



*Superb 14k headjoint by Albert Cooper (Courtesy of R Trevisani)*

### **ALBERT COOPER**

I was very fortunate to be introduced to Albert Cooper by Albert Honey. In the mid-1970s word of Albert Cooper's work was spreading. Powell adopted his scale which had revolutionized the modern flute, and his headjoints were world-famous. It was thus with some trepidation that I wrote to him enquiring what he could do to assist me. A kind letter came back which immediately gave me headjoint dimensions, explained what undercut was and how it worked; advised me to visit the American flute makers to study their methods and finally invited me to London to see his headjoints for an explanation of what I needed to know. I was stunned by the reception.

SILVER MEDALIST



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Dear Albert,

Thank you for your letter, I am pleased to hear you intend visiting London, you and your wife are invited out to supper.

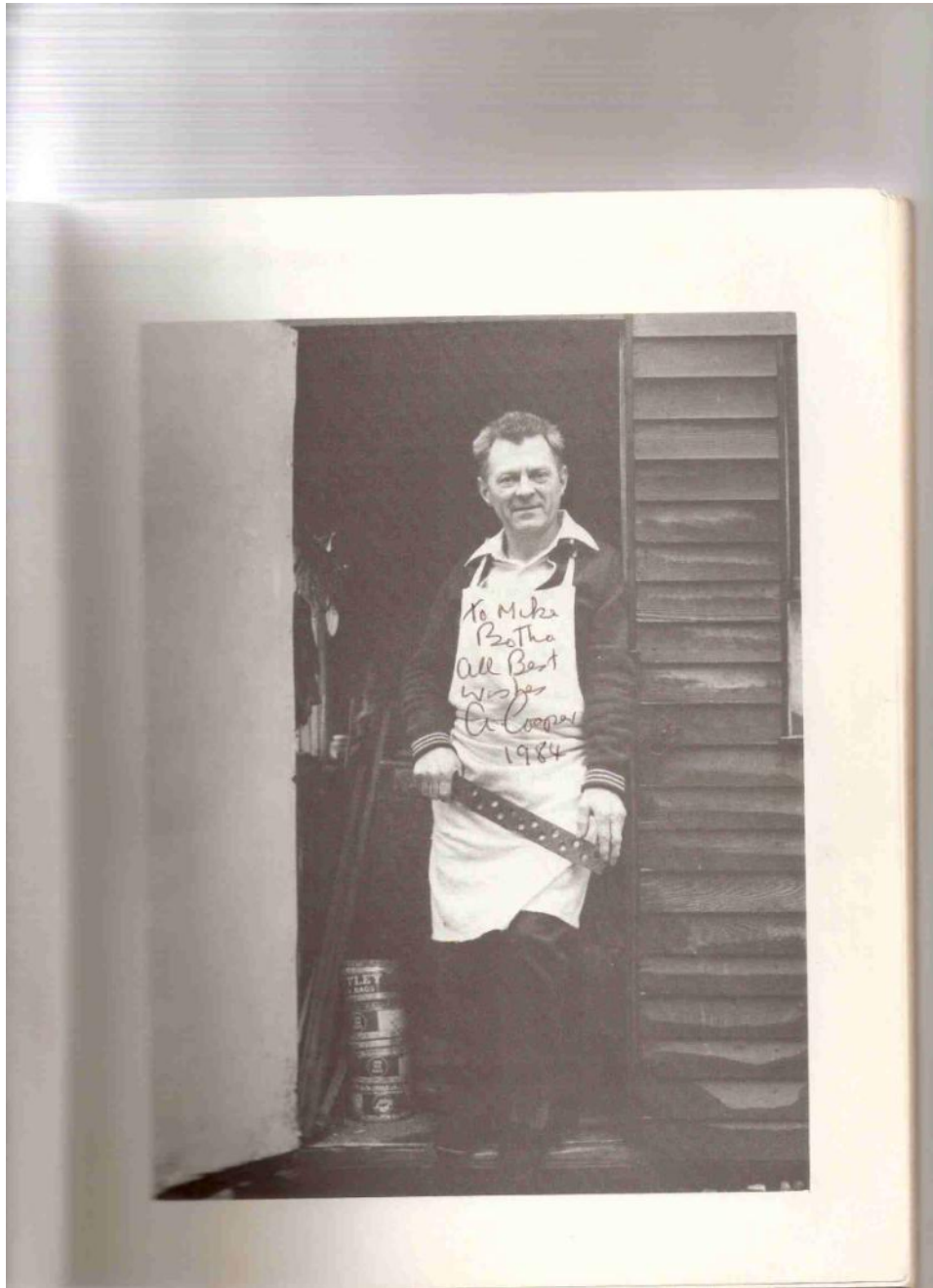
Cannot remember exactly when you ~~left~~ left London must be 20 years ago? Things here in the flute world are very different, there are many new faces and I think the general standard of playing is higher. Bennett is still around and has had family problems, he does a teaching job in Switzerland 10 days in every month.

The British Flute Society was formed last January and publish a very interesting magazine called 'Pan', you should join only if to get the latest news, it will be published 3 or 4 times a year.

My pattern of work has altered, I have not made a flute for 6 years, I seldom do padding, I just make headjoints and fix new lip-plates on other makes. I am very very busy and send them all over the world. I have been to the last 7 annual <sup>American</sup> flute conventions, also last year the first Japanese flute convention.

Letter from Cooper to Albert Honey

Over a number of years I visited Albert, usually combining visits to London on business or family holidays, where with a bit of luck I would get two afternoons a week with him. When I first sat down with him there were a number of subjects to discuss, and his first statement was "What do you need to know?" This was followed by a trip out to the workshop where many things were revealed to me. At the end of my first visit Albert presented me with a number of silver risers and gave me one of his little yellow embouchure gauges and said to me "Come back when you can make these angles". Well come back was some five years later and I had made a lot of progress but was still battling with all sorts of issues.



**Autographed book for my birthday in 1984**

I remember one discussion in particular with Albert about the influence of altitude on headjoints. In his view altitude had little effect and he stated he had sent heads to Mexico City and had not heard anything untoward about them. I told him of the difficulties numerous players had coming to Johannesburg and playing at 6000ft and he said he would chat to Bennett about that the next time Bennett came around (Bennett usually came around when he needed a bit of soldering done, according to Albert).

I remember long discussions with Albert on scales, and his referring to that he had developed schemas and that his original inspiration had been the Boehm schema, and that in effect what had happened, was that flutes were too long at any given pitch and had originally been developed for scales based on A435, and that his work had correctly proportioned the flute to whatever scale it had to be played at. Thus there are a number of 'Cooper Scales' at different pitches. In effect the flute became so much smaller. At my visit in 1984 he then gave me a copy of his book and the issues of the scale are found in the chapter called "Why a Flat Flute plays Sharp".

In my opinion what Albert had done was looked at the work of Boehm and when one examines the Boehm schemas one sees the relationship to the Cooper scales, and he had also looked at the measurements for the Boehm embouchure. These no doubt provided him with early inspiration but one only has to look at the flexibility, suppleness and accuracy of the Cooper scales to understand that he took the work initiated by Boehm into new dimensions and that while the measures may ostensibly have come from a Boehm size embouchure in terms of depth and shape, however look at the over-cut and the incredible sweep of the undercut to understand the levels of creativity which he brought to flute craft. We need to understand that while Albert was moving on in these areas most other flute makers and companies with much larger resources were slavishly copying old style embouchures and building flutes to be played at modern pitches which were originally designed to a Boehm 435 scale. The level of creativity and thinking displayed by Albert is nothing short of astonishing. Simply put, he changed the flute making paradigm, and the change of this paradigm, enabled the change of the flute playing paradigm. It is no co-incidence that Sir James Galway, who revolutionised the art of the flute, played on a Cooper.

My final visit to Albert was in 2000 when I went to London and had by then worked on developing different model headjoints in terms of the experimentation I do. I took six heads which had originally started out on the basis of the risers he had so kindly given me and he was very approving of my work and stated, "Not just anybody can walk around with a box of headjoints like this", this is the single biggest compliment I have ever received in flute making and it has encouraged me to continue.

In the technical articles of this site you will find a patent gained by myself for a headjoint design. Over many years I worked with different sizes of embouchures which had been given to me by Albert Cooper, but always came back to the 1982 sizes as making the most free head blowing headjoint with good colours. This headjoint then formed the basis for my further research in which I isolated the volume of the headjoint at 610mm<sup>2</sup>(unradiused meaning not undercut and over-cut, and I have found that headjoints within 10% of this volume perform superbly. An evolution of work done by the world's most influential flute maker; we walk in his footsteps.

I remember sitting around the table with Albert, and on the table he had two Brannen Coopers in their characteristic brown cases with brown case covers. We were

discussing the Broger mechanism and he very kindly allowed me to strip these flutes down and took me through the intricacies of the flute making involved.

When testing headjoints Albert used an old Haynes Commercial model which he would whip out and use to assess the instruments. His comment on this was that it had everything you wanted, and allowed him to assess heads to their full potential.

Along with the Haynes, Albert whipped out another flute which I think had a split G built on to it. My memory is unclear but it is possible this had been done to the Haynes. What this was, was an interesting mechanism with an extra trill key which allowed one to play the top G# perfectly in tune and without difficulty. It was a complex mechanism requiring balancing of springs and when I look at my notes after 20 yrs I'm not quite certain what he had invented. Possibly it would be interesting to walk in his footsteps and reinvent that.

Albert's workshop was amazing. It was a wooden garden shed without any power tools. It stunned me that the leading flutes in the world, and the headjoints were made in such simple surroundings. I was also stunned to see Albert using a treadle lathe. His comment was that he had every speed he wants, including the slow speeds. In later years I have been influenced by this as I find many machine tools run far too fast for some of the purposes flutemakers use them, and have invested a considerable amount of money in a bench motor with electronic speed control, and various chucks to achieve the slow speeds Albert got out of his old treadle lathe. As an aside, I once on holiday found a Singer sewing machine treadle which I intended turning into a treadle lathe. My wife however claimed it an as antique!

One of the most interesting sessions I had with Albert was in 2001 when he showed me the prototype of the orchestral model currently available from Brannen Bros. The orchestral model of course being a flute with open hole keys in the right hand and closed holes on the left hand side. The view is that the attack on the closed hole flute is better above G. What was particularly interesting is that Albert had taken the mechanism and tone holes from an old French flute, possibly built on the quiet by a Louis Lot or Bonneville workman but without a name, (workmen did this in those days) and had mounted this on a new tube. He noted that most of the "French flute brigade" would not be impressed by the fact that he discarded the tube and retained the mechanism, as they would have done exactly the opposite. In any event he gave me the tube, its case and the scale stick he had drawn for it, and this remains one of my most treasured pieces of Cooper memorabilia.



### **No Name French Flute**

At the end of my 2001 visit some of Albert's family came to tea, and I was treated to meeting some of the extended Cooper family. When I left, his niece walked me to the station. We chatted and I told her about her uncle's work. I had the impression that the family didn't quite understand that 'Uncle Albert' in their midst was the absolute genius of the modern flute.

I received a communication from Albert Honey in 2001 that Albert Cooper was retiring and that in part this was a consequence of his having to care for his wife Philomena in order to receive a grant from the Lambeth Council. While happy to care for his wife he was not happy about the reduced flute activity, and I find it sad that a genius of this level would experience material problems of this kind.

Raffaele Trevisani spent a weekend with me during May 2009; he had previously been in my workshop and as he had spent some time with Cooper in the 1980s and 90s, he had recognized what he saw. Raffaele brought a Cooper lip-plate to me which had been damaged many years before. Albert had replaced the lip-plate on the Cooper tube. The question was could this lip-plate be saved? On measuring the lip-plate I found that the embouchure hole was a deep Cooper and the other measures were a small Cooper. In other words it could get slightly shallower and slightly bigger without incurring any damage. I removed material from the top of the lip-plate whilst maintaining Albert's original profile and to achieve a head still within Cooper specifications but now mounted on a Michael Botha tube. Raffaele's comments on this were very positive and I am very pleased to have been able to re-build a piece of Albert's work to its original standards. I'm also very pleased that there is now a Cooper-Botha out there.



**Cooper rebuild - lip-plate soldered to the tube**



**Raffaele watching the cut**

**Raffaele Trevisani comments on Albert Cooper:**

I had the great privilege to know Mr Cooper after that I ordered a 9k gold Head joint from him and I went to London to collect it. It was in 1982 and I have been the first one to get a Cooper head joint in Italy! I remember that I had the opportunity to see him at work finishing my head joint and showing me all his tools and method of working. It was a great experience for me because at that time I was also experimenting works on flutes and headjoints mostly making big disasters and soldering lip plates on the kitchen fire!

I will never forget his kindness and of his wife that invited me to stay the night in their house before coming back the day after to Italy. This happened again when I went to London in 1986 to collect my second order of a 14K headjoint and to change a lip plate on one old silver head made by him in 1979 that I bought in Italy. I still keep these three head joints and will treasure them for their beautiful sound and for the perfect handmade work they show. I remember that one of his statements about a head to be good was ..."The loudest one is the best!"

**Raffaele Trevisani comments on Michael Botha:**

I was immediately very impressed by the work of Michael Botha because he combines the most advanced technology together with the real old system of making flutes of the greatest flutemakers like Cooper and Others.

I also have to say that it is a great pleasure to work with him because his ideas are very innovative and he is really very open to listen to comments and needs of the player. I am sure that he is on the right way and I can only give him my very best wishes for his work and waiting to try his new flutes!



**Raffaele Trevisani's collection of Cooper headjoints. Botha rebuilt Cooper is at the bottom of the picture.**



And a final tribute to Albert, please view the pictures of Sir James Galway's 14k Gold 'Berlin Philharmonic' Cooper. Consider that this famous instrument was built by hand, with no power tools, for the world's premier flute virtuoso. This level of craftsmanship and performance is staggering.

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***'Berlin Philharmonic' Cooper***

Photos: ***Courtesy of Raffaele Trevisani***

Flute: ***Courtesy of Sir James Galway***



**White Gold Cooper Head with thanks to Juergen Franz of Hamburg**