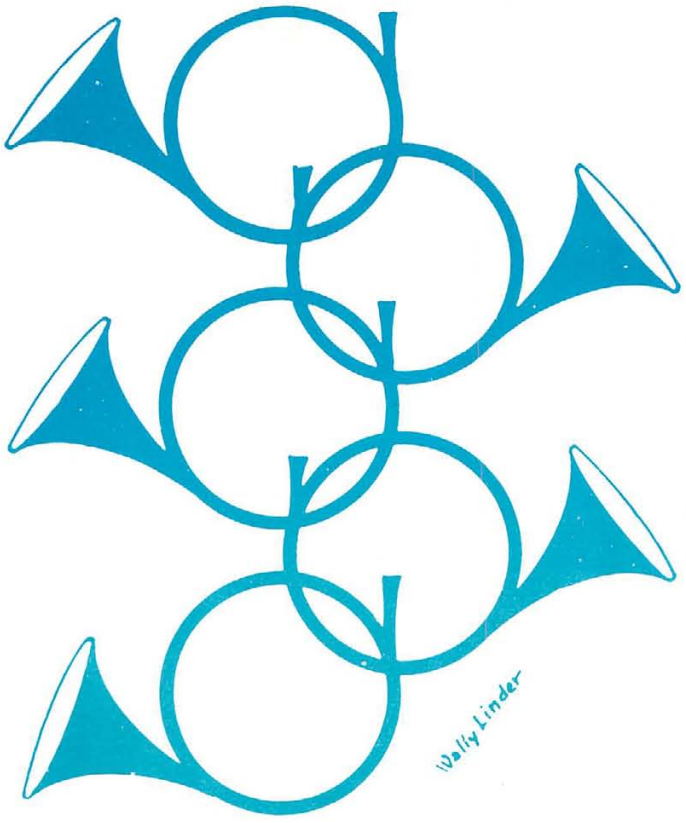
The Horn Call



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Internationale Horngesellschaft

La Société Internationale des Cornistes

Sociedad Internacional de Trompas

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Letters to The Editor

I want to submit this article by William Tuttle of Menomonee Falls, Wisconsin, for publication in the Horn Call. Bill is a student of mine since I moved to Milwaukee. He's a high school student, and a marvelous kid. He's very bright and really a pleasure to work with since he can play the lining right out of the horn.

He came into a lesson recently with this "mute" he had invented and when I tried it I found to my amazement and delight that it really worked. It also smelled nice! Feeling that if it delighted me so much, and since Bill is a member in every sense of the word of the International Horn Society, I asked him to write this up and told him I would submit it. Here 'tis.

For myself, and on his behalf . . . Enjoy!

Barry Benjamin
Milwaukee, Wisconsin

Our brochure for the Ninth Annual Horn Workshop will include a "Horn Auction" and since this activity is new to the workshop scene we thought you might like a description of it.

The auction will not be scheduled during workshop times (probably after all regular activities are over), and will not be physically part of the workshop. We have space at a private school which borders the University campus.

We thought the idea would have an attraction for persons wishing to sell or buy horns. This chance to see and play the horns up for sale seems to us at the same time a draw for the workshop and a service to the players who attend.

The application will clearly make the owners responsible for the instruments and the Society will not be liable for things such as theft, damage, etc. There will be a fee which will go to workshop expenses only.

We hope this service might become an integral part of the workshop picture.

James Jacobs
West Hartford, Connecticut

If news about horn happenings in studio recording sessions is interesting for publication, let me know. Maybe an article about the horn players heard on Television, in Motion Pictures and on records might be of interest.

The program enclosed was quite interesting. We started off the concert with Conch Shell signals across the Mall. (The ones we used in "Hawaii".) Then we played Alpine calls with the Alphorns, echoed by hunting and Post horns across the Mall, finally getting together for a hunting horn quartet, Rossini's "Fanfare and Chase". Turned out to be quite an evening!

Sincerely,
Jim Decker
Long Beach, Ca.

It is a pleasure to be a member of the I.H.S. and read all of the "Corni" news in the newsletter.

I thought you might like to see a copy of our last program, although it is a bit late.

One of our faculty, Dr. David L.

Walters, has just completed a new work for six horns and male chorus—a setting of Frost's "The Road not Taken". We will premiere the work later this spring.

Bayne Dobbins
Jacksonville, Alabama

I recently ran across the following proposals for the Schedule of Fees for Local 279, A.F. of M., London, Ontario. I was rather amused by them and thought the members of the I.H.S. might also find them entertaining.

DOUBLING

Proposal (12)

For each additional instrument played. . . 50 per cent over and above the minimum basic fee, including rehearsals.

Proposal (14)

Transposition: When a musician is required to transpose, each different transposition counts as a double.

Proposal (15)

Doubling fees apply even if a part requiring doubling is performed throughout on one instrument. Doubling fees can only be avoided by the total omission of the sections of that part requiring doubling.

Proposal (16)

Playing the cues of an instrument which is either (a) not present, or (b) tacet to avoid doubling, counts as a double for each different instrument cued.

Proposal (17)

When a musician is required to play more than one part (during a single musical number) or more than one book (during a musical production), each additional part or book counts as a double.

The above was obviously drafted by people who have no idea of what the job of a symphony horn player is like. But Union Boards being what they are I suggest that every horn player in the world put forth the same proposals. Who knows? It might just catch on and we would all become rich, Rich, RICH!!!

Steve Seiffert
Kingston, Ontario

Enclosed you will find a program from one of our recent Instrumental Clinic Concerts. You should note the presence of two I.H.S. members (Marvin Howe & myself). The *Prelude* is a stopped horn piece and was written for Dr. Howe as my response to his treatise.

Randall E. Faust
Winchester, Virginia

The interview with Tom Cowan in the November issue of the *Horn Call* was a synopsis of a very lengthy (albeit, pleasant) long-distance phone call. Your readers will appreciate that errors can easily creep in under these circumstances. In this case, the names of two of my colleagues in the B.S.O. horn section were inadvertantly omitted. In addition to the four mentioned in the interview (who will be

appearing at the Hartford Workshop), our section includes Ralph Pottle, our "walking horn," who can, and does, play any part with equal ease, and Charles Yancich, the associate principal, who has made life easier for solo hornists in the B.S.O. for over 20 years. My apologies, gentlemen!

Charles Kavalovski
Boston Symphony Orchestra

Thank you very much for your letter dated January 25th. I am very late in all my correspondence.

All my congratulations for the *Horn Call,* it's just great. All the articles are very educative and even one helped me a lot (Rebecca Root). I am sending you a letter of appreciation I received from a member that was ordering the Workshop Album. I know it's only a P.S. but it means a lot. *Encore une fois "felicitations".*

I am pleased to tell you that I have started back playing my horn. It's more encouraging, I will even play a short recital next Sunday with organ. Hope to see you soon, keep well.

Aimé Lainesse
Longueuil, Canada

P.S. I just received the latest "Horn Call" yesterday. I couldn't put it down and stayed up half the night reading it!

Joanne Field
Osage, Iowa

EDITOR'S NOTE

In the process of obtaining permission to reprint Robin Gregory's article a letter was sent to the Oxford University Press. It was sent on to Mrs. Gregory and we received the following letter from her.

The Oxford University Press has forwarded your letter on to me. They say they have no further rights in articles from "Music & Letters" after their first publication.

My husband died five years ago last October—very suddenly, in fact in the car park at Sussex University where he had been playing the horn with them for the first time. A wonderful end for him but a great shock to me and the family as he had not been ill.

I should be pleased for you to use the article "The Horn in Beethoven's Symphonies". I still take an interest in horns although I am not a musician, one learns a lot living with one for 30 years—though of course Robin was an amateur.

Among his papers I have found a letter from your Society in 1970 when Norman Schweikert was Sec/Treasurer. He also corresponded with Harold Meek who did not like the photo of himself in a sports shirt which appears in Robin's book "The Horn"!

Oddly enough I am at present rereading Edna Ferber's "Cimarron" about the early days of Oklahoma so had had the atlas out. Now I have found Durant too. The distances in the States are something we find difficult to imagine here.

Yours sincerely,
Margaret Gregory
Sussex, England

I thought that other members of the Society would be interested in hearing about our recent experiences here in Vancouver opening this season.

Our first concert was a double orchestra concert under Kazuyoshi Akiyama, our Music Director, combining the forces of another orchestra of his, the Tokyo Symphony, to kick off their North American tour. The one hundred and seventy-six piece orchestra opened the concert with Richard Strauss' *Festliches Praeludium fur Grossed Orchester und Orgel*. After each orchestra played individual pieces we closed the concert with an enthusiastic presentation of *Pictures at an Exhibition*. During the Tokyo Symphony's stay we did a 90 minute television special of the concert over a period of two days. The Canadian Broadcasting Corp. production will be broadcast next fall and is expected to be sold to a number of other countries for distribution.

Everybody had a great time talking about everything from mouthpieces and teachers to the cost of living. The Japanese payers all played Alexanders and were European trained while we all played 8-D's and of course, were trained in a North American school. They are all fine players and good musicians and I think we all learned a lot from this rare "East meets West" opportunity.

The photograph enclosed is the combined horn sections of the two orchestras.

Martin Hackleman
Vancouver, Canada

Vancouver and Tokyo Symphony horn players left to right are: Diane Dunn, Yuichi Tominari, Akira Tachibana, Satoru Umeda, Bruce Dunn, Ryo Koyama, Kazutoshi Takagi, Mike Wall, Shiro Miyata, Marty Hackleman, and Brian G'Froerer.

MANSUR'S ANSWERS

Notes from the Editor's desk

Here it is a beautiful spring morning in Oklahoma. The woods teem with the calls of the birds as the squirrels chatter and leap from limb to limb. Through the window I see a covey of Bobwhite quail on a foraging expedition. They seem to be as well organized as a military parade in slow march cadence with an incredible aura of dignity and grace. The Red Bud trees, in full bloom, slash the greening countryside with what must be the most vivid, intense, and indescribable color of God's palette.

Alas, the deadline approaches. The editor has a column to write and little time can be afforded to setting out Periwinkle and Creeping Dragon's Blood. But the annual spring break has arrived!! There are nine full days away from Academia! The Lord willing, there shall be time to feed one's soul among Nature's bounties and yet deliver Vol. VII, No. 2 to the printer within the allotted time.

It would be most ungracious to fail to express my gratitude and appreciation to so many of you who have written about Vol. VII, No. 1. I accept your congratulations in behalf of all the Contributing Editors and authors of articles. I but cut, paste, and proof-read as they determine the meat and merit of content. Most sincerely, we do thank you for your interest, your compliments and your criticism.

The actual printing of Vol. VII, No. 1 was somewhat traumatic. The printing firm was sold just before publication and the new owners were inexperienced with this type of production. Coupled with the editor's lack of experience there were several errors resultant. Through a misunderstanding, I attempted to include too much text per page. A second lay-out "dummy" was necessitated and the result was crowded and not as neat as could have been. An advertiser's address was omitted (corrected in this issue) and no opportunity was had to proof photo captions. The photos of Dale Clevenger and Vitali Bujanovski on page 16 should have been reversed. On page 17 the caption under the photo of M. Fournier should have read: " . . . Quintette de Cuivres . . . " There was one error of fact. I incorrectly stated that Bill Robinson was the first vice-president of IHS. That honor belongs to Wendell Hoss who was succeeded by Bill Robinson. In much of the issue there simply wasn't enough ink applied to the paper. It is most surely to be hoped that such errors do not recur and I am confident that these errors of displacement and poor judgment can be eliminated.

The stopped Horn question is discussed in this issue in an article offered by Christopher Earnest. It seems to be a masterful and thorough effort, logical and reasoned in concept.

Most of us are not mathemeticians or knowledgable in acoustical theory. Computations of formulae pertaining to "open" and "closed" organ pipes, "horn functions" or hydraulic pressures convey little information to me. (As an Engineering major I flunked Analytical Geometry and Differential Calculus twice each before hearing the call and becoming a Horn major.)

There are some strange incongruities, however, in the realm of musical instrument acoustics. The Flute, Oboe and Clarinet are nearly equal in length of air column. Yet, the Clarinet is a "stopped pipe" instrument (see Harvard Dictionary of Music) and can play nearly an octave below the lowest pitch of the Flute and Oboe. The Clarinet produces only odd-numbered harmonics and the register changes are at the interval of a twelfth and a major sixth, the registers built upon Tone 1, Tone 3, and Tone 5 of the harmonic series. This explains why a squeak on the Clarinet sounds so badly in contrast to the octave squeaks of other woodwinds. The inadvertant sound of a Clarinet squeak is a wrong note; the squeak of a Saxophone is usually a right note in the wrong octave.

The reeds and mouthpieces of the Clarinet and the Saxophone are quite similar. Yet, the Saxophone is an "open" pipe and can play both odd and even-numbered harmonics. Flute and Saxophone players sometimes practice harmonics by playing bugle calls with all pads closed producing the upper harmonics only by embouchre and breath adjustments. But, if a Clarinet mouthpiece is fitted to a Flute it becomes a "stopped" pipe sounding like a Clarinet, the pitch is lowered drastically, and a full scale is an impossibility.

The point to these observations of curious acoustical phenomena is that remarkably similar columns of vibrating air can behave in remarkably dissimilar ways. Certain small variables obviously can have a drastic effect upon the resultant sound. One such variable is the humanoid holding the Horn. Said humanoid's influence

simply will not compute. The "Why's?" of much acoustical data shall be left to the acousticians. When interpreted they become "Wherefores" for applications and resultants to be pragmatically utilized by those playing the Horn.

Who can aurally distinguish between a series of concert "f's?" Does one hear a tone 8 on the F Horn, a tone 9 on the Eb Horn, a tone 10 on the Db Horn or a tone 6 on the Bb Horn? Is there a machine that can discriminate infallibly between enharmonic sounds and certify irrefutably that a given tone is the 8th harmonic of an F Horn and it is not the 6th harmonic of a Bb Horn? I know of no such ultra-sensitive auditory contraption, but such a device could most surely listen to a stopped horn concert f' and reveal which harmonic is being played.

Until the advent of such a device, one's persuasion of which tone does what is irrelavent to performance practice. In the meantime we shall continue to stop the F Horn and correct the pitch by fingering a half-step below the indicated pitch, use a stop-valve for the Bb Horn, and use a whole-step downward correction for the high F deskant Horn. Echo-horn will continue to be effected by a half-step higher fingering correction on all Horns.

Jim Winter once remarked upon the peculiar magic about this instrument that has chosen us. He is so right! The beauty, the challenge, the controversy and the camaraderie of the Horn transcend the logic and reason of predictable formulae and discrete data. May it ever be so! *Vive la fraternité du cor!*

One of the dubious "fringe benefits" assigned to the editorship is the responsibility for all IHS bulk mailings. If, perchance a member should move, then that member's *Horn Call* is returned. Printed matter will not be forwarded by the post office. Every journal returned requires a return postage payment, mailing a first class request for new address, which the post office will forward, and a second mailing of the *Horn Call* when the member supplies a new address. The total cost involved will be 15 to 20 times more expensive than the initial mailing, not considering the cost in time and your delay in receiving it. If you move, PLEASE SEND A CHANGE OF ADDRESS CARD!

A project has begun which hopefully will result in reprinting the four out-of-print issues of the *Horn Call*. When available, a special package of back issues will be offered to libraries and members who desire complete collections. Watch for further details.

Included with this issue of the *Horn Call* is an enrollment form to renew memberships for 1977-78 and a brochure about the I.H.S. To be included in the next Directory one must submit the membership form and fee before Sept. 15, 1977. Early payment will make the Directory more useable and complete for everyone's benefit. Please pass the brochure on to a friend and encourage him/her to join I.H.S. Need more brochures? We shall supply you gladly.

With this issue, Suzanne Riggio is retiring from the post of Advertising Agent. She accepted this responsibility as the *Horn Call* began and served through the first

seven volumes with grace, wit, wisdom and efficiency. Well done, Suzanne! Thank you!

The Advisory Council requests that members interested in serving as Advertising Agent for the *Horn Call* submit their names to the Secretary, Nancy Fako. Some experience with advertising, journalism, and/or the music business would be helpful. The essential requirements are time, the will and ability to maintain correspondence and contact prospective advertisers, and a sense of humor.

The *New Yorker* magazine of March 14, 1977 contains an in-depth profile of I.H.S. president Barry Tuckwell by Winthrop Sargent. It is an excellent and thoroughly-researched piece of work in which Mr. Sargent has provided an insightful view of Mr. Tuckwell as an artist and a person and of the horn in history and performance. The International Horn Society and the fraternal spirit that pervades among us is mentioned prominently. This is recommended reading for all of us, and especially so for spouses and friends.

A new feature is being initiated in this issue: reprints of older and rare works about the horn from the past. There is a wealth of such work to draw from and we shall concentrate upon articles that are not generally available. Jeffrey Agrell, compiler of the extensive bibliography concluded in this issue of the *Horn Call,* and Douglas Hill, contributing editor, are the prime movers behind this feature. The process of obtaining permission to print an article or determining whether a work is in the public domain results in some most interesting correspondence. See the "Letters To The Editor" section for a sample.

Joan S. Byrne, author of "Moldau Journey," describes herself as a free-lance writer and photographer in the Los Angeles area, married to a horn player, the mother of a horn player, and one who in desperation has also tried to play the horn herself. Those in attendance at Montreux will recall young David Byrne in the Congress Hall hawking copies of the Fred Fox book: *The Essentials of Brass Playing.* He was also seen helping Morris Secon with books and labels. He is a student of Fred Fox.

Hornplaying in Finland

Mikko Hynninen
Helsinki, Finland

Finland is one of the northernmost and easternmost of the countries in Europe, one third of the country lying above the Arctic Circle. Our winters are very cold and dark, but our summers are lovely, the constant daylight prevailing for 73 days in the north of the country (Lapland). Our country is rather sparsely populated, the total population amounting to about 4.7 millions. There is thus plenty of room for everybody, even for horn-players in this beautiful country of pretty girls.

The starting point of our history lies more than eight hundred years back, when we were christianized by Swedish Crusaders and afterwards ruled by the Swedish Crown until 1809, when we came under the rule of the Russian Czar for more than 100 years, until we gained our independence in 1917.

Throughout our history the soil of South-East Finland, Carelia, has been the battlefield of arms and religions as well. Undoubtedly, this fact has decisively influenced our cultural inheritance. Kalevala, our national epic, has its origin in East-Carelia, and Carelianism is one of the key-words of our cultural history. Ever since the middle of the 19th century, when Finland began to struggle for its independence, Kalevala inspried many young creative artists, among those Jean Sibelius, the greatest name in our musical history.

The first Finnish composer to achieve international renown was Bernhard Henrik Crusell (1775-1838), being an outstanding virtuoso clarinet-player as well. He spent the main part of his life in Sweden, and thus the story of his career also constitutes an integral part of the musical history of Sweden.

The "Father of Finnish Music", Fredrik Pacius (1809-1891), was of German origin. He composed our national anthem in 1848 and also the first Finnish opera, "Kung Karls Jakt" (The Hunt of King Charles), in 1852.

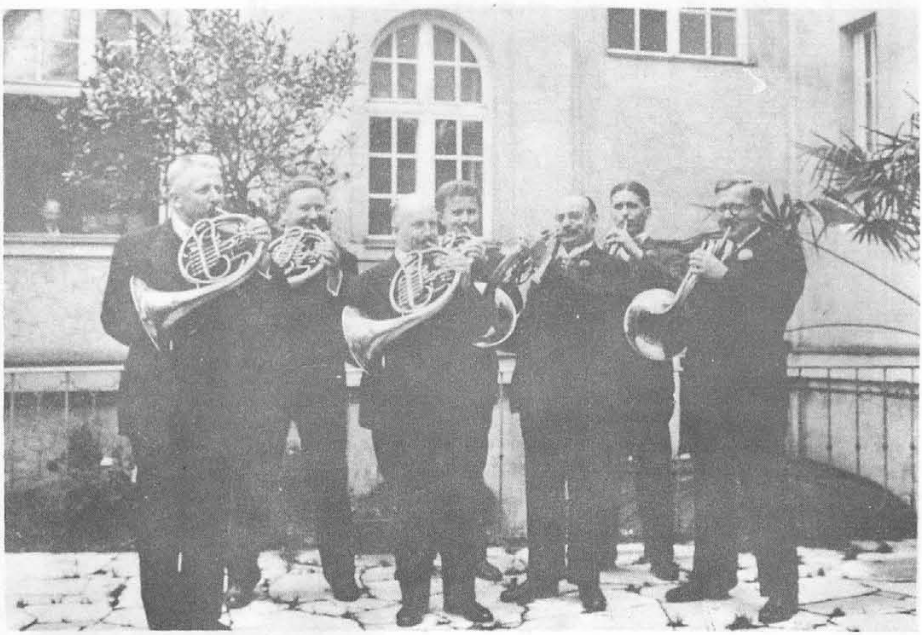
The oldest orchestra in our country, Musikaliska Sallskapet i Abo (The Musical Society of Turku), was founded in 1790. This ensemble was later on to become the present Turku City Symphony Orchestra. Turku was the capital of Finland until 1812.

According to the register of Suomen Sinfoniaorkesterit r.y. (The Central Organization of Symphony Orchestras of Finland), there are at present some 30 member orchestras. Some of them are rather small municipal or provincial orchestras, being sponsored and supported from governmental and municipal funds.

In our capital, Helsinki, there are three symphony orchestras: 1. The Helsinki City Symphony Orchestra (6 horns), founded in 1882 by the famous conductor and composer Robert Kajanus, 2. The Finnish Radio Symphony Orchestra (6 horns), founded in 1927, 3. The Finnish National Opera Orchestra (5 horns), founded in 1964.

There are also many active amateur orchestras and bands in our country.

The charter meeting of The Horn Club of Finland was held on December 16th, 1973, in Helsinki. Ever since the club has been very active. We horn-players were the first to start a club of this kind in our country. In accordance with our by-laws, regular club meetings are held at least twice yearly. Among the activities of our club I would like to mention a horn-seminar, held in Liminka, near the city of Oulu, in July 1975, with attendants from Norway, Denmark and U.S.A. Among the active teachers at that seminar were Vitaly Bujanowski of Leningrad, and Holger Fransman. In September 1975, our club published an illustrated monograph on our instrument in Finnish. Comprising 121 pages and published in 400 numbered copies, the monograph was written conjointly by five club members. A most remarkable event to come is the first National Competition of Brass Instrumentalists, taking place from November 29th, to December 4th, 1976. Our club has been entrusted with the organizing of this event and we are eagerly looking forward to it.



Famous hornists in Salzburg, Aug. 1931. From the left behind: Emil Kreuziger, Leopold Kainz, Holger Fransman. In front: Karl Romagudi, Christian Novak Jr., Karl Stiegler, Gottfried Freiberg.

Almost every country has among its horn-players their Grand Old Man, ours is professor Holger Fransman. Born in Helsinki, in 1909, he studied horn-playing with the famous Karl Stiegler, of Vienna. He played with the Helsinki City Symphony Orchestra from 1928 until his retirement in 1967, being solo-hornist from 1934 to

1967. For more than four decades (1931-1973) he also worked as a teacher at our national musical academy, The Sibelius-Academy. His influence on Finnish horn-playing cannot be overrated, it is thanks to him that we have, at present, so many skilled professional players in our orchestras. For his outstanding merits as musician, and teacher, he was awarded the honorary title of Professor, by The President of The Republic, in 1969. He was elected the first honorary member of our club in 1974. Wishing to express their gratitude for his outstanding career as musician and teacher, the Finnish horn-players had his portrait painted in 1973. The unveiling ceremony

The unveiling ceremony of Holger Fransman's portrait at the Sibelius-Academy in 1973.

took place on his 65th birthday and the portrait is now hung in a lecture-hall of the Sibelius-Academy. His being a pupil of Karl Stiegler has, without doubt, clearly influenced the sound-ideal of our horn-players, and thus, the continental, rather East-European, rich, dark timbre of horn sound is prevalent in our country. Being in good health, he is still a very active member of our club.

Our horn-players are mainly playing on full double F-B horns, B and F-deskants being used only occasionally. We have no horn-makers in our country, and thus, before the Second World War, most players used German-made horns, e.g. Kruspe, Knopf, Schmidt and later on Alexander. At present most of our players seem to prefer horns of American manufacture, Holtons, Conns and Oldses being in common use. To my knowledge, horns of French making have not hitherto found their way to our country.

Most of our professional horn-players have got their basic training at the Music School of the Finnish Defence Forces. This school, working in close co-operation with the Sibelius-Academy, has greatly contributed to the high professional standards of our hornists.

The brotherhood of horn-players have the same problems in common all over the world, for instance, struggling against the inherent difficulties of horn-playing not least against the Paper Tiger of the Cracked Note. We Finnish hornists greatly appreciate the activities of The International Horn Society. The society has already during its short existence contributed immensely to the international understanding, interchanging of experiences, and above all to the friendship among horn-players all over the world.

Holger Fransman in the midst of Finnish hornists at the unveiling ceremony of his portrait.

How I Saved $20.00, Freshened My Room And Made A Mute

William Tuttle

How would you like to make a simple, inexpensive transposing mute? It's easy! All you need is an empty Renuzit Solid Air Freshener container and a few household tools.

First, take the container apart into two pieces, a white part and a colored part. Remove the hardened core of the solid from the rod that is projecting from the base of the colored part. Next, take the colored part and cut out the bottom of it with a knife or a small saw. Once that is done, smooth the edge of the colored part from which the bottom was cut out. Discard the bottom of the colored part.

Now proceed to take the white part of the container and look inside it. You will see a white rod that is connected to the top of the white part. Use your finger to push out the rod and the top. (They should fall out as one piece because they are connected to each other.) Take the white piece that you pushed out and drill a hole through the part where the top is connected so that the hole coincides with the hole of the rod and make it the same diameter as the hole in the rod. Once you have succeeded in doing this, place the smaller white piece with the rod inside the larger white part, but make sure it is placed inside the opposite way from its original position. If you have done this correctly, you will see the white rod sticking out from the large white part. Put the colored part and the white part together and you are finished.

This mute is an excellent substitute for a brass transposing mute and costs much less.

* * *

Editor's Note: Many readers may recall that M. Georges Barboteu uses a plastic mineral water bottle for a non-transposing mute. There are probably many other possibilites for such usage.

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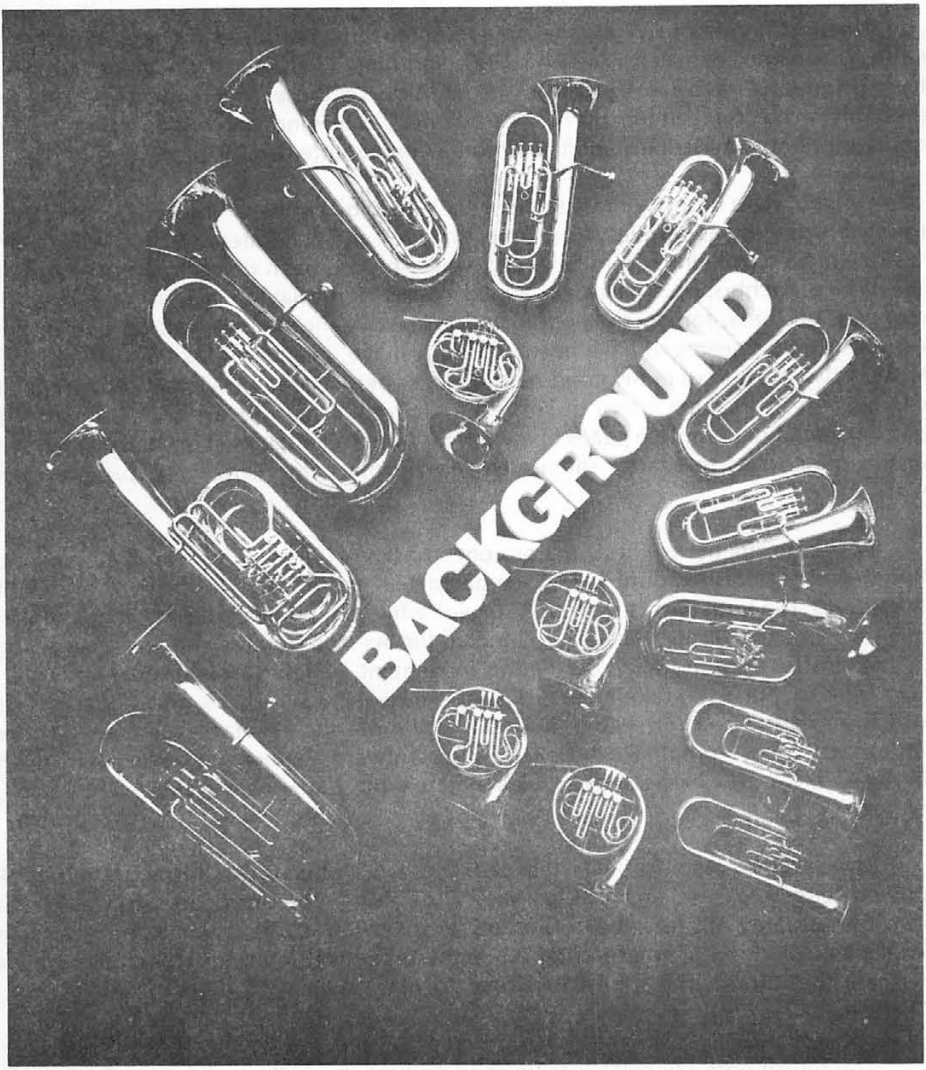

Editor's note: Although dealing with the same subject, the following two articles are diverse enough to merit printing in the same issue. The reader is referred to the article, "Leutgeb's Legacy" by James MacDonald in the Horn Call, Vol. 5, No. 2, Spring, 1975, pp. 29-35, and to other articles in Jeffrey Agrell's bibliography.

THE FOUR MOZART HORN CONCERTOS

Thomas Murray
Gainesville, Florida

Johann Chrysostom Wolfgang Amadeus Mozart composed his four horn concertos in Vienna, between 1780 and 1790, and most likely all of them for his good friend, Ignaz Leitgeb (or Leutgeb). In addition to these four concertos, Mozart probably wrote for Leitgeb the *Concert Rondo,* the wind and piano quintet, the quintet for horn and strings, and the *Sinfonia Concertante* (KV 297b).

Leitgeb was a hornist of rare talents, acclaimed by critics as one with a wonderful tone, able to "sing as perfectly as the most mellow and accurately pitched voice." In 1777 he moved to Vienna from Salzburg, where he had been first horn in the band of the Prince Archbishop. Here he added to his horn-playing activities a cheesemonger's business, for which Leopold Mozart (Wolfgang's father) put up part of the capital. Leitgeb seems to have been culturally naive, in spite of his musical talents. He was also the butt of many good-natured jokes perpetrated by Mozart, who said, "I can never resist making a fool of Leitgeb." (It is told that Mozart once brought the unnumbered but complete pages of a work for horn to Leitgeb's shop, throwing them in the door so as to scatter them all over the place for Leitgeb to pick up and reassemble.)

Both movements of the D major concerto (KV 412) originated in 1782, but the Rondo was not finished until 1787, then dated 1797 by Mozart. In the 1782 sketch of the Rondo, the horn part is marked "Adagio" while the orchestral accompaniment is marked with the usual "Allegro." Mozart further compounds the joke by giving Leitgeb instructions in Italian during this movement, which translate roughly thusly: "Go to it, Signor Ass—take heart—quickly—on your way—that's fine—courage—it will soon be over—idiot!—Oh! how out of tune—ouch!—alas—good work, poor little one—help!—breathe a little—forward, forward—afterwards it will go much better—ah!—a trill like a sheep's bleat—here's the end—Thank Heaven—enough, enough!"

The second concerto bears the dedication, "Wolfgang Amadeus Mozart took pity on Leitgeb, ox, ass, and fool, on March 27, 1783." The third concerto was begun in 1783, but may not have been finished until 1788 or 1789. Mozart's humor again appears in the Rondo, where, after a lengthy orchestral interlude concludes with a fermata, he informs the soloist it is time to play again with the simple direction, "Leitgeb."

The fourth horn concerto was finished on June 26, 1786, and written for Leitgeb

in red, green, black, and blue inks. Two versions of this concerto now exist, the shorter of which is probably the pure Mozart. It, along with the other two Eb concertos (KV 417 and KV 447) were first published as Nos. I, II and III in 1802 by Jean Andre at Offenbach, Germany. The D major took its rightful place chronologically as No. I in the official 1881 Breitkopf printing of all Mozart's works, a venture undertaken in conjunction with Kochel's complete listing.

Interestingly, in this 1881 Breitkopf publication, at the bottom of page 1 of the fourth concerto, is a note: "A revised setting of this concerto appeared in 1886 in this volume, as shown in the appendix." The appendix contains the elongated version of the concerto, with several runs up to the written high C and the trills on the written high F in the first movement, and added measures in all the movements. (The first movement was originally 175 measures long, but is 218 in the 1886 version.) No credit is given to the editor, but it could have been Henri Louis Adrien Kling, a versatile hornist and teacher of solfeggio at the Geneva Conservatory. He is also responsible for the Breitkopf piano-horn versions of the four concertos. Recent correspondence with two eminent musicologists (Dr. Gerd Sievers of Breitkopf and Haertel in Wiesbaden, and Dr. Wolfgang Plath of the Neue Mozart-Ausgabe in Augsburg) has failed to turn up any new evidence concerning authorship of this 1886 revision.

Since the copies of the autograph score, the 1802 first edition, and the 1881 official edition of this concerto are almost identical, there is little doubt the short version is the original, and the revised edition (whomever is responsible) is an attempt, and a good one, to improve on Mozart. This was a practice that most musicologists agree was commonplace during and after Mozart's all too short life span. (It now seems evident that Mozart wrote only the solo parts to the *Sinfonia Concertante* (KV 297b) for oboe, clarinet, horn and bassoon, and that the accompaniment was written by someone else, as the interludes take up more time, percentagewise, than Mozart was accustomed to using.) The 1886 revision is pleasant, very Mozartian, and only slightly more difficult to execute. In the original, the opening theme does not climb to the written high C, but goes only to the A, then descending in 16th notes. In the recapitulation, this is replaced with a triplet figure, ascending from 3rd space C to G. Only twice in the first movement does it climb up

to the written high C.

No matter whether you are purist or not; both versions are published. It may take some looking to find one close to the original, but worth it if your technique isn't the flashiest, or your trills the most rippling. Either way, they are much fun, all four of them, and still the mainstay in the solo hornist's literature.

THE GENIUS AND THE HORNIST

—Joel W. Duskin
Nacogdoches, Texas

The history of Mozart's four concerti for horn is the history of two men. The first, of course, was Mozart himself. The second was Ignez Joseph Leutgeb, a horn player who, like Mozart, was for a time in the employ of the archbishop of Salzburg. (Leutgeb was also a member of Hasse's orchestra at one time.)

On December 1, 1777, Leopold Mozart, writing from Salzburg to his son in Mannheim, said: "Herr Leutgeb, who has now bought . . . a cheesemonger's shop (the size of a snail's shell), wrote to us both after your departure, promised to repay me (a loan of money) in due course, and asked you for a concerto . . . " The work with which Wolfgang responded, five years later, was the first of four horn concerti, all written for Leutgeb and marking the expansion of a close personal relationship into a professional one as well.

The body of Mozart's letters also show that he and Leutgeb shared an uninhibited

sense of humor. Mozart could relax with Leutgeb and drink, laugh and behave like the lusty and playful man that he was. It is not surprising, then, to understand Mozart's intercession with his father, who had lent the money to Leutgeb for the purchase of the cheesemonger's shop. "Please have a little patience with poor Leutgeb," he wrote. "If you knew his circumstances and saw how he has to muddle along, you would certainly feel sorry for him. I shall have a word with him, and I feel sure that he will pay you—at any rate by installments." Thus it is not surprising that many mischievous comments decorate the scores of the horn concerti and contain a great deal of affectionate remarks for this cheesemonger. Leutgeb supplied Mozart with a sense of "home" that only a fellow Salzburger and friend of his youth could give him. Mozart supplied Leutgeb with a horn repertory—and immortality.

The score of the *Concerto No. 1 in D Major,* K. 412, is a good example of the mischievous comments and raillery that Mozart wrote on the horn part. Mozart imagines the soloist before him and embellishes the score with a running commentary on his supposed attempts at performance:

A lei Signor Asino—animo presto—su via—da bravo—coraggio—e finisci gia	Now, Sir Donkey!—with spirit—hurray—away—hurrah —courage—be done with it now;
(at a repeatedly recurring F-sharp)	
Bestia—oh, che stonatura—i!!—ohime	Beast—oh, what dissonance—Oh!—alas;
(when the subject recurs)	
Bravo poveretto!	Bravo poor little man!
(at a repeated D-flat)	
Ah, che mi fai ridere!—Ajuto!	Oh, how that mekes me laugh! —Help!
(when the theme reappears)	
Respira un poco! Avanti avanti! Questo poi va al meglio;	Take a breath! Onward, onward! This time it's going better;
(at a repeated C-sharp)	
E non finisci nemmeno? Ah, porco infame! Oh, come sei grazioso! Carino! Asinino! Ah, ah! respira! Ma intoni almeno una!	And don't you ever stop? Oh, infamous pig! Oh, how gracious you are! Beloved! Jackass! Hahaha! take a breath! At least try to sound one of them!
(at a short run)	
Ah. termina, ti prego! Ah, maledetto! anche bravura?	Oh, finish it, please! Oh, Damn it! another bravura?
(at a trill)	
Ah! trillo di pecore; finisci? Grazie al ciel! Basta, basta!!	Ah! bleat like a sheep; finished? Thank heaven! Enough, enough!![3]

"The *D Major Concerto* has survived only in fragmentary form, though the first and third movements exist in completely finished autographs (the first movement dated 1782, the third, formerly K. 514, 1787). It is certain that these two movements did not originally belong together; that can be judged from the dissimilarity in the instrumental allocation. No case is known of Mozart writing out the movements of a single work at such a long interval of time. The collacation of the two movements of K. 371 as the outer movements of a concerto has come about through custom. Einstein at one stage thought that the

autograph fragment in E major, K. Anh. 98a, might be the middle movement for this work. Although we have ninety-one completely worked-out bars in autograph form, Mozart, unfortunately, did not finish the task. Einstein, however, in his *Berichtigungen und Zusatze* (to his revision of Kochel), has rightly suggested that this fragment is not an Andante but the beginning (allegro) of another horn concerto, and has nothing to do with the D major work. That the rondo of K. 412 (386b), formerly K. 514, was written for Leutgeb, whom, as is well known, Mozart readily made the butt of his good-natured banter, is indicated by many marginal indications in his own hand."[4]

The *Concerto No. 2 in E-flat Major,* K. 417, bears a clear autograph: "Wolfgang Amade Mozart takes pity on Leutgeb, ass, ox, fool, at Vienna, March 27, 1783." The three movements are scored for solo horn plus an orchestra composed of strings, two oboes and two horns.

The *Concerto No. 3 in E-flat Major,* K. 447, departs from the format of the others in several ways, among which is the inclusion of two clarinets in the scoring. The actual date of its composition is subject to question and because of peculiarities of both the music and the manuscript, experts have been led to dates as far apart as 1783 and 1789. The relatively serious nature of the *Concerto* and the richness of its orchestral texture point to a new direction in Mozart's composition; indeed, the development of several dramatic episodes seems to foreshadow one of his most dramatic works, *Don Giovanni.* In commenting on the *Concerto,* H. C. Robbins Landon remarks that "Leutgeb's lips and fingers must have been pretty agile to cope with the D-flat melody that suddenly appears in the development of K. 447." The note D-flat is normally out of tune on the E-flat horn, and it must be "lipped up" to the proper pitch. Mozart's contemporary, the composer Dittersdorf, referred to Leutgeb as "among the rare virtuosos," so it is quite probable that, despite the absence of obvious humor in the manuscript, this *Concerto,* too, was intended for him.

The last concerto, No. 4 in E-flat Major, K. 495, was composed in Vienna and received its final touches and dedication on June 26, 1786. Specifically, Mozart called it "a Horn Concerto for Leutgeb". As in the earlier works, humor was also present in the score: this time the solo horn part is written in a variety of colored inks—red, green, black and blue. This obviously added to Leutgeb's problems of playing the valveless horn of this period.[5] Despite Mozart's pranks on behalf of Leutgeb, he remained loyal to his friend to the final days of his brief life. As the end grew near, the two were constant companions. It is significant that practically the only sparks of humor appearing in Mozart's letters during his last discouraging months are those found in his references to Leutgeb or Mme. Leutgeb. A note from Mozart to his wife Constanze in Baden in June, 1791, contains one of his last references to his favorite horn player.

Within six months, Mozart was dead, the bleakness of his last days lightened only by "Leutgeb, ass, ox and fool"—and friend.[6]

FOOTNOTES

1. Sheridan, Hope. *Mozart, The Four Horn Concertos* (liner notes), Mason Jones, hornist, Philadelphia Orchestra, Eugene Ormandy, conductor, Columbia, 6185.
2. *Ibid.*
3. *Ibid*
4. Mersmann, Hans, ed., *Letters of Wolfgang Amadeus Mozart,* New York, E. P. Dutton and Co., 1928, p. 57
5. Robbins-Landon, H. C. and Mitchell, Donald, eds., *The Mozart Companion, A* Symposium by Leading Mozart Scholars, New York, W. W. Norton and Co., Inc., 1969, p. 206.
6. Sheridan, *op. cit.*

ORCHESTRAL PERSONNEL PERFORMANCE STANDARDS AND ACHIEVEMENT CRITERIA

CONDUCTOR

Leaps tall buildings in a single bound,
is more powerful than a locomotive,
is faster than a speeding bullet,
walks on water,
gives policy to God.

CONCERTMASTER

Leaps short buildings in a single bound,
is more powerful than a switch engine,
is just as fast as a speeding bullet,
walks on water if sea is calm,
talks with God.

OBOE

Leaps short buildings with a running start and favorable winds,
is almost as powerful as a switch engine,
is almost as fast as a speeding bullet,
walks on water in an indoor swimming pool,
talks with God if special request is approved.

TRUMPET

Barely clears a Quonset hut,
loses tug of war with locomotive,
can fire a speeding bullet,
swims well,
is occasionally addressed by God.

BASSOON

Makes high marks on wall when trying to clear short buildings,
is run over by locomotive,
can sometimes handle a gun without inflicting self-injury, dog paddles
talks to animals.

SECOND VIOLIN

Runs into buildings,
recognizes locomotives two times out of three,
is not issued ammunition,
can stay afloat with a life jacket,
talks to walls, argues with self.

MANAGER

Falls over doorstep when trying to enter buildings,
says, "look at the choo-choo",
wets himself with a water pistol,
plays in mud puddles,
mumbles to himself, loses argument with self.

HORN

Lifts buildings and walks under them,
kicks locomotives off the tracks,
catches speeding bullets in teeth and eats them,
freezes water with a single glance,
S/he is God.

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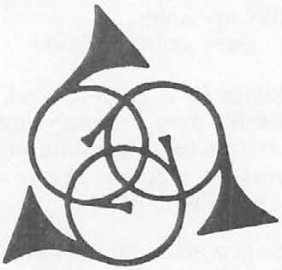

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THE HORN IN BEETHOVEN'S SYMPHONIES

By Robin Gregory

The difficulties confronting the horn player of the early nineteenth century and the handicap under which he laboured are commonly underestimated. The parts written for him at this time were beginning to break free from the restrictions previously imposed on them by the limitations of his instrument, before the instrument itself was ready for this expansion of its activities.

The players of Bach's day had practised a specialized technique—corresponding to the clarino technique of the trumpet—in which the extreme upper notes of the harmonic series were used. The natural horn (Waldhorn) had available only a very limited number of notes, except in its highest register. The fundamental was unobtainable, the seventh, thirteenth and fourteenth were flat, and the eleventh sharp. The flatness of the seventh and fourteenth, and to a lesser extent of the thirteenth, could be adjusted by altering the lip pressure, while the eleventh was treated by Bach as F or F# as required. Bach's parts were largely melodic and therefore pitched high, where conjunct semitones were available. This necessitated the utilization of harmonics up to the twentieth or even above, and the playing of these harmonics required very fine gradations of lip pressure.

Once this technique was lost, horn parts reverted to an harmonic role, and were almost entirely confined to the holding notes, repeated notes and successions of thirds, sixths and octaves which were the staple fare of the horn in Mozart's time. The day was soon to come, however, when the horn, willy-nilly, once again took up the role of a melodist, and this was a development in which Beethoven played a considerable part. Two factors enabled it to do this. The first was the invention of the crook, which came into general use about the middle of the eighteenth century. By means of this device the horn could be switched into any one of a number of different keys, and the composer could choose the appropriate crook to suit the key of his music, giving him a harmonic series based on a fundamental determined by the particular crook chosen. In addition, he could require the player to change crooks during the course of a movement. The second development, which was the natural result of a change in the diameter of the coils of the instrument which brought the bell within reach of the player's right hand, as the discovery in 1760 that the notes of the harmonic series could be lowered a semitone or a whole tone—though to some extent at the expense of the quality and character of the tone produced—by inserting the hand part or the whole of the way into the bell. This process, known as stopping, was carried out by introducing the open hand, with the fingers close together, a variable distance into the bell according to the amount of flattening required. Thus the player had to exercise considerable discretion in attaining the correct pitch, and the art of stopping—that is, of playing the hand-horn, as it now came to be known—was one requiring much skill. It was, in fact, a two-fold art; it consisted, first, in achieving correct intonation of the stopped notes and, secondly, in suppressing, as far as possible, the difference in tone-quality between the open and stopped notes.

Even then the alternation of open and stopped notes in a melodic passage of any rapidity was bound, however skilful the player, to produce an effect of uncertainty and unevenness. (There has been some confusion, in the past, between this device and the later discovery that it is possible, under certain conditions, to produce stopped notes apparently a semitone above the pitch of the open note. Stopping of this type gives more certain control, since the pitch of the stopped note is a clear-cut semitone above the open note and cannot be varied; but it seems certain that the old hand-horn players did not know of this technique.)

The device of stopping the horn was only slowly taken up, and it was not until Beethoven's time that it began to come into common use. The notes now available to the composer made a chromatic scale in the two upper octaves, but they consisted of notes produced in five different ways—open, half-stopped, slightly stopped and wholly stopped notes, and open notes corrected by lip pressure. In addition, the five semitones below the second harmonic, the so-called factitious notes, were also possible; but, requiring as they did an extremely loose lip were very difficult to obtain with any accuracy.

This, then, was the far from perfect instrument for which Beethoven wrote. In his book on Beethoven, Harvey Grace asks why he did not disregard the horn's limitations and trust to manufacturers and players to rise to the occasion in the course of time (as in fact they soon did). We should then be spared, he suggests, the comparative ineffectiveness of passages where Beethoven, modulating to a distant key, has to drop his brass till his return home. "The result is a lack of power when a climax occurs in a remote key, and too sudden a burst when the brass is resumed." But it is surely asking too much of a composer that he should write for an instrument that did not yet exist!

In his Symphonies Beethoven writes for one pair of horns only, except in the 'Eroica', where he adds a third, and the Choral, in which he employs two pairs. As a rule they are crooked either in the key of the movement or, if this is in the minor mode, in the relative major. The object of the latter proceeding was to enable the minor third of the key to be played as an open note rather than as the half-stopped E♭ which would be necessary if the crook used were in the minor. Beethoven adopts this procedure in the first and third movements of the Fifth symphony and in the second of the 'Eroica'; in each case the horns are crooked in E♭. If a major movement moves into the minor Beethoven will often use the half-stopped E♭ where Mozart would have dispensed with horns altogether, because there has been no time to change crooks. In point of fact, Beethoven very rarely indicates a change of crook during the course of a movement, even when such a change would be practicable. An exception is to be found in the first movement of the 'Eroica'; the first horn changes from E♭ to F to allow it to state a single phrase of the opening theme in that key, immediately after the second horn, in a famous passage, has prematurely enunciated the tonic chord of E♭ against the dominant seventh of the strings. A similar change is made for a similar purpose in the last movement—this time for a phrase of only four notes.

For the Larghetto of the Second symphony the horns are crooked in E in an-

ticipation of the appearance of the second subject in that key, but they change to A crooks when the movement modulates back to that key. On the face of it there seems no reason why the horns should not have been crooked in A at the outset, changing to E for the middle section and back again for the return to the original key, for this would have avoided the use of the sharpened eleventh harmonic as the tonic. There is usually a sound reason behind Beethoven's choice of crooks when this is not the obvious one. For instance, in the Andante of the Fifth symphony (main key A♭) he is willing to limit the horns to a few notes for most of the movement so that they may use their open notes most effectively when the second theme bursts magnificently into C major; and he therefore crooks them in C. A curious result of the inflexibility imposed on the composer by the fact that the changing of crooks was not an instantaneous process is found in the first movement of the same symphony. Since the key is C minor Beethoven pitches his horns in E♭ for the reasons already mentioned. In this key the horns are able to thunder out the opening of the second subject; but when this same figure recurs in C major in the recapitulation it is allotted to the bassoons, for the simple reason that the horns are no longer able to tackle it adequately in its new key, and there has been no time to change crooks.

It is not clear why, in the A minor Allegretto of the Seventh symphony, Beethoven puts his horns in E, since this involves considerable use of the half-stopped E♭ as well as the flattened eleventh harmonic. If, however, he had demanded the more orthodox C crook the player would be required to reach the

fifteenth harmonic, and make considerable use, besides, of the unsatisfactory fourteenth, so it is probable that he chose the lesser of two evils in a case where there was no really satisfactory solution.

The remaining exceptions to the general rule, "Crook your horns in the key of the movement", are more straightforward. In the Scherzo of the Seventh symphony the horns are in D, which again requires the use of the half-stopped E♭ for the tonic F, but he allows them to play an important part in the D major trio. In the Ninth symphony Beethoven uses four horns for the first time in the symphonies. In each movement he pitches one pair in the key of the movement; the other pair are in B♭ when the first are in D, and in E♭ when the first are in B♭, except towards the end of the last movement, when all four are in D. There are good reasons for this choice of crooks, for in each case the music modulates towards the key in which the third and fourth horns are pitched during the course of the movement. The most mystifying passage is the famous one for the fourth horn in the Adagio. The key has veered to C♭, and the fourth player is given a part which, if it were to be played on a hand-horn, would involve the use of a complicated series of half-stopped and wholly stopped notes, as well as some factitious ones, of a much more advanced character than anything else in the symphonies. A player of the hand-horn, indeed, might well protest that the passage was unplayable. It has been discovered that these passages were allotted to the fourth horn because Beethoven knew a player who possessed a primitive specimen of the two-valved Ventil-horn, on which such passages would be reasonably easy, except for the large leaps which are troublesome even to the modern player.

From this brief survey it appears that with one, or possibly two, exceptions Beethoven chose the most suitable crooks, having regard to the more widely modulating character of his music compared with that of Mozart and Haydn. On the other hand, he might well have made even better use of the horn had he been more adventurous in asking for more frequent changes of crook during the course of a movement. Later composers carried this process to extremes. Strauss, for example, at a time when valve-horns were universally used and the hand-horn was an anachronism, often demanded a change of crook without allowing time for this process to be carried out. There is no need for these changes; and the composer knows they will not be made—they would merely add to the players' difficulties. Before the advent of the valve-horn, however, such changes could often serve a useful purpose, especially in substituting open notes for the less satisfactory stopped notes. But Beethoven is rarely willing to take advantage of the slight increase in flexibility that this would have given him.

Beethoven's treatment of the horns in the first two symphonies requires little comment. In these symphonies he makes no use of stopped notes, except for one B♮ in the Second and a fairly frequent use of the flattened eleventh harmonic, F, in both. In this he was following Mozart's usage, and it is probable that it was not played as a stopped note. The parts are mainly confined to the tutti, and keep to the tonic and dominant for long stretches. To the modern player with an instrument of greatly increased capabilities they are apt to seem dull. There are no solo passages, and the horns are discreetly covered by other instruments the whole time—much

more so than, for example, in Mozart's 'Jupiter' Symphony.

With the 'Eroica' there comes a marked change. This can easily be demonstrated by attempting to play any of the horn parts without using the valves, or with the F crook with the first valve continuously depressed. Unless the player is conversant with the hand-horn technique he will quickly come to grief, and he will find, too, that his mistakes are not always covered by other instruments. The horns are used much more as melodic instruments, and this of necessity means that stopped notes must be used. In the Trio, however, where the three horns are playing unaccompanied for much of the time, Beethoven exploits their inperfections in such a way that no stopped notes are required until near the end of the second half, and then only sparsely. He does not scruple to write the fifteenth and sixteenth harmonics for the first horn in this Trio, but elsewhere does not go above the twelfth. Throughout the symphony the horns are written for either in three real parts or with two in unison or octaves and the third with an independent part. It is clear that it was unusual to find a symphony with parts for three horns (though four were becoming more common) from Beethoven's note on the title page to the effect that the third horn could be played either by a player specializing in the higher harmonics or by one used to the lower; and in general its tessitura does lie between those of the first and second horns.

In the more Mozartian Fourth symphony Beethoven reverts to a Mozartian style of horn-writing. The horns are employed mainly in the tuttis, and few stopped notes are used. Practically the only passage in which they are used independently is the four-bar coda to the Scherzo, in which they "blow the whole movement away", but keep carefully to their open notes in doing so.

The Fifth symphony makes greater demands on its horn players, and in accordance with the nature of the work their instruments are used more imaginatively than in the preceding symphony. Though they still perform their filling-up function in the tuttis they are used much more as melodic instruments than previously, and this without undue dependence on stopped notes. They add power and body to the woodwind when necessary, without any difficulty; occasionally they reinforce the strings, and they have their own striking solo passages. In this work the horns reach a fuller stature than they had previously attained as symphonic instruments.

This position is maintained in the Pastoral symphony. The first horn is allotted longer solo passages than in any of the preceding symphonies; for example, in the Trio of the Scherzo and in several places in the last movement. These solos are pitched on the high side, and therefore can be played mainly as open notes. The symphony ends with a solo by a muted horn, an effect which Beethoven had not used before and was not to employ again.

The horns are given a considerable amount of thematic matter (modified, where necessary, to suit the instrument) in the Seventh symphony, but here it is more often as members of a group—usually with the woodwind. This is especially the case in the first and last movements, though the middle two movements also make much use of the horns as melodic instruments. Once again the Trio stimulates Beethoven to an

imaginative use of the horn, this time in combination with clarinets and bassoons. The second horn has a curious passage where it wavers for some twenty-six bars between G (the third harmonic) and the half-stopped F# below, and earlier, in that part of the coda to the first movement which provoked Weber to uncomplimentary comment, it sustains a pedal-point on the written G below the second harmonic for twenty-two bars, a feat not easily accomplished even on a valved instrument.

The writing for horns in the Eighth symphony is rather more conventional, except in the Trio, where the horns, as so often before, play a most important part. Here Beethoven is more lavish in his use of stopped notes, and the second horn has an uncomfortable time in that unsatisfactory region between the sixth and eighth harmonics.

With the introduction of a second pair of horns in the Ninth symphony Beethoven enlarges his scope. Not only is he able to use horns in passages which have modulated to keys where his first pair are more or less helpless, but he can dovetail his second pair with his first in such a way as to enable a complete passage to be played on the open notes, the second pair taking over from the first when notes occur which would require to be stopped if played by the first, and handing back in turn when their own difficulties approach. This device was adopted and extended by Berlioz, who often crooks his four horns in three different keys. Beethoven employs it sparingly; in the tuttis he uses both pairs of horns whenever possible, often in three-part harmony, even at the expense of introducing frequent stopped notes. In general in this symphony these are used with less reserve; the minor third in particular, not being available as an open note on the horns pitched in D, is often used to reinforce the open note played by the B♭ horns. Apart from the florid part for the fourth horn in the Adagio, the melodic parts given to the horns are mainly of the harmonic as opposed to the chromatic type. They move more often by leap than by step, except when they are pitched high in the instrument's compass. A minor criticism of the writing for the first horn might be that it is pitched, in general, rather high, but in fact this is practically forced on Beethoven by the shortcomings of the imperfect instrument for which he was writing. A more valid criticism is that he occasionally expects rather too much from his players in encompassing sudden leaps, sometimes from the third to the twelfth harmonic. Difficulties of embouchure make such leaps a

hazardous affair, which only the invention of the double horn in F and B♭ alto has done anything to mitigate. The possession of a two-valved horn by the fourth player would have availed him little in coping, in the course of four bars, with successive leaps totalling two and a half octaves, followed immediately by another of two octaves. Such passages are not playable, even by the finest exponents, with any positive degree of accuracy. But these are mainly errors of calculation; and errors of calculation, as Tovey was so often to insist, are not defects of imagination.

Beethoven's writing for the horn as a member of the orchestra was undoubtedly an advance on anything that had previously been attempted. By his realization that, with the aid of stopped notes, it could be used as a melodic as well as an harmonic instrument he emancipated it from the leading-strings of the tonic-dominant type of part which was almost its sole orchestral function at the time he began writing his symphonies. He enlarged the horizon of the orchestral horn practically to the greatest extent possible before the invention of the valve; and though improvements in the construction and technique of the instrument came too late for him to exploit them, his demands on his players, requiring as they did almost a virtuoso's skill from each of them, may well have hastened the development of these improvements. There is no doubt, too, that they pointed the way for his immediate successors.

Beethoven has been called at once the last of the classical composers and the first of the romantic. In the sense that he was more concerned with the matter than with the manner, however, he was not a true romanticist; it was always the idea rather than the way in which it was clothed that was his main concern. He was not one to experiment with tone-colour for its own sake. Such developments in orchestration as he was responsible for were the outcome of his need for means of expressing a greater degree of emotional intensity; he enlarged the vocabulary of the horn because he had pressing things for it to say which it alone could say, not because he liked its tone-colour. The horn is the romantic instrument par excellence, but Beethoven was prevented from making full use of it as such by his own temperament and character as much as by its mechanical defects. There is more poetry and magic in Weber's three open horn notes at the beginning of his 'Oberon' Overture than in any horn passage of Beethoven's. Beethoven is fully aware of the vigorous bustling side of the horn's nature; he recognizes its nobility; but he fails to give due prominence to the quieter, more contemplative side of its character. It is interesting, though profitless, to speculate what he might have done with the valve-horn, though he has given us a small clue in the Adagio of the Choral Symphony. There is no doubt that he would have made full use of its greatly increased capabilities, but the feeling remains that even then he would have failed to exploit its genius to the fullest extent. To over-simplify matters: Beethoven stands for starkness, even austerity, only occasionally touched with tenderness; the horn, on the other hand, stands for richness, sonority, mellifluousness, and in the clash of personalities its gentler and more complaisant individuality is soon submerged in the fiery and tempestuous Beethoven.

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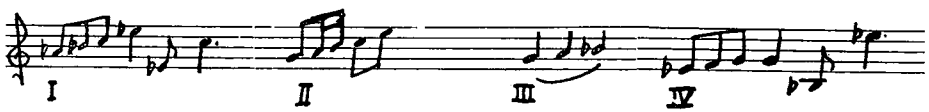
AN ANALYSIS OF BUJANOVSKI'S SONATA FOR HORN SOLO*

Gayle Chesebro

Sonata for Horn Solo was composed in 1974 and has a range from E-flat to c^3. Performance lasts almost ten minutes. The movements are as follows.

I. Moderato espressivo
II. Allegretto
III. Adagio
IV. Allegro vivace

This demanding work is dedicated to Hermann Baumann whose fine musicianship and flare for technical display make him well suited to the Sonata. The four movements are unified by the use of related thematic material in all movements.



Another unifying factor involves the inclusion in each movement of passages of meandering pitches, seemingly chosen at random and not following the otherwise harmonically conservative material. These passages, usually in eighth notes marked with a crescendo and diminuendo on each pitch, provide continuity between movements as they become more harmonically lucid as the work progresses. The effect is similar to the pieces of a jigsaw puzzle being formed into an image. These "random pitches" can be located in the following places: I, measures 34-37; II, measure 35; III, measures 26-28 & 34; IV, measure 58.

The sonata form of the initial movement is easily detected by the contrasting tempo markings given for the A theme, B theme, developmental passage, and the recapitulation of the A and B themes. The primary resources used in this movement include a large range of pitches and dynamics, contrast between triple and duple rhythms and meters, and varying tempos.

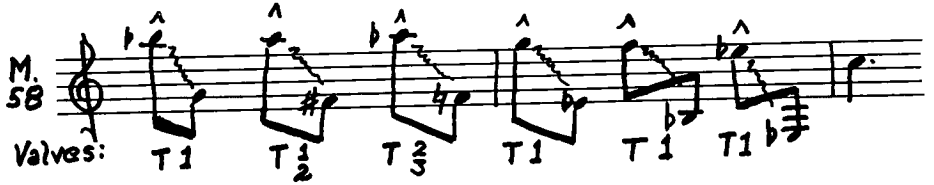
The Allegretto movement, in ABA form, contrasts articulated motives and slurred arpeggios in the A sections with a lyrical melody in the B section (measures 16-25).

It is interesting to note that the "random pitches" occuring in measure 35 are notated in half notes creating a more obvious visual and aural distinction from the shorter rhythmic values of other material in the movement.

The Adagio begins with a horn call figure which appears later as a diminished seventh rather than the original perfect fifth. Conjunct melodic lines form the main portion of the movement. The "random pitches" are more integrated into this movement and give impetus to the brief cadenza in measures 26-28.

In the final movement, references are made to both themes of the first movement——the A theme beginning in measure 63 and the B theme beginning in measure 21 and measure 66. Rhythmically derived from the first movement is the prominent use of the triplet eighth notes contrasted with the duplet figures. Rapid technique abounds, subsiding as the work concludes with a lessening in rhythmic activity and dynamic level.

Some of the unusual techniques found in this score include flutter-tonguing, stopped and muted passages, and double stops (given as a variant). Throughout the *piu mossso* section in the first movement and similar phrases, accuracy is less important than the effect of excitement and rapid technical display. In the final movement, the descending glissandos can be fingered as follows.



*Many may recall the exciting performance of this piece at the Seventh Annual Horn Workshop in Magog by Frøydis Wekre.

THE HORN: Stopped, Muted, and Open

Christopher Earnest

1. Why Another Article on Stopping?

Many articles and even books which discuss stopping of the horn have stressed the fact that a stopped note can be derived smoothly from above, by gradually closing the hand. While true, this has led many authors to what I believe to be an incorrect explanation of the effects. Examples are the book by John Backus (2) and the article (8) by B. Lee Roberts in the May 1976 Horn Call. The latter references the Schrodinger equation to awe the uninitiated, but it rests essentially on the one basic piece of evidence.

Other evidence appears in the article (1) by Dr. Aebi in the same issue of the Horn Call. His graphs of the actual standing waves clearly show what happens, if interpreted correctly. Dr. Aebi does mention the derivation from above, but correctly numbers the harmonics to show that this method changes the harmonic. Another piece of evidence is that a stopped note can also be derived smoothly from below, using a procedure described by Birchard Coar (5) The whole bell is covered by a pad at the rim (which doesn't change the pitch), then the pad is gradually moved in to the full stopped position. The farther in the pad is moved, the higher the pitch goes.

The smoothness of derivation, then, doesn't get us very far. It can be used to show that stopping lowers the pitch, or that it raises it. Clearly, though, the final form of the standing wave must be the same no matter which route one takes to get there. Any complete explanation must show how both derivations work, and how they lead to the same final result. The correct explanation, as I will show, is that stopping makes the horn function as a pipe closed at the bell end (also), and shortens it, as many authors have claimed.

I hope the reader will forgive one more article on stopping. The discussion is beginning to take on something of an angels-on-the-point-of-a-pin flavor. However, there is some danger that players will be misled into trying to use inappropriate fingerings for stopped notes, especially the higher ones, based on a misconception of the physics. Moreover, a correct explanation may conceivably help improve techniques of both open and stopped horn playing. I admit also that search for the correct explanation interests me in itself. Anyway, an issue of the Horn Call wouldn't be complete without at least one article on stopping. Let's keep at it until we get it right!

2. The Basic Physics

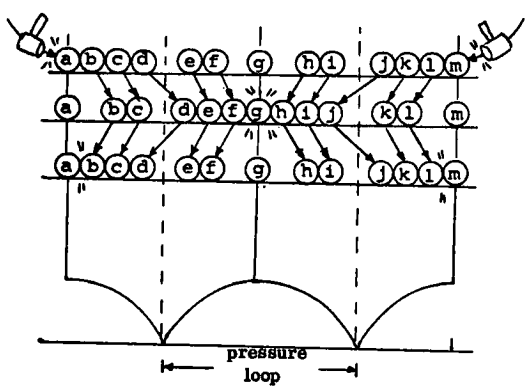
It seems best to start with a brief review of the basic physics of sound waves and standing waves. A sound wave travels through the air (or other medium) by longitudinal propagation. The crest is a region of compressed air, in which the

molecules are moving chiefly in a certain direction. They bump into the molecules in front, stopping their own motion, but conveying the forward motion to the adjacent molecules. This is rather like a rear end collison. The compressed region moves forward, as the moving molecules are pushed into those further forward. The wave action is not a wind—only the wave moves, while the molecules move only back and forth. (The blowing of a horn serves only to make the lips vibrate; the blown stream of air moves much slower than the sound wave, and has nothing directly to do with it). As the compressed region moves forward, the momentum of the molecules creates a rarefied region behind it—the wave trough.

A standing wave, as in a pipe or horn, results from sound waves moving simultaneously in both directions. When two crests collide, they bounce off each other, each giving its energy to the other, so the wave motion goes further in each direction. This works much like the toy with balls hanging next to each other on threads. If one raises, say, two balls at each end, then lets them go simultaneously, each pair will hit the balls in the center and will knock back the two balls at the opposite end. In a standing wave, the crests of opposing waves always meet at the same points, called *nodes*. At a node, the displacement of the air molecules is zero, just as for the balls in the center of the toy, but the pressure change—called the *sound pressure*—is at a maximum. The air pressure is highest when the two crests meet; as they recede, it drops to a minimum as the two troughs meet. The energy in the two waves need not be the same, just as, in the toy, releasing two balls on one end and three on the other will drive out three and two balls, respectively, on opposite ends.

Between any two adjacent nodes, there is an *anti-node*. Here the crest of one wave always meets the trough of the wave going the other way. At an anti-node, the air pressure changes the least, but the displacement of the air molecules is greatest. They rush first in one direction, then the other (the total displacement is very small, however). The sound pressure at an anti-node, while at a minimum, is zero only if the opposing waves have equal energy. The area between two adjacent nodes is called a *pressure loop*.

The principles of a standing wave can be illustrated by balls rolling on a track. One full cycle looks like:



Nodes are shown by solid vertical lines, anti-nodes by dotted lines. The graph at the bottom shows the density (pressure) *change* at each point. At the start of the cycle, enough force is applied at each end to drive loose 3 balls—b, c, d, and j, k, l. Each group of three hits the next stationary group, driving three balls out the other end. For example, b, c, and d hit e and f, driving d, e, and f on and leaving b and c behind. When d, e, f and h, i, j hit g from opposite directions, each group transmits its energy to the other, driving it back again. This presumably rattles g's eyeteeth a bit, but it doesn't move. The other half of the cycle is just the same in reverse; when b, c, d and j, k, l hit a and m respectively, the cycle will repeat if a and m are anchored in place or if the outside force is again applied at each end.

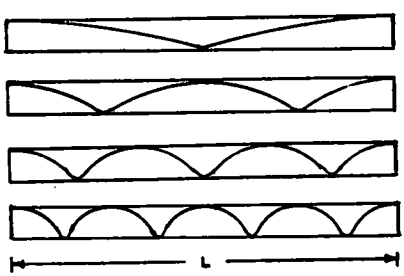
Observe that the balls at the nodes (a, g, and m) don't move. Those in the vicinity of the anti-nodes (d and j) move farther than any others. When the crests are meeting at a node, the two troughs are always just meeting at the adjacent nodes on both sides, and two crests again at the nodes adjacent to those (if there are that many nodes).

3. Open and Closed Pipes

Normally a standing wave arises when a wave is reflected back in some way. For example, in a pipe with closed ends, each wave crest bounces off the end, and is reflected back as a crest. If the wave length is just right for the length of the pipe, reflection occurs at both ends, setting up the standing wave, or in other words, causing the air column in the pipe to resonate. The reflection points are at nodes of the standing wave.

The open end of a pipe can also reflect back a wave, but differently. At this point, the pressure of a wave trough is normally below atmospheric pressure, so as the trough reaches the end, air molecules from outside are pushed by atmospheric pressure back into the rarefied region. A trough reflects back as a crest and vice versa. The pressure does not change, but air molecules rush rapidly in and out. The reflection occurs at an anti-node of the standing wave. A reflection from an open end has less energy than the outgoing wave. Energy not reflected back is radiated into the atmosphere, creating an audible sound wave. If the standing wave is to be maintained, the lost energy must be replaced by pulses at the proper times. In a brass instrument, the vibrating lips do this.

A standing wave can have multiple pressure loops, so that there is more than one mode of resonance in a pipe. The modes for a pipe closed at both ends are:



No of pressure loops

1

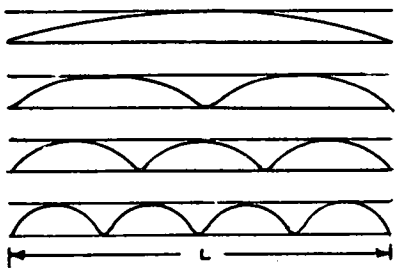
2

3

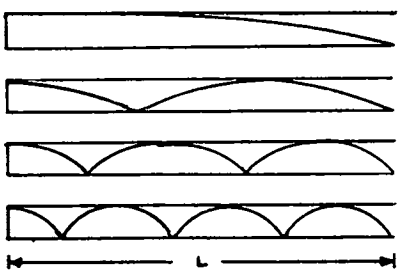
4

and so on. (As will be seen, it is not a coincidence that this resembles Dr. Aebi's Fig. 1 for muted or stopped horn). The pipe contains 1, 2, 3, 4, etc. pressure loops. Most readers are probably aware that this gives natural resonance frequencies, or harmonics, of 1, 2, 3, 4, etc. times the fundamental frequency. A little algebra pins it down: For a cylindrical pipe, the length of one pressure loop is the length of the pipe divided by the number of loops: p equals L/n. The wave length is twice the length of one pressure loop, because the crest must traverse the loop in both directions for a full cycle: W equals 2p, or substituting, W equals c/W, or again substituting and rewriting, f equals n (c/2L). Hence the harmonic frequencies for a cylindrical pipe closed at both ends are (c/2L), 2(c/2L), 3(c/2L), 4(c/2L), etc.

A pipe open at both ends has the same harmonics, but the pressure loops are offset by half a loop. The ends are at anti-nodes:



The resonance modes for a cylindrical pipe closed at one end and open at the other are:



$f = n(c/2L)$

$f_1 = \frac{1}{2}(c/2L) = c/4L$

$f_2 = 1\frac{1}{2}(c/2L) = 3c/4L$

$f_3 = 2\frac{1}{2}(c/2L) = 5c/4L$

$f_4 = 3\frac{1}{2}(c/2L) = 7c/4L$

and so. (Again, note that this looks rather like Dr. Aebi's Fig. 1 for open horn). Here the pipe contains ½, 1½, 2½, 3½, etc. pressure loops, giving harmonics which are 1, 3, 5, 7 times the fundamental. The algebra is shown above. Because this kind of pipe contains only half a pressure loop for the fundamental, its fundamental is an octave lower than that of a pipe of the same length closed at both ends or open at both ends.

4. More Complicated Reflections

The horn is basically a pipe closed at the mouthpiece end by the player's lips and open at the other (if not muted or stopped). How then does it produce harmonics at multiples of approximately 2, 3, 4, etc. times the pedal tone frequency, rather than 3,

5, 7, etc.? The answer is the shape: for a tapered pipe, there are additional ways in which reflection can occur.

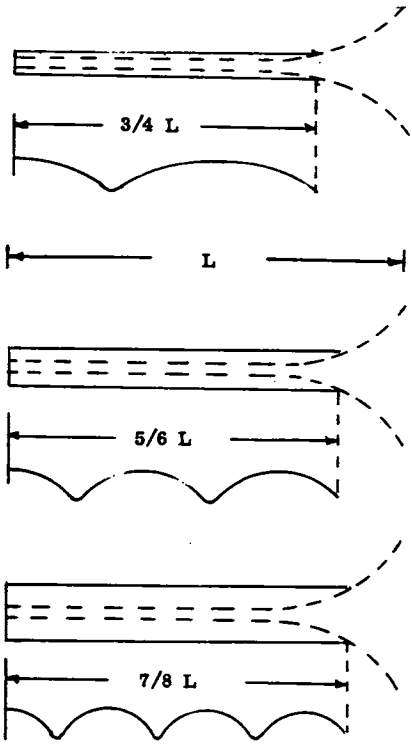
A wave crest is not a single thin sheet of compressed air. In a cylindrical pipe, the pressure gradually rises from trough to crest and drops off again until the next trough—the crest can be thought of as an entire region, half a wave length long, with pressure gradually mounting, then falling again within it.

Now consider a cone, complete to the point. As a wave crest approaches the point, its pressure must rise because of the decrease in the size of the pipe. As the forward part of the crest squeezes into the point, its pressure rises more rapidly than that of the crest peak, which is also being squeezed, but is always in a larger section of the pipe. By the time the peak of the crest is half a pressure loop away from the point, the pressure all the way forward to the point is the same. The crest therefore, bounces off itself, as it were, at what amounts to a closed end—closed by the pressure of the forward part of the crest. The point of effective closure is at different places for different frequencies. As it works out, the harmonic frequencies and the positions of the standing wave nodes are the same as those of a cylindrical pipe of the same length open at both ends. The point of the cone doesn't act like an open end, but it does in effect close the pipe off at different points for different frequencies.

For a pipe which flares rapidly enough at the open end, like a horn, a similar but inverted effect occurs as a crest approaches the open end. At an open end, a crest normally "runs interference" for the following trough. The atmospheric pressure outside cannot rush in to fill in the trough (creating a reflection) until the crest, which is at higher pressure, leaves the pipe. However, as a wave moves into the flare, the pressure drops as it expands to fill the extra space. If the flare is rapid enough, the pressure of the crest drops so much that it can no longer protect the following trough. The atmospheric pressure rushes in to fill the trough while the trough is still well inside the pipe, and the standing wave reflection starts back from that point. The rest of the pipe has no effect on that particular standing wave (although it does affect any overtones). Just as for the small end of a cone, the effective end of the pipe occurs at different points for different frequencies—farther in for lower ones. Essentially, the governing factor is the growth in the size of the pipe between the trough and the preceding crest. In a steadily flaring pipe, this growth is greater over a longer distance—that is, for longer wave lengths.

If the bell flares at the correct rate, the harmonic frequencies and the positions of the standing wave anti-nodes are very close to those of a cylinder of the same length closed at both ends. For the bell, though, the last node is missing; the last anti-node determines the effective end of the pipe. The amount of energy radiated into the atmosphere depends on the size of the radiating area, and so is less for lower frequency notes, because they radiate from well inside the horn. The effective end of the pipe for the 2nd, 3rd, 4th, etc. harmonics is approximately 3/4, 5/6, 7/8, etc. of the way down the horn. In other words, one could chop off approximately the last quarter of the horn and still play the 2nd harmonic at the same pitch! The horn behaves very much like a sequence of cylindrical pipes of different lengths and

different bell areas for different frequencies:



$$f_2 = 1\tfrac{1}{2}\,\frac{c}{2\,(3/4\ L)} = 2c/2L$$

$$f_3 = 2\tfrac{1}{2}\,\frac{c}{2\,(5/6\ L)} = 3c/2L$$

$$f_4 = 3\tfrac{1}{2}\,\frac{c}{2\,(7/8\ L)} = 4c/2L$$

This is somewhat oversimplified. Rapid growth in the bore size in any part of the horn also increases the wave length and the speed of sound in that region. The effect is minor, however. The most important effect of the bell flare is that it gives close to the proper harmonic series, except for the fundamental. (The flare starts after the halfway point, so the fundamental is quite low, as others have noted. There exists a usable pedal tone at the desired frequency, because of the resonance of the overtones).

5. The Muted Horn

Muting the horn closes the end. There is some leakage around the mute (otherwise no sound would be heard), but the waves of all frequencies now travel all the way to the end of the mute, whence they are reflected back *at a node*. The open and muted horns produce the same frequencies, but in a different manner. This is no accident—the shape of the bell flare is designed to give the open horn the same harmonics as a pipe closed at both ends. Insertion of the mute simply adds on half a pressure loop in the region that was effectively cut off by the bell flare, changing the shape of the air column only at the very end. The harmonic number does not change—for a given harmonic number, a closed pipe always has half a pressure loop more than a pipe open at the end, as the earlier illustrations showed. Because the

mute reduces the rate of expansion and the area of radiation, the wave crests can now successfully protect the following troughs all the way to the end even for the lower frequencies.

Most of this is clearly shown by Dr. Aebi's diagrams, except for the last anti-node reflection point for the open horn. The sound pressure continues to drop all the way to the end of the horn; the last part is apparently due to overtones. Note that whatever the differences in wave lengths inside the horn, the time between wave crests is the same at every point. Hence it doesn't matter that with a non-transposing mute, the radiation into the room occurs before the final reflection point. The wave crests are like punctual trolley cars; they come every so often whether one is at the end of the line or not.

This also explains why higher notes are more secure muted than open. The area of radiation is much smaller with the mute in, so more of the energy reflects back to reinforce the vibration of the lips.

Even with the horn open, proper placement of the hand makes higher notes more secure by reducing the radiation and increasing the reflection. This is not to say that the wave bounces off the hand when the horn is open, only that the area of radiation is reduced. Closing the hand more gives a darker and finally a muffled sound because it cuts down the radiation of higher frequency overtones. The lower ones are still radiated from well inside the horn, until the hand is closed quite far.

6. The Stopped Horn

This brings us finally back to hand stopping. The physics of the derivation from below should now be clear. A pad over the end of the bell has the same effect as a non-transposing mute: the horn is now closed at both ends, but the pitch doesn't change. As the pad is gradually moved in, the horn is shortened, raising the pitch.

The derivation from above is more complex because the harmonic changes. For a low note, partial closure of the hand reduces the area of radiation, making the horn more like a cylinder. The last (anti-node) reflection point moves out to the heel of the hand, lowering the pitch. Once the reflection point is at the heel of the hand, for any note, further closure increases the rate of expansion just at that point, slowing down the wave. That is, the wave takes longer to pass in and out because of the increase in acoustic mass. It can't go as far between pulses, so the last half of the last pressure loop gets shorter and the last node moves farther out, lengthening the inner pressure loops and lowering the pitch (the speed inside the horn doesn't change). Finally the last node moves so far out it reaches the hand. At that instant, the horn begins to behave like a closed pipe for that frequency and all higher ones—the reflection is now from the hand at a node, not the atmosphere at an anti-node. The relative harmonic of the stopped note changes, because the last half of the pressure loop has been pinched off. The n-1st harmonic of a closed pipe always has ½ pressure loop less than the nth harmonic of an open-ended pipe. Once this happens, the pitch goes down no farther; the node reflection point remains right at the hand, no matter how much farther it is closed. This is why the flattening stops at about ½ step above the next lower harmonic—a fact not explained by the pure lowering

theory. One is in fact *playing* the next lower harmonic, a half-step higher because the hand shortens the horn.

The hand actually shortens the horn by only 5 or 6 inches, as compared with the non-transposing mute. The second valve for an F horn, though, adds more than 8 inches of pipe. The difference is apparently due to the fact that stopping cuts off more volume and therefore, more acoustic mass from the air column; the volume is more pertinent than the length.

This can all be checked by experiment, and the pinching off of half a pressure loop is very clearly shown by Dr. Aebi's diagrams. Apparently no one has noticed that the harmonics are brought into closed mode one by one, starting at the top—perhaps because for the middle and high notes, it happens while the hand is still somewhat open, before the sound takes on a real stopped quality. For instance, when starting with the 6^{th} harmonic (middle C, concert) there comes a point when the played frequency is still in a ratio of 6/5 with the next lower harmonic, but 5/6 with the next upper one! (It is harder to check harmonic ratios going upward, but it can be done by counting how many it takes to make a fifth, for example). The note is functioning as the 6^{th} harmonic with respect to the still open ones below, but as the 5^{th} harmonic in the closed series above. This explains why low notes are so hard to stop—the last node has to be pulled out one heck of a long way before it reaches the hand; to start with, even the last anti-node is well inside the horn. It takes a lot of closing to stop a low note.

This explanation also shows what would happen to the fundamental if it could be played and stopped—the pure lowering theory would seem to require that it be lowered to zero Hertz, or perhaps a half step above that (?!) In fact, both the first and second harmonics would end up at the same pitch—a half step higher than the pedal tone (a major seventh below the original second harmonic). The original fundamental has no pressure node to be pulled out, so the closure of the hand must create a new one. The second harmonic does have a pressure node which is pulled out as far as the hand. This should make it crystal clear that reaching the stopped mode from above changes the harmonic for all except the fundamental—the 1st and 2nd harmonics end up the same. I have tried this on a very short horn I have, closing it off at the very end, and the effect is as described—the first harmonic doesn't move (on this particular horn, the flare starts quite early, so the first harmonic is true), but the second is lowered an octave to join the first.

7. Some of the Math

Some of the above effects are described quantitatively by the so-called Webster horn equation, actually first derived in the 18^{th} century by Daniel Bernoulli, Euler, and Lagrange. I have explained as much as I could without using the equation, to make the effects clear to the non-mathematical reader, and to avoid traps of reasoning. Functions do not reflect waves—the atmosphere, hands, and mutes do. Moreover, the Webster equation does not describe the physics exactly [7], and the simplified form I will use here assumes an increasing radius throughout the horn. I will use the Schrodinger form as presented by Benade [3,4] ; a similar form was

derived at least as early as 1945 by Salmon (7). The equation gives the wave length as a function of the horn profile:

$$\lambda = \frac{c}{\sqrt{f^2 - U\ (c/2\pi)^2}}$$

Where: λ is the wave length

c is the velocity of sound at that point (it varies somewhat throughout the horn)

f is the frequency

U is the so-called *horn function*, defined as

$U = r''/r$, Where

r is the radius of the tube at that point

r'' is the second derivative of r with respect to length; it is the acceleration in the change in size of r. Benade points out that r'' is approximately equal to 1/R, where R is the external radius of the bell flare at the given point.

As the value of U increases, the wave length becomes larger, and the speed of sound increases for a given frequency. If U becomes large enough relative to the frequency, the wave length becomes imaginary—that is, $c/\sqrt{-k}$.

Physically, this means that the wave becomes attenuated—that the standing wave cannot be maintained past the point where U gets larger than $(2\pi f/c)^2$. For the open horn, this is the chief effect of the bell flare; U does increase as the bell gets larger until just before the end (where the *rate* of change decreases). Thus a low frequency standing wave must end well before the end of the horn, as discussed earlier. Note that the cutoff occurs only if the bell actually flares; for a cone, U is zero throughout. For the cutoff point to vary with the frequency, the flare must be more rapid than exponential.

According to Pyle (7), the profile of a medium bore horn bell is quite closely described by the function:

$$r = 88.6894/(x + 5.8157)$$

where x is the distance in from the end of the bell (the bell opens to the left on the graph). All dimensions are in centimeters. With these particular constants and a bell length of 142 cm, the bell rim diameter is 30.5cm and the diameter at the start of the bell is 1.2 cm. Differentiation gives the horn function (r''/r) for this profile:

$$U = 2/(x + 5.8157)^2$$

(With this particular profile, U increases all the way to the bell rim. With an actual bell, it normally peaks just before the end. This affects only the highest frequencies,

and only slightly). For each frequency, there is a value of x at which the denominator of the horn equation becomes imaginary. The total length of the horn minus this value is the effective length of the horn for that frequency. Assuming a speed of sound (c) of 34400 cm per second, and an actual horn length (L) of 374.7 cm (from Dr. Aebi's article), the horn equation and the horn function for this bell go together to give the effective length (EL) for each frequency (f):

$$EL = L - (c/\sqrt{2}\pi f - 5.8157)$$

$$= 374.7 - (7742.72/f - 5.8157)$$

Based on this, the following table gives the effective lengths for some of the harmonics of an F horn with this bell. The table also gives the amount effectively cut off by the flare of the bell, the effective muted horn length, and the effective frequency. The last two assume the horn behaves like a closed cylinder with the given effective length. The muted horn length is obtained by adding on half a pressure loop to the effective open length; that is, by multiplying the latter by 2n/ (2n-1), for the nth harmonic:

Harmonic	*Frequency*	*Amount Cut Off*	*Effective Open Horn Length*	*Effective Muted Horn Length*	*Effective Frequency*
1 (F)	44	142*	232.7	465.4	36.96
2 (F)	88	82.17	292.53	390.04	88.19
3 (C)	132	52.84	321.86	386.23	133.60
4 (F)	176	38.18	336.52	384.60	178.89
5 (A)	220	29.38	345.32	383.69	224.14
6 (C)	264	23.51	351.19	383.11	269.37
7 (E$\flat$)	308	19.32	355.38	382.71	314.60
8 (F)	352	16.18	358.52	382.42	359.82
16 (F)	704	5.18	369.52	381.44	721.42

**Bell Length*

The table does not show the effects of the hand, the mouthpiece and lead pipe, and the small changes in wave length within the horn. These would all conspire to bring the effective frequencies to just what they should be. The bell alone brings them quite close.

Interestingly enough, if an "ideal" bell could be designed for the F horn, in terms of intonation, it would also be "ideal" in this sense for the B$\flat$ horn (assuming all intonation correction is made by the bell flare). The following table shows the

behavior of our same bell for the B♭ horn, assuming an actual horn length of 281 cm (¾ the F horn length):

Harmonic	*Frequency*	*Amount Cut Off*	*Effective Open Horn Length*	*Effective Muted Horn Length*	*Effective Frequency*
1 (B♭)	58⅓	126.16	154.84	309.68	55.54
2 (B♭)	117⅓	60.17	220.83	294.44	116.83
3 (F)	176	38.18	242.82	291.39	177.08
4 (B♭)	234⅔	27.18	253.82	290.08	237.18
5 (D)	293⅓	20.58	260.42	289.36	297.21
6 (F)	352	16.18	264.82	288.89	357.23
7 A♭)	410⅓	13.04	267.96	288.57	417.23
8 (B♭)	469⅓	10.68	270.32	288.34	477.21
12 (F)	704	5.18	275.82	287.81	717.13

For the B♭ horn, the bell comprises more than half the horn, and the fundamental is only about a half step flat. For the F horn, it was a minor third low.

As noted, the form of the horn equation given here is not necessarily pertinent for pipes which flare, then shrink again—for example, the muted or stopped horn. The horn function does have a very large negative peak at any point where the radius suddenly starts to become smaller (this fact was missed by Mr. Roberts). This would give a wave length of zero at such a point, using the horn equation. In any case, it is clear that the standing wave reflection comes back at a node from such a point. Immediate or full closure is not necessary; for example, the stopping mute creates an effective closed end just where it starts to decrease in size.

8. Summary

The surprising thing about the horn is not its behavior when muted or stopped, but the way it works when open. Most players believe it acts like a cone of the same length, giving it the proper harmonic series. In fact, it behaves quite differently. In a cone, the small end acts to create a sort of wall of air which reflects back the sound wave at a node of the standing wave. The air wall acts like a closed end, which is farther from the point for lower frequencies. A flaring bell, though, effectively brings the *open* end into the horn—farther in for lower frequencies. The full length of the horn is used only for *high* notes, not low ones!

With a properly designed bell, the harmonic frequencies and the positions of the anti-nodes are very close to those obtained by closing the bell at the rim. Such closure adds on half a pressure loop, and since for a given harmonic, a pipe closed at both ends always has half a loop more than a pipe open at one end, the harmonic doesn't change. The profile of the bell flare is crucial for in-tune harmonics—the series by no means springs with Pythagorean exactness from the simple length of the pipe, as it does for a cylinder or a cone.

Muting or stopping, then, makes the horn function as a pipe closed at both ends. The sound leaks out through the cracks, but this has no essential effect on the standing wave. Clearly a shorter closed pipe has higher resonance frequencies than a longer one, so stopping *does* raise the pitch as long as the harmonic remains the same. The further in the stopper is put, the higher is the pitch, as one would expect.

Smooth derivation of a stopped note from above is possible, but the physics of the process is not so simple. (Actually, for me it's not even simple to keep the derivation smooth, for the lower notes). What happens is that as the hand is partly closed, the wave crest must expand and contract more rapidly, so it can't go as far in a given time. The last node must move further out, to allow the reflection to get back in time—this in turn lengthens all the pressure loops inside the horn, lowering the pitch. (This much is apparently generally accepted). The last half of the last pressure loop gets shorter and shorter, until finally the node itself reaches the heel of the hand. At that point, the horn starts behaving like a pipe closed at the bell end, and the wave reflection is from the hand at a node. Dr. Aebi's diagrams show this clearly. The closed pipe has ¼ a pressure loop less than the open pipe did, but for the same harmonic it should have ¼ a pressure loop more. Therefore, the harmonic number is one less than it was, except for the fundamental. The smoothness of the change should not be surprising—as I pointed out in my letter to the Autumn 1973 Horn Call, smooth changes from one harmonic to a different one occur in many different circumstances in horn playing.

I see no reason why it is better to practice deriving stopped notes from above rather than below, although there is nothing wrong with such practice. Personally, I find it easier to hear the intonation and to get a good stopped hand position by starting from below, and closing the hand fairly rapidly.

It does seem that the importance of a proper hand position for the *open* horn may not be stressed enough. The hand is an essential part of the instrument for notes in the highest octave, and is not put into the bell just out of tradition or only to control tone quality. Without the hand, instrument makers would have to keep the bell throat narrower longer. Pyle (7) reports that, using laboratory equipment to create sound waves in a good horn without the hand in the bell, there were essentially no resonance peaks above the high E♭ (concert pitch); Benade has also noted that resonance peaks in the last octave are quite weak. The relative treacherousness of the horn in the highest octave is due not only to the closeness of harmonics, but also to the weakness of the reflected wave. Use of the B♭ horn helps the first, but it takes a different bell shape to help the second. The hand does reshape the bell, and helps the lips maintain the desired frequency. This also explains why it is harder to play softly in the high register—most of the energy radiates into the atmosphere.

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Abbreviations

BB Brass Bulletin
B&P Brass & Percussion
BQ Brass Quarterly
BT Brass Today
BW Brass World
B&WQ Brass & Woodwind Quarterly
C Canon
Com Composer
DB Downbeat
E Etude
EN Ensemble News
GSJ Galpin Society Journal
H Halle
HC Horn Call
HF/MA HiFi/Musical America
HMY Hinrichsen's Musical Yearbook
In Instrumentalist
IM International Musician
JAMS Journal of the American Musicological Society
JBM Jacob's Band Monthly
JMT Journal of Music Theory
JRME Journal of Research in Music Education
M Metronome
MA Musical America
MC Musical Courier
MEJ Music Educator's Journal
MJ Music Journal
M&L Music and Letters
MMR Monthly Music Review
M&M Music and Musicians
MO Musical Opinion
MoJRME Missouri Journal of Research in Music Education
MQ Musical Quarterly
MR Music Review
MT Musical Times
MusTcr Music Teacher
MW Music of the West
NAC National Association of College Wind and Percussion Instructor's Journal
NZM Neue Zeitschrift for Musik
NY New Yorker
ON Opera News
OeMz Oesterreichische Musikzeitschrift
PhO Philadelphia Orchestra Program Notes
PM Pennsylvania Music Educator's Association News
RCM Royal College of Music
RMA Proceedings of the Royal Music Association
RMARC RMA Research Chronicle
SB Sounding Brass
SM School Musician
SWBJ Southwestern Brass Journal
SWMus Southwestern Musician
T Tempo
WWMag Wood Wind Magazine
WwW Woodwind World

AN INDEXED BIBLIOGRAPHY OF PERIODICAL ARTICLES ON THE HORN
(Part III Concluded)

Jeffrey Agrell

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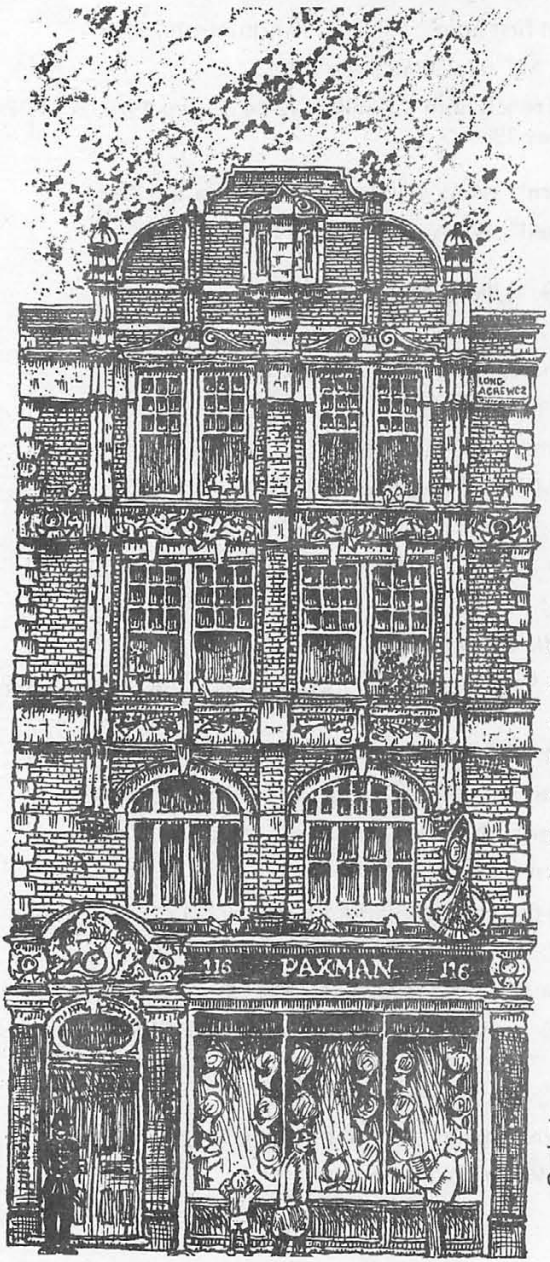

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GUEST REVIEW

By Philip Farkas

INTRODUCING THE FRENCH HORN

by Douglas Hill and James Froseth
G.I.A. Publications, Inc.
7404 S Mason Ave., Chicago, IL 60638
$3.50

I have just finished reading a remarkable book—INTRODUCING THE FRENCH HORN, by Douglas D. Hill and James O. Froseth. Mr. Froseth is Professor of Music (Music Education) at the University of Michigan-Ann Arbor, and author of a very successful beginning band method; THE INDIVIDUALIZED INSTRUCTOR. Mr. Hill is the former solo horn of the Rochester Philharmonic (New York), former horn teacher at Wilkes College and the University of South Florida. He now fills the important horn teaching position at the University of Wisconsin left vacant by our late esteemed colleague, John Barrows. So their qualifications to write an excellent beginning horn book are more than ample. And an excellent book it is.

They call it a "preliminary book" and it is aimed at the beginner. But it is so basic in its approach that I do not wish to call it an elementary method. This it is, but there is an important difference between the terms "basic" and "elementary". While it is perfect for the beginning elementary student, its statements concerning embouchure, sitting and hand positions, breathing, etc., are so well said and so well illustrated that it would not be amiss for even advanced players to read it and re-establish these basic tenets which all of us can sometimes grow careless about.

Every step that the beginner needs is explained precisely and illustrated very clearly with no ambiguities. And yet, simple and clear though the instructions are, there is no feeling of condescension or talking down to the young student. The illustrations, both photographic and diagrammatic, are undoubtedly as clear and definite as any I have ever seen. And, as though this were not enough, an excellent recording is enclosed which can demonstrate actual sounds in a manner which words never do.

No important aspect of horn playing is neglected. The student is told and shown how to take care of the horn, how to restring the valves, even how to best remove the water. I do not know another book which, in 34 important pages, can start the beginning horn student more thoroughly or in a more interesting and absorbing manner. I predict that this fine book will be a "must" in every horn teacher's library.

MUSIC REVIEWS

Douglas Hill

The works included in this set of reviews have been chosen from a much larger body of submitted music. The choices were made based on merit and variety, thus, all of this literature is recommended. The HORN AND PIANO section has been arranged in an order from the least to the most advanced. All other forms of grading have been avoided. Thanks to Karen Zaczek Hill for reading through the piano parts.

HORN ALONE

Musik fur Waldhorn Op. 109 (2 vols.)
Siegfried Borris
Sirius-Edition Berlin (1974)
Heinrichshofen—
Wilhelmshaven
C. F. Peters (Agent for USA)

This collection of 73 short works is sub-titled "Exercises and Performance Pieces for One Horn." These studies are meant to familiarize the student "with the sound and style peculiarities of modern music." (Allow me to add "conservative" to the term "modern music.") There is a consistent and intelligent progression of events throughout these etudes, from the very elementary into intermediate problems. The first volume utilizes irregular phrase lengths (often in a folksong-like setting), various scale types and modes, syncopations, irregular meters, numerous articulation indications, and (near the end) unpredictable intervallic writing with some interesting compositional techniques such as exact retrograde. The second volume increases the rather limited range of the first, but mostly upward. There is no concern with the low range at all. Book 2 also increases the rhythmic, dynamic, articulation, and ornamental intricasies while moving away from tonal writing. (No. 72 is actually a simple 12 Tone composition.) Aside from a few printing errors, these are excellent etudes for the beginning student of early 20th Century music.

Five Lines for Solo French Horn (1973)
Allan Blank
Composers Facsimile Edition
American Composers Alliance
New York, NY

Each of the five movements in this work for unaccompanied horn is fully notated while sounding the freedom of improvisation. Metric organization has been replaced by methods of accent groupings (i.e. dotted bar lines, brackets, etc.). A choice between two optional dynamic plans is given for "Lines III." Tempo markings for each movement are suggested, thus, the alternating formal layout of; Slow (con sord.), Fast, Very Slow, Very Fast, Slow (con sord.). The range requirements are extensive as are the needs for fluency, stopped horn skills, and a strong and versatile rhythmic sense. If not immediately appealing, this work can at least be effective in the hands of an advanced player.

Monologue for Horn Solo (1974)
Istvan Lang
Editio Musica, Budapest
(1976)

Monologue, a 9 minute work demanding virtuosic control, was dedicated to the Hungarian hornist Ferenc Tarjani. This solo is also unmeasured

and of an improvisatory quality, giving balanced structural importance to melodic fragments, dynamic variations (often quite subtle), color changes, articulation juxtapositioning, and repetition. Stopped horn, echo horn, mute, brass mute, flutter tongue, trills, tremolos between varying and similar pitches, glissandi, entrances in the extreme registers, and quarter tone passages are all a part of this complex yet rewarding and unique piece.

HORN AND PIANO

Suite for Horn
Ronald Hanmer
June Emerson Edition (1976)
Ampleforth, York, England
$1.75

Suite for Horn is a very cute and a near immediately playable work for an early high school hornist and pianist. The four short movements are; Prelude, Waltz, Arioso, and Finale. They are all very predictable pieces both melodically and harmonically. One could actually imagine them to be unknown songs from a Broadway Musical score (ala Lerner and Lowe).

Romance Pour Cor et Orchestre Op. 48
Alexandre Luigini (1850-1906)
Revision, arrangement by
Edmond Leloir
Gerard Billaudot, Paris (1975)
$3.50
Theodore Presser, Bryn Mawr, Pa. (Agent for USA)

Romance from "Bianca e Fernando" (1826)
Bellini—Gallay
Edited by Harold Meek (1973)
Carl Fischer Inc., New York (1976) $1.50

Sonatina per Corno e Pianoforte
Josef Bakki
Editio Musica, Budapest (1975)

Partita in B♭ (for Horn and Guitar)
J. S. Bach (1685-1750)
Transcribed by Laurindo Almeida
Almeida's Guitar World
4104 Witzel Drive
Sherman Oaks, CA 91423
$7.75

Five Pieces for Five Horns (1952)
Gunther Schuller (b. 1925)
Aldo Bruzzichelli—Firenze (1965) $11.70 sc.&pts.
Margun Music Inc., Newton Centre, Mass.
(Agent for USA)

Both of these four to five minute pieces would make great additions to ones list of "Prunes," (those little gems of music for church jobs, recital fillers, or just for fun). The Luigini is, for obvious reasons, more instrumental in character than the Bellini, which borders on the bel canto aria style. Op. 48 has a few unexpected harmonic twists, but is basically quite traditional.

Aside from a few awkward transcription problems in the piano and a slightly boring section in the middle, this work flows well into the cadenza-like passage near the end. The Bellini actually provides the performer with an intense study in melodic dotted rhythms over an accompanimental triplet pattern. This, however, seems unimportant as one is submerged in this beautifully melodic transcription.

Scherzino for Horn and Strings (piano)
Max Reger (1873-1916)
Arranged by J. Madden
Musica Rara, London (1976)

Though this is not one of Reger's major works, it is of greater substantive interest than most short pieces for the horn. (It has recently been recorded with strings by Hermann Baumann.) Often the horn line, which would blend well into the string sound during the lesser significant passages, tends to unappropriately stand out with the piano. The work is fun, not difficult to play for either instrument, and would work well as a short encore or in a group of late Romantic or early 20th Century pieces.

Sonatina per Corno e Pianoforte
Josef Bakki
Editio Musica, Budapest (1975)

Throughout this 7½ minute, three movement work Bakki uses full score and a form of proportional notation. There is also frequent use of improvised repetitions of motivic and/or rhythmic patterns. The single page second movement consists of a piling on of sustained notes and chords. It is here that an apparent weakness in the piece becomes most obvious. He seems to treat the sustaining properties of the two instruments in too similar a manner. Dynamics and articulations, angular and linear chromatic motives, and specific timings for each section are some of the primary compositional materials used. Good high school or college students who have never worked with contemporary notational and ensemble problems might find this an interesting piece to prepare.

Symbols for Horn and Piano (1968-69)
Zsolt Durko (b. 1934)
Editio Musica, Budapest $3.50

Ten short sections (movements) of contrasting character make up this subdued-to-chaotic composition. Highly complex rhythmic subdivisions and, thus, rhythmic ensemble problems make reading from the well-aligned score imperative. Some of the textural demands in the piano part require the use of four staves for absolute notational clarity. The hornist must have total facility and dynamic control in all registers, most uniquely the lowest octave. Symbols was also dedicated to the Hungarian horn virtuoso Ferenc Tarjani who has recorded the work with Adam Fellegi (piano) on Hungaroton-Qualiton LPX 11363.

CHAMBER MUSIC

Partita in B♭ (for Horn and Guitar)
J. S. Bach (1685-1750)
Transcribed by Laurindo Almeida
Almeida's Guitar World
4104 Witzel Drive
Sherman Oaks, CA 91423
$7.75

This unique transcription was first presented on a Capital Record (SP 8582) many years ago with Mr. Almeida on guitar and Vincent de Rosa on horn. (The Menuets and Gigue have been recently re-released on Angel S-36076.) Here is a very literal version of the Partita No. 1 for Clavier, putting the horn, for the most part, on the melodic upper voice (sounding an octave lower) and the guitar on the left hand part and chordal statements (often sounding an octave higher). All seven pieces are included; Preludium, Allemande, Courante, Sarabande, Menuet I, Menuet II, and Gigue. The horn part is quite active and demands rapid response and precision in the middle

and lower registers.

Interactions for Solo Horn and Percussion Ensemble (1976)
Tibor Pusztai (b. 1946)
Margun Music Inc.
Newton Centre, Mass.
$5.00 score

Interactions is a seven minute, moderately conservative work for solo horn and three percussionists playing 19 different instruments. The first movement is a fragmented interplay between the instruments beginning rather ethereally (with mute) and building into a rather agressive angular passage for open horn. The second movement, for percussion alone, makes very little use of the pitched instruments, saving them for the melodic interaction with the horn. The horn opens the last movement with melodic fragments and rests of prescribed duration. It is joined by the melodic instruments, with a brief interjection from the second movement sounds of the tom-toms. The piece ends with the pitched instruments and the horn sustaining and decaying into each other's sounds. Melodically the horn part is neither too difficult nor too interesting by itself, but the effects and colors seem worth the effort.

Calls for Two Horns (1975)
Verne Reynolds (b. 1926)
Eastman School of Music
26 Gibbs St.
Rochester, NY 14604

The length (approx. 10 min.) and musical scope of "Calls" sets it apart from the usual duet. The work begins with Horn I intoning a slow unmeasured calling from offstage right. It builds in activity, then retreats to allow Horn II to respond in a similar signal-like manner from offstage left. A rapid dialogue developes with Horn I ending the first section. Horn II has walked on to stage left beginning the measured, rhythmic middle section, being joined on stage right in an energetic exchange between the two voices. Horn I goes offstage and begins the distant signalling with Horn II. The composition ends with distant, expanded melodic fragments in an overlapping muted duet. This is beautiful music and effective horn writing which should be published and made available immediately.

Trio for Horn, Violin, Piano (1958)
Istvan Zelenka
Edition Modern, Munich
(1960) $7.50

Here is a twelve-tone work effectively juxtaposing these three contrasting timbres through melodic fragmentation and pointillistic techniques. The work consists of three movements. Dynamic contrasts as well as metric and rhythmic complexities add to the free character of the first movement. The second is the fast movement, scherzo-like in its constant exchange of triplet patterns. The work closes with a short ethereal section utilizing mutes, subdued glissandi, sympathetic vibrations from the undampened piano strings, and slap pizzicato in the violin. Had the publisher marked in the necessary cues this trio could be more readily prepared; however, the end result is still worth the effort.

Quintet in E Major Op. 106 for Horn and String Quartet (Double Bass ad lib)
Anton Reicha (1770-1836)
Editors—David Lasocki, William Blackwell
Musica Rara, London
(1971) $7.00

As is so consistent with Musica Rara, we have another well documented and faithful representation of a major work for horn. For those familiar with Reicha, there are few surprises in form or content. The overall mood of this fine piece is light-hearted and optimistic. The horn part is quite demanding if for no other reason than the key (horn in E). Many rapid technical passages and numerous ornaments (often with suggested executions) cause frequently awkward fingering patterns. The double bass part, considered optional, is most often separate from the cello and should definitely be played. The work is of major length with four movements; Allegro ma non troppo (sonata allegro form), Lento (ternary), Menuetto, Allegro assai (rondo). The string parts are not demanding, aside from the first violin, which is often melodic or in dialogue with the horn. In all but the Menuetto movement, the horn is most obviously the solo voice, so much so that the editors suggest "the judicious use of a small string orchestra . . . "

Cantico for Horn and String Quartet Op. 44

Bernhard Krol (b. 1920)
N. Simrock, Hamburg-London (1968) $5.50

Mr. Krol has written a number of effective and highly accessible works for/and featuring horn, Cantico included. This single movement quintet begins with a 19 measure solo for horn which continues with sparse string accompaniment. A feeling of freedom continues throughout this slow initial section. (The melodic and rhythmic writing emphasis the lyrical properties of the instruments rather than their coloristic or virtuosic potentials.) The activity picks up in the middle section, "Allegro Solenne," with extensive canonic passages. Cantico then closes with a quick, stylized waltz, allowing the horn to play expansive and expressive melodic lines. Harmonically, this piece is quite unique, to the point of questioning certain accidentals. The fact that the score is not sold with the parts makes this a preparation problem.

Sonata a Quattro for Two Horns and Two Bassoons

Johann Wilhelm Hertel (1727-1789)
Editor—Walter Hermann Sallagar
Otto Heinrich Noetzel, Wilhelmshaven (1959)

The three short movements for this unusual combination of instruments are; Largo, Vivace, and Menuetto. In the Largo the two horns work together in a melodic and arpeggiated dialogue with the bassoons. The Vivace is a joyful interplay with all parts sharing in the lively activity. The least musically significant movement is the menuetto. Here the tessitura, which has been high all along for the first horn, is higher (c'' ') and somewhat less rewarding. The work as a whole, however, is worth learning for many reasons—most of them musical, some historical.

Five Pieces for Five Horns (1952)

Gunther Schuller (b. 1925)
Aldo Bruzzichelli—Firenze (1965) $11.70 sc.&pts.
Margun Music Inc., Newton Centre, Mass. (Agent for USA)

Throughout the first piece Horn I accepts the solo voice, introducing the twelve-tone row which serves to unify these five pieces. The second piece

(Adagio e con tenerezza) depends more on independently active textural gestures. Sustained chordal fluctuations with articulated interjections occur during the tranquil third piece. IV (Con mo to e agitato) begins with muted rhythmic eigth-note activity. The middle section makes use of valve trills and tremolo, right hand glissandi, and quarter-tones to be performed with flat fingerings (7th and 11th partials, etc.). The "Toccata" finale is a single persistent eighth-note melodic line, (beginning with the exact initial row of the first movement.) Each of the five horns joins and leaves the motion independently, providing very exciting textural variations and varied densities of tonal quality and attack. Five equally advanced performers are needed for this great twelve minute suite of pieces.

Three Psalms for Brass Quintet and Tenor (Soprano) (1966)
P. Peter Sacco (b. 1928)
Ostara Press Inc. (1973)
Los Angeles, California
$8.00 sc.&pts.

Psalm 13; "How long wilt Thou forget me, O Lord?," Psalm 18; "The Sorows of Death," and Psalm 83; "Keep not Thou silence, O God," comprise the texts and provide the intense emotional content of this powerful ten and a half minute work. The Quintet (traditional Instrumentation) is asked primarily to accompany as well as provide much of the dramatic intensity. While the work is organized around twelve-tone and other atonal concepts, Sacco uses restraint texturally, harmonically, and rhythmically, with the result retaining originality and aural uniqueness. Three Psalms is an expressive work which could add a new slant to most brass quintet concerts. However, be sure you have a strong tenor with a secure high Bb (optional high B and C). This work can be heard, sung by the composer, on "Philharmonic Brass," Avant Records, AV-1005.

Book Review by Paul Mansur
The Art of Musicianship
By Philip Farkas (51 pp., $7.95)
Musical Publications
P.O. Box 66
Bloomington, Indiana 47401

Professor Farkas has published a fine compendium dealing with problems of musicianship in an analytical approach. There are twelve chapters, each dealing with one component of musicianship. This is definitely not a book for beginners but is intended for the serious student who is becoming sensitive to the esthetic requirements of performance. The author has subtitled the work: "A treatise on the skills, knowledge and sensitivity needed by the mature musician to perform in an artistic and professional manner."

Presentation is straightforward, practical, and effective in the easy but intense manner of a lecture or clinic demonstration by Mr. Farkas. If you have been privileged to hear a lecture by Mr. Farkas then you can almost hear his voice while reading the text. The material is well illustrated with musical examples. Chapter topics range from a generic discussion of "Musicianship" to specifics such as "Tempo" and "Expression Marks". There is even a pragmatic chapter entitled "Psychology of Good Relationship with Colleagues and Conductor."

Mr. Farkas has granted the *Horn Call* the privilege of reprinting a chapter from his book. Watch for it in the Fall, 1977 issue. This book is recommended reading for all serious musicians no matter what the medium of performance may be.

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—Band Director, Montcalm Secondary School
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"Moldau Journey"

By
Joan S. Byrne

Two springs, one warm and gushing, the other cool and tranquil, pour forth their streams in the shade of the Bohemian forest. Flutes and clarinets make the tiny streams trickle and gurgle before my eyes as I relax in my concert hall seat. The streams unite, flowing gaily over a rocky bed, their waters sparkling in the morning sun. From my side position in the circular auditorium, I can see the conductor's furrowed brow. As he labors over his youth orchestra, I catch his anxiety. I twist the strap on the camera I've brought and wrinkle my program as he waves in the oboes and violas.

The wonderful melody, strong and broad, carries me along with it as the forest brook becomes the river Moldau. I know where the Vltava is leading us as well as the conductor. We both cast anxious glances in the direction of the horns. There sit 1st, 2nd and 3rd, high school seniors, intense and serious. There sits number 4, an incongruent sixth grader, looking off into space. A Botticelli cherub in a sports coat. To the uninformed concert-goer it might appear that this young musician, carried away by Smetana's genius, dreams of sailing upon the Moldau or maybe casting pebbles in the water. Perhaps. But knowing David, my son the horn player, he's more likely planning his next model rocket launch. Isn't that a rocket catalog on his music stand? No wonder the conductor looks worried.

Through valleys, fields and forests the river winds its way and from a dense wood there come the sounds of the chase. As the hunt comes nearer, my anxiety gives way to excitement. I can almost see the halo glow as David lifts his horn and slips smoothly into the horn quartet and the hunters come closer. He handles his part well. He's remembered to play in "C"! Everything is going to be fine. One or two split notes with the fortissimo, but the hunt is joyous. The horses of the hunters prance as they move through the wood. Sunlight filters through green leaves and gleams upon the horns of the huntsmen. David tosses the hunting call to the second horn once, twice, as the strings continue the river's onward flow. The quartet works like a well drilled team and the river rolls on. Now 3rd and 4th change to "F". Will David remember? Of course he does. Why did I worry? The river flows through emerald meadows and lowlands. A lively dance tune comes from a village on the bankside where a wedding is being celebrated. The horns join in. I wait for a fortissimo and snap a picture of David, halo and all. I remember before the start

"I could almost see the halo glow . . ."

of the "Moldau" that the halo had tilted rakishly. Somehow David had smuggled a small rocket on stage. While waiting for the conductor to appear, he had carried on a pantomime concerning rocket operation with the timpani player. The bell of the horn neatly concealed this mischief to the main audience. With the appearance of the conductor, the rocket disappeared inside the bell. David's horn-player father sitting beside me had made a nondescript sound in his throat. I realized with a mixture of pride and horror that David is developing that droll sense of humor peculiar to horn players.

The singing and dancing of the wedding celebration continue. I want to linger but the Moldau can't wait. The cellos and double-basses move the river along and the bassoon leads us quietly away. The hunt and the wedding were a success for the horns. I see the conductor relax. He smiles faintly in acknowledgment to the section. David grins back and in the bright stage lights he reveals a smile spectacular for any horn player. For the lights pick up the glint of metal as they play upon the stainless steel braces that band his teeth, top and bottom, front to back. Not visible are the rubber bands holding the wires in place and the caps and cement. His smile often creates a stir. "You mean he's had them for 2½ years?" "Run your finger over them. See how sharp they are." Other reactions to David's mouthful of metal have ranged from "So what?" to "How can *you possibly* let him play like that?" The latter followed by, "Besides, he's too young to play the horn." My response is a smile to really hostile challengers. There is no textbook to advise mothers of junior horn players what course to take when the orthodontist enters the picture. So, to those who appear genuinely interested, I say half apologetically that, "Well, you see, David's been playing the horn for several years, enjoys it tremendously, and didn't want to stop when he had to get braces." Our orthodontist, who by coincidence is a horn player himself, has assured us that no harm will come.

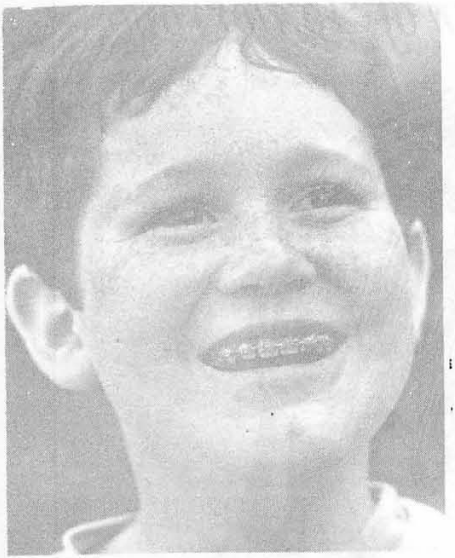
Moonshine. The oboe, played by David's older brother, leads the way. The landscape is flooded with silver. The Vltava shines and glitters, reflecting the glory of the stars. Harps and strings play an enchanted tune, accompanied by rippling flute and clarinet, now strengthened by the horn quartet. Wood and water nymphs dance through crumbling castles and ruined fortresses. All cast wavering reflections in the clear water as the river flows past.

Strings and woodwinds bring back the satisfying main theme, but the timpani warns that the Vltava has reached the rapids of St. John. It becomes a wild raging torrent tumbling through the rocky gorge. Back to "C", David! Once he played this whole section in "F" and no one knew the difference. David winces at the shrill piccolo, played by his older sister, as the water leaps and bounds. Mist and sunlight combine and a brilliant rainbow arches over the falls. The river emerges from the chasm into a wide river bed and with great dignity, expressed by all the brass, glides majestically past the ancient Vysehard. This is the mighty Bohemian fortress of the days before yesterday. Now the Vltava must continue its journey alone. The sound and gleam of the water pass from view and the music gently subsides. The hall is silent, but Smetana's love for his beautiful country lingers in my mind.

The baton is put down. The audience is applauding wildly. The conductor turns and bows, looking proud and happy. He motions the orchestra to its

feet. David stands with his dignified colleagues, grinning his marvelous grin and looking proud and happy. At this moment, I, too, am proud and happy.

As to remarks that eleven is too young for the horn, I smile and invite them to listen. Then I tell them they should have heard him when he was seven.



" . . . that marvelous grin."

Photo by Joan S. Byrne

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RECORDINGS

Christopher Leuba
Contributing Editor

In general, I have avoided editorializing in these columns, feeling that my function is best defined as a coordinator, rather than as a critic.

Since recordings are, today, so important to young persons, in helping to determine their perceptions of style and color, the role of the recording should be carefully considered, both by the student and the teacher. Hence, I would like to discuss some aspects of recording techniques, and their relevance to those who wish to derive information about performance from recordings.

At a "live" concert, the tone, as perceived by the listener in the audience is certainly vastly different from that which the player conceives, and hears emanating from the instrument. This is because the listener hears a complex mix of reflected sounds from all directions about his seat, in addition to the direct sound, coming from the performer. Concert halls may, in some instances, emphasize certain frequencies, i.e., the "highs" at the expense of the "lows", or vice-versa, but this is not as important a factor, I feel, as is the variety of directional echos and resonances.

If a young player is to develop a concept of tone color, the player must study the tone production of fine players *close-up,* preferably with the ear right at the source—at the bell of the instrument—and then, observe and compare this tone with that perceived in the concert hall, if possible, in various concert halls! Without this comparison of tone color, the young player will probably have difficulties in learning the concept of hearing a "core" in the tone quality, that "core" being perhaps a common denominator among all great performers, regardless of their individual attributes.

In assessing recordings, we find ourselves removed one step further than merely sitting in the auditorium, and the validity of a recording as a true guide in defining tone color may be even more in question.

The main premise of my argument is that a successful recording, from the standpoint of most record producers, is a recording that "sounds nice". This, of course, has varying connotations, and is often a matter of taste. Notwithstanding matters of taste, it is the nature of the recording process that *all recording distorts the original.* True representation is no more possible than, for instance, is the offset lithography reproduction of an oil painting by Van Gogh: in the Van Gogh, the representation of the *density* of the paint is scarcely possible by the printing process; in music, the perspective of the listener in a concert hall is equally as difficult to reproduce for the home environment, and much more so over earphones.

The most true representation of an instrument is one which is recorded as closely as possible to the sound source: for the horn, the microphone will be practically in the bell, the horn being played in an acoustically "dead" room. The microphone, when placed further away, records by necessity the acoustics of the room or the auditorium, as well as the horn. As the microphone "hears" the signal in a

much less subtle manner than does the human ear, this more distant placement introduces various factors undesirable for the *artistic representation,* such as "boominess", obscurity of line, etc. Those of us who have participated in recording sessions which are "close miked" will recognize the dismay I have experienced in such situations, which seem to preclude any "warmth" of tone color. Often, such a microphone set-up has been chosen, not to "libel" the hornist, but only in the interest of a clear representation of the musical line.

Some record producers are well aware of the dilemmas presented here, clarity vs the beauty of the representation of tone color, and seek only the finest and most appropriate acoustic environments in which to record. Other producers, especially in popular music, resort to the skillful use of electronic means to "enhance" the tone color.

At first, I was somewhat dismayed at the lack of "warmth" in the representation of horn tone-color in the Music Minus One "Laureate Series" presenting selections performed by Mason Jones, Myron Bloom and Dale Clevenger, three of the foremost artists on our instrument. However, upon further consideration, I am convinced that these are, indeed, most valuable guides for the young player. These three players who represent differing "schools" of performance are recorded in an environment which reveals the essence—the core of each performer's tone production—with virtually no enhancement.

These are probably the first commercially recorded guides which really *do* show the young player what the recognized professionals actually are doing: as far as I am concerned, these recordings are indeed, a valuable reference.

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Ordinarily, in these columns, I have not listed purely orchestral recordings, involving horn performance. However, a recent release by the National Symphony Orchestra under the direction of Antal Dorati (Orchestral Highlights from Wagner's Ring, London CS 6970) is worthy of special mention, both for the clarity of recorded sound, the depth of the entire brass section, and the superb playing of the horns, led by Principal Hornist, William Thayer.

A recently published book, *Dennis Brain, A Biography* by Stephen Pettitt* includes a comprehensive discography of all Dennis Brain recordings extant, studio recordings in the archives of various European broadcasting organizations, and private recordings as well as those commercially released. Pettitt writes, "It has often been lamented that Dennis Brain, in particular, left so little recorded evidence of his art. A study of this discography will reveal that there exist recordings, both official and unofficial, of almost the entire horn repertoire."

This new book should certainly be of great interest to all persons interested in the horn and one of its foremost artists.

* Stephen Pettitt, *Dennis Brain, A Biography* (London 1976, Robert Hale Limited)

(FRENCH) CBS S 75,552
Michel Berges

Schoenberg, Quintet Opus 26

CORONET LPS 3041

Burt Hardin
ensemble (overdubbed recording)

Haydn/Martinet, Symphony 31
Wilder, Four Studies for Four Horns
Bozza, Suite pour quatre cors en fa
J.S. Bach, Fugue in c minor
J.S. Bach, Komm, susser Tod
N. Tscherepnine, La Chasse
R. Wagner/Pottag, Quartet for Horns
Anon./Cooper, "Happy Birthday"

CRYSTAL S 372

Christopher Leuba
Halsey Stevens, Sonata
John Verrall, Sonata
Paul Tufts, Sonata

ELECTROLA (ODEON) C 063-28 160

Gunter Schofisch & Siegfried Kruger
J.S. Bach, Kantata BWV 208 "Jagt-Kantate"

GOLDEN CREST CRS 4156 (Quad. compatible)

Martin Hackleman
(Tidewater Brass Quintet)
Alec Wilder, Brass Quintets 4 and 5
Alec Wilder, Brassininity

LONDON CS 6938*

Barry Tuckwell
Beethoven, Sonata, Op. 17
Danzi, Sonata in E flat, Op. 28
Saint-Saens, Romance for Horn, Op. 67
Schumann, Adagio and Allegro, Op. 70

*In Great Britain: DECCA SXL 6717

MUSICAL HERITAGE SOCIETY
MHS 759

Robert Freund
Hannes Sungler
Hermann Klug
Kurt Schwertsik

Joseph Haydn, Symphony 31 "Horn Signal"

TURNABOUT QTV-S 34632

Robert Elworthy 1st
Frank Winsor 2nd
Charles McDonald 3rd
Bruce Rardin Asst.
(Minnesota Orchestra)

Handel, G. F.

Water Music (Suite)
Royal Fireworks Music

UNIVERSITY OF IOWA PRESS:
SOUNDING BRASS LP 8271

Paul Anderson
(Iowa Brass Quintet)
E. Bozza, Sonatine
J.S. Bach, Die Kunst der Fugue
Karel Husa, Divertimento for Brass Quintet
J.J. Mouret, Rondeau
John Wilbye, Two Madrigals
John Glasel, editor: 16th Cent. Carmina
Michel Leclerc, Par monts et par vaux
Paul Smoker, Brass in Spirit

Orchestras In the U.S. and Canada (Reported in 1976)

AKRON SYMPHONY
Robert C. Frutchey
Earl G. Belden
C. Eugene Thrall
Scott Fisher
Charles Waddell

ALBANY SYMPHONY
Peter Knott
Ronald Patrick
Emory Waters
Jane Sullivan
Jan Paulson

ALBUQUERQUE SYMPHONY
Harold Burke
Joel Scott
Beth Scott
Lora Tannenholz
Steven Brinegar

AMARILLO SYMPHONY
Donna Saylor
Emerson Haraden
Hugh Lathem
Mitzi Bogan

ARKANSAS SYMPHONY
Alan Goldman
Glenn Dalrymple
Wesley McCoy
Gail Wade
Julie Garrison

ATLANTA SYMPHONY
John Henigbaum
Brice Andrus
Thomas Witte
Christopher Scheufler

AUSTIN SYMPHONY
Wayne Barrington
Celeste McClellan
Robert C. Walshe
Margaret Ayer

BANGOR SYMPHONY
Philip Nesbit
Lukie Hewitt
Deborah Wheeler
John Wheeler
Dave York

BATON ROUGE SYMPHONY
Richard Norem
Clyde Mitchell
Alan Davis
Joe Wylie
Lloyd Roesch

BOISE PHILHARMONIC
James E. Perkins
Gary Green

BOSTON SYMPHONY
Charles Kavalovski
Peter Gordon
David Ohanian
Dick Mackey
Ralph Pottle
Charles Yancich

BUFFALO PHILHARMONIC
Roy Waas
Duane Saetveit
Lowell Shaw
Fred Bradford
Milton Kicklighter

CALIFORNIA CHAMBER SYMPHONY
James Decker
Arthur Briegleb

CANTON SYMPHONY
Scott Fisher
Carol Stafinski
Charles Waddell
Carol Hayward

CEDAR RAPIDS SYMPHONY
David Wick
Janet Thulin
Julie Hahn
Karen Idstrom

CHARLOTTE SYMPHONY
Laura Schneider
Robert W. Blalock
Marian C. Tennent
Judith Willis White
David Ziemba

CHATTANOOGA SYMPHONY

Donna Petry
Tobi Cisin
Debra Clark
John Farr

CHICAGO SYMPHONY

Dale Clevenger
Thomas Howell
Norman Schweikert
Richard Oldberg
Frank Brouk
Daniel Gingrich

CINCINNATI SYMPHONY

Michael Hatfield
Charles Tarlton
Alfred Myers
James Schreiber

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Richard Solis
Martin Morris
Albert Schmitter
Ernani Angelucci
Ralph Lockwood

CORPUS CHRISTI SYMPHONY

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Clinton Gamble
Mary Grayson
Mike Koch
Nick Balli

DAYTON PHILHARMONIC

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Lawrence Tagg
William Cooper
Fred Moore
Fred Cook

DENVER SYMPHONY

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Wilke R. Renwick
Robert Schauer
John Kenne
Brady Graham

DES MOINES SYMPHONY

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Margee Yoshimura
Janet Nash
Donald Lomen
Richard Gerstenberger

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Eugene Wade
Charles Weaver
Edward Sauve
Willard Darling
Lowell Greer
Keith Vernon

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Harold Rutan
Doug Acker
Carol Rock
Sandy Rybak
Kathy Chandler

EL PASO SYMPHONY

Richard Lambrecht
Orlando Calderon
Tim Wadley
Mike Marsh
Cheryl Lackey

EVANSVILLE PHILHARMONIC

Suzanne Govier
Thomas Beck
Paul Nolte
John Cox
Arthur Adye

FLINT SYMPHONY

Steve Gross
BVEVERLY Manasse
Jean Hamilton
Barbara Haering
Charles Tubbs

FLORIDA SYMPHONY

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Verle Ormsby
Carolyn MacDowell
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Ford
Reggie Nicholson
Lynda Pickney

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Michael Wells
Suzette Moriarity
John Morse
Frank Bueker

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Lorin Larson
Clyde Miller
Linda Williamson
Stephen Ehrich
Sterling Procter

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Eric Gratz
Charles Schroeder
Roy Mattox
Jeffrey Barnes

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Linda Carver
Karl Hill
Margaret Gage
Roger Carver

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Gayle Chesebro
James Conley
Margie Lampley
Larry Rufflin Mercer

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Suzanne I. Daubert
Harry L. Folmer
J. Roderick Clippinger
Robert J. Wertz
James M. Thurmond
Pierce N. Gelsinger

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Russell White
Larry Rogers
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Philip Stanton
Caesar LaMonaca
Leo Sacchi
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Karl Hill
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Andrea Steele
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Laura Klock
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Duetta Pierce
Colvin Bear

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Patricia Hackbarth
Stuart Butterfield
Barry S. Carl
Stephen Christen

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* Anton Horner, Philadelphia Orchestra

Wendell Hoss, Chicago Symphony,
Los Angeles Symphony

* Reginald Morley-Pegge, Author, London

* Max Pottag, Chicago Symphony

* Lorenzo Sansone, New York Symphony,
Horn Maker

Willem A. Valkënier, Boston Symphony

* *Deceased*


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