If this is acceptable for the flute, the fact that we use a different name from the one by which the instrument was known in its own period, we can surely be less hesitant about the risk of misnaming other instruments.

In my Med & Ren, as I had done in my now abandoned proposed new classification scheme for musical instruments (with John Burton in Ethnomusicology XVIII, 1971), I followed Alec Hodsdon and Cecil Clutton’s suggestion for sorting out keyboard instruments. In their own time (but not necessarily place) spinet and virginal were synonymous and could include harpsichord. We need to distinguish between the various plucking key-boards, and the best way of doing so seems to be the relation between the line taken by a string, from wrestpin to hitchpin, and the name board or line of the keyboard from CC to c" or wherever. Using this, the harpsichord is the instrument whose strings are at 90° to the name board (and parallel to the spine and with the line of jacks parallel to the name board); the virginals has the string parallel (more or less) with the name board (and the line of jacks running at about 45° to the name board), with a special variety plucked in the centre (roughly) of the string called by its Flemish name of muselaar; the spinet has the string at 45° to the name board (and the line of jacks parallel to the name board). In Ethnomusicology I provided the following sketch to make this plain:

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harpsichord

virginals

spinet

though this introduced the shape of case, which is probably better avoided, as it can be by using the definitions as I have given them above. It must be clearly understood that these are suggested terms for us to use now and there is no implication involved that these terms were necessarily
used by anybody in the instruments' own period, or at least not in this distinguishing way — we know that they weren't. But the only alternatives are either to coin completely new names, free of all association with any pre-existing instrument, which I doubt whether anybody wants to do, or to use a numerical system such as a much elaborated Hornbostel-Sachs, which I doubt whether anyone could cope with. As their System stands (GSJ XIV, 1961), the same figure of 314.122-68 (board zither with resonance box sounded by plectrum via a keyboard) covers all three, so that there would still need to be further criteria to distinguish them.

We need similar agreed (? — Bob Dart took exception to my proposal on keyboards in Ethnomusicology, and perhaps some of you will now) nomenclature for a number of other instruments, among them the extended lutes (can we agree on that term for all lutes with more than one peg-box? If not, what does anyone suggest? We can't use bass lutes because that also covers the large size of ordinary lute). On the assumption that you all have access to Early Music, I will refer to Robert Spencer's plates in EM 4:4, October 1976, and avoid inflicting my inability to draw on you.

To my eye, there are three basic types, all of which include variants (and ignoring for the moment such unique instruments as the long-bodied Wendelin Tieffenbrucker, Vienna A46, illustrated on plate 90 in my Med & Ren). These are distinguishable between the two peg-boxes by a) a long neck (Spencer plates 3 & 17), b) a short straight neck (Spencer plates 13 & 15) (see Bulletin p.4 for ascriptions), and c) a short cranked neck (Spencer plates 16, Mersenne p.46, and 22, Sebastian Schelle, Nuremberg GNM MIR 902). In addition there is the two-headed lute (Spencer plates 19, 20 and 21), which should cause little trouble if we are all agreed on calling it two-headed.

Would it be possible to come to some agreement on what we are to call these three types for purposes of general reference? Coping with their variants is not difficult, since one can add adjectives, phrases or even sentences to describe the number of courses from each peg-box and so on. Such agreement would help people like me, who prepare museum displays, caption pictures in books, lecture and write for the general, non-specialist public and so on. It would help makers' customers who, when they see that a maker produces a theorbo, would have some idea, without writing or ringing up, whether it meant a), b) or c). Just as with the keyboards, there would be no implication that this was what the original maker or player called the instrument, but would simply be a quick and useful way of deciding, before further enquiry, whether any particular maker's instrument was going to fit into your car, and of giving a name to any instrument sitting in a museum which, having lost strings and bridge, can no longer tell us whether it was single or double coursed, has no label and so no definite date or place, but is clearly to the eye a), b) or c) and needs some name now, even if it can wait for a proper name until a real expert has gone over it and filled in some of the gaps.

Answers, arguments and disputes will be welcomed, as will further Comms on other instruments for which we need agreed nomenclature.
WHY DO SOME LUTES HAVE FLATTENED BACKS?

In FoMRHI Comm 303 Philip Lowrie asks for suggestions as to why some lute backs should be flattened (apart from reasons of physique). I offer the following ideas:

The flatter an instrument is, the more prominent will be the high overtones. My physics doesn't stretch to a quantitative analysis but this view is based on the sounds of the cittern and the shallow ribbed vihuela.

In the Mary Burwell book we are told that the resonant frequency of the cavity should be at about the pitch of the fifth course.

Assuming that this holds true for the century or so preceding Mary Burwell it makes sense that large bodied chittaroni should be shallow to resonate at the pitch of the fifth course (which is of similar pitch to that of a much smaller conventional lute).

We find, almost invariably, that big theorbs and chittaroni have flattened backs while conventional lutes with similar outlines (bass lutes) have backs which are much closer to a semicircle in cross section.

There are, of course, some exceptions:

For example, small archlutes by Sellas and his contemporaries have flattened backs, making them resonate at a rather high frequency (if, indeed, they were tuned in what we understand to be archlute tuning). Either Sellas was more interested in elegance than perfect acoustics or he was looking for a different tone colour.

The nine ribbed Unverdorben lute is rather flat. This has, of course been re-necked as a German baroque lute but is unlikely to have been built originally as a chittarone, due to its early date. (It is not impossible, though, that it was built for re-entrant tuning.)

To sum up, the majority of instruments built for conventional lute tunings have deep bodies, often deeper than a semicircle (Bologna lutes) and in most cases only slightly less than a semicircle (Padua lutes). The majority of instruments built for re-entrant tunings (chittaroni and theorbs) have flattened backs. The obvious exceptions to this rule are the short bodied archlutes. Longer bodied archlutes (e.g. the Hartz in Edinburgh) are almost semicircular.

I would point out that these ideas are by no means all my own. I am particularly grateful to Philip Macleod-Coupe for helpful discussion on the subject.

WILLIAM B SAMSON
ON THE NUMBER OF GUTS IN A GUT STRING

Ephraim Segerman

Introduction

There is little data from which to deduce the thickness of gut strings originally used on early instruments. Old strings have usually been discarded because used strings have no value after they are replaced and unused old strings are suspect as to their tensile properties.

Until very recently, private collectors and museums, whenever they gave attention to old neglected instruments, removed the unsightly old strings (if strings could be restored to an aesthetically attractive state, the situation might be otherwise). Even if the strings were kept, the restorers/conservers rarely documented specifically where each string came from, thus losing much information value. A discouragement for going through the trouble of saving and documenting the strings is that one has very little, if any, indication as to how old the strings on the instrument actually might be. Only recently has it been realised that future research might develop techniques for dating, and that much more recent stringing than the instrument itself may well have research value.

Writers have often refrained from specifying string diameters because of respect for the varying needs of different instruments and varying preferences of different players. An added deterrent to specification of string sizes is the lack of reasonably accurate methods of measurement readily available to readers. Mersenne ("Harmonie Universelle" (1636) pl81 in Chapman's translation and pl28 of the French original) described a sensible method which involves close winding the string around a cylinder until the windings cover a measurable distance, measuring it, and then dividing by the number of windings. There is no evidence that this method was in widespread use.

Another way of specifying string thickness is to give the number of guts it is made of. From before late in the 19th century, I only know of French sources which did this. The user can determine the number of guts and whether they are whole or split into strips by soaking the end of the string in acid until the strands separate and can be counted. The accuracy of such a specification is poor since individual guts vary in thickness, but such information can be of immensely greater value than no information at all.

Mersenne's Information

I've noticed two places in Mersenne's "Harmonie Universelle" (1636) where the number of guts that a string is made of is mentioned. On p17 of Chapman's translation (p3 of volume 3 of the French original) Mersenne wrote:

"For example the weakest of the racquets are made of 7 guts and the greatest of 12, .... From this it is easy to conclude that the 6th [string] of the bass viols and the tenth [string] of the great theorboes are made of 48 or even 50 or 60 guts, for they are at least 4 or 5 times as thick as the greatest of the racquets."
Since $4 \times 12 = 48$ and $5 \times 12 = 60$, we should not translate "4 ou 5 aussi grosses" as "4 or 5 times as thick" (which implies diameter) but rather as "4 or 5 times bulkier" (which we take to imply cross-sectional area).

The other place is on p279 of the translation (p220 of the French original), where Mersenne, when discussing the string for a trumpet marine stated:

"The thickest racquet strings, that is to say those which are made of a dozen sheep guts are of a good thickness."

Mersenne provided data which invites an attempt to estimate what the thickness of these strings might be, as well as the cross-sectional area contribution of each gut. On p79 of the translation (p51 of the French original), Mersenne wrote:

"It is easy to conclude from this that if the largest, or the eleventh string on the theorbo or lute is one line in diameter, then the seventh, which stands at the fifth, need only be $\frac{2}{3}$ of a line in diameter, and..., and finally, the second string, which follows the chanterelle and which is tuned at the 17th to the greatest string ought to have it's diameter as one-fifth of a line, ..., as I have shown in the book of theory."

This passage presents problems in interpretation. The theory being exemplified was that the ratio between the diameters of two strings with the same vibrating length and tension and different pitches is equal to the ratio of vibrating lengths on the same string (and tension) on a monochord which will produce the same pitches.

Though the passage cannot apply to a complete theorbo or archlute since such instruments each have two different vibrating string lengths, it can apply to each length separately. It is possible for a lute and archlute to use the same string diameters but only if the archlute basses have 25% more tension than the lute basses.

There are two more problems with this passage. One is that Mersenne was being theoretical, stating what he thought should be, and he made no claim that the diameters he mentioned were typical of those actually used. Yet for the lute, they turned out to be most reasonable (see Comm. 129 in Quarterly 11 - April 1978).

The other problem is that Mersenne was temporarily confused between the theorbo and the archlute. In the discussion of the figure showing lute and archlute on p74 of the translation (p46 in the French original), he referred to this pair as lute and theorbo. This is corrected in the list of printing errors on p77 of the 7th Book of Percussion Instruments where Mersenne pointed out the difference between the two and that the theorbo tuning was correctly given on p88 (p116 of the translation).

This tuning is for a 14 course instrument described as the theorbo used in Rome with the usual theorbo reentrant tuning on the first two courses. Since the passage in question states that the eleventh string is the largest, the archlute seems the more likely meaning for the name 'theorbo' here. It is possible that Mersenne's archlute had the same string diameters as the lute since, in the text, Mersenne remarked on the great loudness and thickness of the four bass strings on the second neck of the instrument illus-
-trated. The figure seems to indicate that these courses are octave pairs, and it is possible that the higher octave had much lower tension, thus tending to restore tension balance on the instrument.

So it seems that the 'theorbo' for which a string diameter was given is probably not the 'great theorbo' for which the number of guts in the 10th string was given. Yet, since a possibility that they are the same may exist I will do the calculations of string areas and diameters for later comparison:

The tenth string would be a tone higher than the eleventh and, using Mersenne's equal tension criterion, it would be \( \frac{8}{9} \) of a line thick. Chapman's Appendix 1 (p573) gives a line as \( \frac{1}{144} \) of a foot or \( \frac{328}{144} = 2.28 \) mm, so the string would have a diameter of \( 0.03 \) mm and cross-sectional area of \( 3.22 \text{ mm}^2 \). The cross-sectional area per gut would then be \( 0.054 \) to \( 0.067 \text{ mm}^2 \).

Eighteenth Century Information

Prof. Adkins of North Texas State University, who is writing a book on the trumpet marine, has brought my attention to a statement by Jean-Baptiste Prin in his "Traite de la Trompette Marine" of 1742, that the main string was "a little thicker than a bass third and somewhat finer than a fourth or of about 60 guts[es]."

Nineteenth Century Information

There are several 19th and 20th century discussions of the number of guts in a string. Those by E. Heron Allen ("Violin Making as it Was and Is", (1885) p211, 212) and A. Bachman ("An Encyclopaedia of the Violin", (1925) p148) are obviously derived from Maugin and Maigne ("Nouveau Manuel Complet du Luthier", (the 1869 edition) p182, 183)*, or they all derive from an earlier source that I am unaware of.

Maugin and Maigne stated that the information they gave was provided by the string maker Henry Savaresse:

"Chanterelles are composed of 4, 5 & 6 threads, according to the size of the gut itself, and each thread is formed of half a gut longitudinally divided.

"[Alternatively] the violin E string has 3 or 4 full threads [complete guts] which are very thin. The A has the same number of threads but much stronger thicker ones. The D string has 6 or 7 full threads.

"Guitar strings use much finer threads than those used on a violin.

"Violoncello strings have up to 10 full threads, and those of the harp as many as 22, also full.

"Violoncello strings have 6 threads for the chanterelle and 10 for the D string.

"Finally, the strings of the double bass have 40 threads for the chanterelle and as many as 85 threads for the D string."

* I must here express my thanks to Ian Harwood who brought this source to my attention and kindly lent me his photocopies of the relevant pages.
We may estimate the diameters of the violin strings mentioned from the string tensions given by Ph. Savaresse to Maugin and Maigne reported on p168. The chanterelle had 7.5 Kg and the A and D strings both had 8.0 Kg tension. It is specified that these tensions are for when the violin was tuned to opera pitch. Paris opera pitch in 1858 was \( a' = 448 \) Hz according to Ellis in his Appendix to Helmholtz's "On the Sensations of Tone" (1885).

If we assume a normal violin string stop (L in the formula following) of 33 cm and gut density \( \rho \) of 1.35 g/cm\(^3\), we can calculate the string diameter (D), cross-sectional area (A) and the area per gut \( A_0 \) where the string is made of n guts. We use Mersenne’s formula:

\[
A = \frac{T}{4 \pi F^2 L^2} = nA_0 = \frac{\pi D^2}{4}
\]

where F is frequency, A is in cm\(^2\) (multiply by 100 to get mm\(^2\)) and T is tension in dynes (multiply tension in Kg by 9.807 x 10\(^5\) to get dynes). The results are:

<table>
<thead>
<tr>
<th>String</th>
<th>Frequency</th>
<th>Tension</th>
<th>Diameter</th>
<th>Cross-sectional Area</th>
<th>Number of guts</th>
<th>Cross-sectional Area per gut</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Hz)</td>
<td>(Kg)</td>
<td>(mm)</td>
<td>(mm(^2))</td>
<td></td>
<td>(mm(^2))</td>
</tr>
<tr>
<td>e''</td>
<td>672</td>
<td>7.5</td>
<td>.594</td>
<td>.277</td>
<td>4-6 halves</td>
<td>.092-.139</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3-4 very thin</td>
<td>.069-.092</td>
</tr>
<tr>
<td>a'</td>
<td>448</td>
<td>8.0</td>
<td>.920</td>
<td>.665</td>
<td>3-4 thick</td>
<td>.166-.222</td>
</tr>
<tr>
<td>d'</td>
<td>298.7</td>
<td>8.0</td>
<td>1.380</td>
<td>1.496</td>
<td>6-7 thick</td>
<td>.214-.249</td>
</tr>
</tbody>
</table>

The average cross-sectional area per gut for the d' string is just about 20% greater than that of the a' string, just what we would expect for the a' having low twist and the d' having high twist. This is because twisting fattens and shortens a string without, of course, changing the number of guts in it. Similarly, an increase in area of about 35% over the low twist string is what we would expect for a roped-gut or catline string. These lead to increases in diameter of about 9½% for high twist and 16% for catlines. Polishing may reduce these figures by a few percent.

Maugin and Maigne, when discussing gut preparation, write that, after cleaning, the guts are separated into thin ones suitable for making violin chanterelles and thick ones suitable only for thick strings. Therefore an average cross-sectional area for a thick gut, as derived from the centre of the range given for the violin a' string \( A_0 = .194 \) mm\(^2\) would be appropriate for calculating the diameters of other thick strings. Then \( D^2 = 49\sqrt{\frac{2}{\pi}} \) mm.

Relevant values of D can then be calculated:
<table>
<thead>
<tr>
<th>Number of guts</th>
<th>Diameter (mm)</th>
<th>Number of guts</th>
<th>Diameter (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td></td>
<td>n</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1.22</td>
<td>40</td>
<td>3.14</td>
</tr>
<tr>
<td>7</td>
<td>1.31</td>
<td>48</td>
<td>3.44</td>
</tr>
<tr>
<td>10</td>
<td>1.57</td>
<td>50</td>
<td>3.51</td>
</tr>
<tr>
<td>12</td>
<td>1.72</td>
<td>60</td>
<td>3.85</td>
</tr>
<tr>
<td>22</td>
<td>2.33</td>
<td>85</td>
<td>4.58</td>
</tr>
</tbody>
</table>

We thus have for the mid-nineteenth century cello in France, string diameters of about 1.2mm for the a string and about 1.6 or 1.7mm (depending on whether it was of low or high twist) for the d string. We can presume that the G and C strings were overspun on thinner gut. The thickest harp string used then would similarly be about 2.3 or 2.5 mm thick. The double bass first string would be about 3.1mm thick and the D string up to 4.6 or 5.0mm thick. These strings were likely for a 3-string double bass with the first string at G and the overspun 3rd string at G♯ or A♯.

We can have reasonable confidence in these figures if the information on violin string tensions from Ph. Savarese and on the number of guts in a violin string from Henry Savarese refer to essentially the same strings. Whether 19th century French string making practices have any relevance to earlier centuries is another matter.

Relevance of 19th Century Gut Information to the 17th and 18th Centuries

Prin's statement that 60 guts went into a string of intermediate diameter between a "basse" third or fourth most probably refers to a "basse de violon", the favoured French term for a violoncello in the 18th century. A string about an octave below the d string and approximately twice the d string's diameter (containing four times it's number of guts) would fit the above specification. According to Maugin and Maigne's violoncello data, such a string would include 40 guts rather than Prin's 60. Possible reasons for the difference might be that, compared to the middle of the 19th century, in the 1740's, 1) 'cellos used thicker, higher-tension stringing (25% thicker and half again as much tension if this was the only difference), 2) on average thinner guts were used to make thick strings (A₀ = .129 mm² if this was the only difference), or 3) the pitch standard was lower (by a fourth if this was the only difference). There is reason to suspect both higher tension and a considerably lower pitch standard in the 1740's and so my guess is that a combination of these factors can well account for the difference, and 60 guts meaning about 4 mm diameter (using 19th century gut thickness) seems not unreasonable.

Concerning Mersenne's information, the most interesting is the statement that 48, 50 or even 60 guts would go into a bass viol 6th or great theorbo 10th. The way he expressed it it seems that he derived this information from comparing cross-sectional area with that of the thinnest
For a string with 53 guts in it, using Maugin and Maigne's data on thick guts, we get a diameter of 3.6mm. To see if this figure is reasonable let us calculate the tension such a string would produce on Mersenne's viol:

For this we must estimate the pitch standard his D string could have been tuned to and the string stop on his viol.

What Mersenne wrote about English viols (p257 in the translation and p198 in the French original) can be readily interpreted as meaning that they tuned their viols a tone lower than the French to "render the harmony softer and more charming". Praetorius wrote that the English achieved "more pleasant, magnificent and majestic harmonies" on their viols by tuning down to the pitches he listed in his table. On this table he gave the bass viol 6th string as tuned to G₁ in his Cammerthon pitch standard, i.e. $5^2/3$ semitones below modern pitch for D. We can therefore estimate that the French viol pitch standard was about $3^2/3$ semitones below modern, so D would be at 59.4Hz.

Mersenne gave the total length of his illustrated bass viol (p250, 251 in the translation and pl92 in the French original) as about 4½ feet, which is 148cm. On that illustration we can measure the ratio of string stop to total length of .59. This is reasonable since this ratio on the consort bass viol measured by Talbot (c. 1690) is .60. We can then calculate Mersenne's bass viol string stop to be about 87cm.

Using the above figures for string stop and frequency, and the 3.6mm figure for the D string diameter, we can calculate that the tension would be 15Kg.

This tension seems rather excessive, even for an instrument this large. Let us test it's reasonableness against Mersenne's information on the violin. On p244 of the translation (p189 of the French original), Mersenne stated that the treble string of the violin was as thick as the fourth string of the lute. From a calculation following on from that done earlier (starting with the lute 11th string being 1 line thick), we deduce that this string was .75mm thick. Assuming a $3^2/3$-semitones-low pitch standard and a string stop of 32cm, we conclude that the tension was about 7Kg. A rule mentioned by Mersenne (p238 of the translation and p179, 180 of the French original) which we find works very well in practice, states that in a family of instruments well proportioned according to pitch (i.e. string stop and body dimensions inversely proportional to frequency) the string tension and string cross-sectional area are proportional to the string stop. According to this rule a fictitious viol having the same string stop as a violin would leave a tension per string of $(32/87) \times 15 = 5\frac{1}{2}$Kg. This tension does not seem to be small enough compared to the violin's tension of 7Kg (a first string diameter of .66mm compared to the violin's .75mm) to
warrant Mersenne's statement (p254 of the translation and p195 in the French original) that:

"... the violin has too much roughness, in as much as one is forced to string it with strings too thick for showing off the subjects to which it is naturally suited; and if it is strung like a viol, it will be different only in that it has no frets."

It seems to me that at least a factor of 2 in tension ($\sqrt{2}$ in diameter) would have been behind this statement.

If the reader would like to try other assumptions to solve this problem, he might find the following equation handy.

$$T (\text{Kg}) = 4.325 \times 10^{-8} \ (D(\text{mm}) \times L(\text{cm}) \times F(\text{Hz}))^2$$

In conclusion, there are useful 19th century specifications of string thicknesses on various instruments in terms of number of guts in the string which we have no reason to disbelieve. If we use the contribution to the thickness per gut from the 19th century information to interpret the same kind of specifications in the 17th and 16th centuries, we calculate string diameters greater than what would be expected from other available information. The further one is from the 19th century, the harder it is to reconcile these diameters with the other information. It is thus likely that French string-making practices were not constant through these three centuries.

This may be a disappointment since we prefer definite information to help us string up our reconstructions of early instruments. Yet the information given here, taking account of realistic probable errors in it, should make us worry very seriously about modern practices of stringing viols, violins and theorboes for music of the first half of the 17th century. Thicker stringing is clearly indicated for these instruments. This would mean more worry for makers and harder work for players. The music could lose some dazzle but gain in vigour.
Review of:


Johannes Tinctoris (c 1435-1511) is one of the most remarkable figures in the history of fifteenth century music, yet his music is almost never performed and (outside of scholarly circles) his treatises on music are hardly ever read. Modern organologists are permanently in his debt for the chapters in the De Inventione et Usu Musicae (GSoJ, 3, 1950) which deal with the lute and numerous other instruments; the loss of this material would wipe out whole areas of our knowledge.

The Terminorum musicae diffinitiorum is a relatively brief dictionary of musical terms (some 300 entries) which was printed in Treviso, Italy, about 1495 by one Gerardus de Lisa (as James B. Coover shows in an excellent essay appended to this book that is still authoritative). However, Tinctoris probably wrote the book early in the decade 1470-80; my colleague Ronald Woodley of Christ Church, Oxford, who is currently completing a doctorate thesis on Tinctoris tells me that it must have been written in the period 1472-3.

I wish Tinctoris had decided to say more in the book - and to say it more clearly. Parrish seems to me to have done a generally sound job with the Latin, and his translations are readily intelligible as English, though some of the denser entries about solmisation syllables and hexachord materials are not easy reading - nor, I suspect, were they meant to be. In my experience very few of the 'this-is-how-you-do-it' and 'this-tells-you-all-you-need-to-know' books produced in the Middle Ages are genuinely designed to perform the functions of a modern handbook; authorial intention in the medieval examples is closely involved with pretentions to elegant and elevated use of the Latin language.

Nobody beginning the study of music and its terminology in the fifteenth century can turn to this book in the hope of being enlightened. Time and time again the entries merely paraphrase a highly-trained musician's knowledge in a way that does not give the novice any real entry to the subject. Nobody who wants to learn about the motet will benefit much from Tinctoris' assertion that it is "a composition of moderate length, to which words of any kind are set, but more often those of a sacred nature". The same thing might be said for many other entries. However, the book does have a value as an aid to the study of fifteenth century music; once one has learned the terminology elsewhere it is undeniably useful to have compact definitions of many basic terms.

Christopher Page