THE
PIANOLA
JOURNAL

The Journal of the Pianola Institute

No. 14 2001

Contents

Editorial
The Reproducing Piano – what can it really do?: Denis Hall
Interview with Wolfgang Heisig: Rex Lawson
Player Piano: James Kirkup
The Medcraft Perforator: Rex Lawson
The Ampico recordings of Leo Ornstein: John Farmer
Regarding the Art of Reproducing: W. Creary Woods

Reviews:
Vive le Pianola! Soirée Musicale for violin and Pianola,
Leighton House, 14 July 2001: Gina Cowen
1929 Skinner Organ – opus 783. Residence Player Organ at
Elm Court, Butler, Pennsylvania. JAV 123 (2 CD set),
JAV Recordings Inc.: Denis Hall

Notes on Contributors
Contents

Editorial

The Reproducing Piano – what can it really do?: Denis Hall

Interview with Wolfgang Heisig: Rex Lawson

Player Piano: James Kirkup

The Medcraft Perforator: Rex Lawson

The Ampico recordings of Leo Ornstein: John Farmer

Regarding the Art of Reproducing: W. Creary Woods

Reviews:
Vive le Pianola! Soirée Musicale for violin and Pianola, Leighton House, 14 July 2001: Gina Cowen

1929 Skinner Organ – opus 783. Residence Player Organ at Elm Court, Butler, Pennsylvania. JAV 123 (2 CD set), JAV Recordings Inc.: Denis Hall

Notes on Contributors

© The Pianola Institute 2001
All rights reserved

British Library Cataloguing in Publication Data

The Pianola Journal - Vol.14
  1. Player-piano - Periodicals
  I. Pianola Institute
789'.72ML 1070
ISSN 0952-6323
The Pianola Journal is published by the Pianola Institute Ltd, registered office, 111a Station Road, West Wickham, Kent. Registered in England number 1937014. Registered Charity number 292727.

Website:  www.pianola.org

The aims of the Institute
A small number of pianola owners and musicians have been concerned for some time at the unnatural break between the world of music rolls and the world of music. Few members of the musical public know much about player pianos, and the Institute aims to bring about a better understanding and appreciation of the instrument in a number of ways.

The Institute publishes a regular journal, puts on public concerts, and has plans for a lending library of rolls, a travelling exhibition, and in addition a roll and information archive, with a small collection of player pianos for listening and study purposes.

The Pianola Institute will endeavour to preserve, research and document the pianola’s history, to improve the instrument’s present standing, and by the commissioning of new compositions, to ensure that it remains an important musical force for the future.

The directors of the Institute are:
Louis Cyr, Keith Daniels, Mike Davies, Denis Hall, Rex Lawson, Claire L’Enfant.

It is possible to support the work of the Institute by joining the Friends of the Pianola Institute. The Friends subscription includes a copy of the journal. Membership enquiries should be sent to Mike Davies, The Granary, Wharf Road, Fenny Compton, Southam, Warwickshire, CV47 2FE, England. Annual subscription rates are:
UK and EU - £12.50
Rest of the world - £20

Libraries and other institutions may subscribe to the Pianola Journal. For 2002, subscriptions, which include postage and packing are as follows:
Institutional subscriptions in the UK: £15
Institutional subscriptions overseas: £25

Overseas subscriptions should be made payable in sterling.
Editorial

We are delighted to welcome to membership of the Institute Jeanette Koch, Eileen Law, Trevor Watkins and Daniel Wilson. These friends are well known to us and we have already benefitted from their willing support for a number of years. We look forward to enjoying their closer association with the Institute.

We are the Pianola Institute, with one of our important aims being to encourage playing the foot-operated player piano as a musical instrument rather than an item of 'mechanical music'. In the hey-day of the player piano, most of the manufacturers and some of the more enlightened piano retailers published booklets to instruct the player piano owners just how to master the controls of the instrument, and acquire the foot technique to produce a varied musical performance. And yet how many (or should one say 'how few') player piano owners today have you come across whose approach is in any way sensitive to anything remotely musical?

Most people who are not pianists, or who have a limited technique, when confronted with a piano keyboard, approach it very tentatively. And yet, when those same people first meet a player piano, they take up their position on the piano stool, grab the keyslip firmly with both hands, and pedal for all they are worth! When it is suggested that the player piano would still play with rather less effort, they relax a little, concede that it will play more quietly – and then resume their 'work-out' approach.

It is not by any means only beginners who switch off their musical sensibility when playing a player piano. We have encountered a concert pianist who plays most sensitively by hand, and yet approaches the player piano quite differently, pedalling for all she is worth with no apparent grasp of the effect she is producing. And there is a fine jazz pianist who plays by hand with considerable style and taste, and yet is as heavy-footed a player pianist as we have yet encountered.

Why should this be so? Most player pianos are between 70 and 95 years old, and their condition varies a lot. But even when they are in good working order, they differ quite considerably. Some will produce a great wash of sound with the merest touch of the pedals, whereas others may require more physical effort – just as a standard piano touch may vary from very light to extremely heavy.

Good player pianos are capable of a wide dynamic range, from the quietest pianissimo to a fortissimo as loud as the strongest concert pianist can produce. If a player pianist is concerned to give an artistic performance, on meeting an unfamiliar instrument, he must quickly assess its responsiveness, listen intently to the sound he is making, try to imagine how the piece would sound played by a competent pianist, and adjust his playing accordingly.
It is a strange phenomenon that this does not occur more frequently. After all, the player piano only provides the notes; the player pianist has to do all the rest, which is what makes the instrument so satisfying and such fun to play.

‘Mechanical music’ is a term which has long dogged instruments which play without the necessity of finger or hand techniques, and while it may be an accurate description in some cases, it generally sends out the wrong signals. Years ago, a certain establishment advertised itself as having ‘music without musicians’, surely not the sort of image it was hoping to promote! Perhaps those instruments such as musical boxes or polyphons, or orchestrions, where the instruments’ performances are not influenced by human intervention, might reasonably be termed ‘mechanical’, but those classes of instruments such as reproducing pianos or organs which play a recorded human performance are no more mechanical than a CD player or a radio. And the player pianist interpreting a normal music roll requires as much musicianship as a pianist.

It is high time that we discouraged such terms as ‘mechanical’ and ‘machine’. These magnificent instruments, when correctly heard, are anything but mechanical, and are no more machines than pianos or organs, where the actions are often more complicated than the pneumatic additions which enable the paper rolls to be played.

One of our regular contributors, Denis Hall, has written an article intended in the main for those people who have to review recordings of reproducing pianos, but do not have much background knowledge of how the instruments achieve their results. While it is not necessary to understand all the intricacies of reproducing piano technology, an absence of any know-how can lead to misguided appraisals of what the reviewers hear. It is hoped that this article will provide a balanced introduction to the subject.

During 2001 we were able to buy the roll perforator designed and built by Harry and Sylvia Medcraft. Rex Lawson outlines the history of this machine, how it works, and our plans for the production of rolls. We have been very fortunate in being able to acquire this machine.
The Reproducing Piano - What Can It Really Do?

Denis Hall

Introduction

Lest it should seem that I am out to discredit this amazing instrument called the reproducing piano, let me state that I write as a real enthusiast and a true believer in what it can and should do.

The incentive for writing this article is the lack of appreciation generally of the capabilities of the reproducing piano, as well as its limitations, which results in authors in the music field making uninformed and sometimes exaggerated claims for it, and thus frequently reaching conclusions which are misguided, if not completely wrong. Not only does this do the writers an injustice, but it also discredits the pianos themselves by making claims for them which not even their most enthusiastic inventors would have made. This article will try to dispel these inaccuracies and set out some of the facts.

Straight away I should define the instrument which I propose to discuss. It is the pneumatic self-playing piano which was invented by Edwin Welte and Karl Bockisch in 1904, the Welte-Mignon, and further developed by Welte’s rivals, such as the Ampico and the Duo-Art, and which flourished during the next twenty-five years. I am ignoring such mechanisms as the totally electric Telektra and Tel-Electric, and also the more recent computer-driven marvels such as Wayne Stahnke’s Bösendorfer SE and the Yamaha Disklavier. The modern instruments are wonders of technology, but the fascination and value of the earlier instruments, for me at any rate, lie in what the technicians and musicians of an earlier age were able to achieve with more limited resources, and of course the remarkable library of some 10,000 classical and light-classical recordings, not to mention probably a similar number of popular titles.

The advertising puffs of the reproducing piano manufacturers were anything but modest. ‘The most wonderful piano in all the world’ claimed Aeolian for the Duo-Art; ‘The master’s fingers on your piano’ (Welte-Mignon (Licensee)); ‘Re-enacting the artist’ wrote the American Piano Company (Ampico). Were these claims wildly exaggerated, or did the reproducing piano in its hey-day really live up to the advertisements and the testimonials of the recording artists, some of them the greatest and most subtle pianists of their generation? Were the artists of the first 30 years of the 20th century uncritical of their own playing, or were they, without exception, so easily bribed by the piano roll companies?

It will be useful to consider the achievements in recording at the time of the introduction of the Welte-Mignon. It was first shown in 1904, and sold to
the public in 1905. At that time, disc recording of the piano was in a primitive state. The first pianist with an international reputation to venture into the studio was the Viennese, Alfred Grünfeld, who made his first recordings in 1899. Landon Ronald, the English pianist and composer, followed in 1900, and Cécile Chaminade in 1901. Within a couple of years, the Gramophone and Typewriter Company had started to entice other famous pianists to record. By the time the Welte-Mignon became available, discs could be had of Grieg, Dièmer, Pugno, Michalowski and Saint-Saëns. But most of the greatest

What an incomparable instrument is the Welte—Mignon! It has created a new musical world and assured the pianist an immortality equal to that of the composer. The pianist’s art can now live for ever. It is a great loss to humanity that the Welte did not exist before. What a blessing to the generations to come!

Josef Hofmann
1913

Testimonial for the Welte-Mignon by Josef Hofmann (1913)
Perfect Recording
PLUS
Perfect Re-enactment

Only when both these essentials are attained can an instrument be truthfully called a perfect medium for re-enacting the artist’s performance .... both are achieved solely by the

AMPICO

which controls exclusively the only system of dynamics that accurately records the playing of the artist

THERE IS BUT ONE GENUINE AMPICO
obtainable in the following Pianos:

KNABE  MASON & HAMLIN  CHICKERING
J. & C. FISCHER  MARSHALL & WENDELL  HAINES BROS.
and for Canadian Distribution also in the WILLIS

also in these famous European Pianos:

BRADWOOD  CHAPPELL  COLLARD & COLLARD
CHALLIN  HIPKINSON  MARSHALL & KOSSE  ROGERS

THE AMPICO CORPORATION  AMPICO, LTD.
27 West 57th Street, New York  London

Advertisement for the Ampico (1928)

artists had never had the opportunity to hear a recording of themselves in any form. And the discs of those days, even when listened to on the most sophisticated modern equipment, require a good degree of sympathetic imagination to assess the quality of the playing engraved in the grooves. Then suddenly around 1904/5, it was possible to listen to a fine Feurich or Steinway piano reproducing the interpretation of artists in the comfort of one’s own music room.

To summarise the situation; in the first years of the twentieth century many pianists had never heard themselves play. A few had braved the disc
recording studio, and had probably been bitterly disappointed by what they heard. And then there was the reproducing piano - a live piano playing recordings of the greatest pianists. Is it any wonder that these instruments were hailed as the greatest musical marvels of the day? The Welte-Mignon, for the first time, made it possible for a pianist to play and have that performance played back on another piano. It was a remarkable concept. Welte and Bockisch analysed the characteristics of a pianist’s playing, invented a means of noting down the information, and then produced a mechanism to play it back.

The Essential Features of a Pianist’s Performance

A record of a pianist’s playing must contain certain data. The essential features, i.e., those characteristics which distinguish one artist’s interpretation from that of another, may be described as follows:-

1. Pitch of the notes.
2. Length of the notes.
3. Their placing relative to each other.
4. The speed at which the piano hammer is travelling when it hits the string (loudness).
5. The use of the sustaining pedal.
6. The use of the soft (una corda) pedal.

In musical terminology, 2, 3 and 4 represent tempo, rhythm and phrasing.

It is the manipulation of these six factors peculiar to a particular artist which makes an interpretation unique. Any notion that a pianist can produce a particular tone quality by the way he plays the keys of the instrument has been scientifically debunked. A performance can be objectively analysed by the measurement of the six factors listed, and if a reproducing piano is to work 100% correctly, then it should be able to recreate these six requirements. The question we need to address is to what extent any reproducing piano can achieve this.

Recording the Data

All the reproducing piano systems were able to make an accurate record of the pitch (1), duration (2) and placing (3) of the notes as the pianist played. Suitable electrical contacts were placed in the action of the special recording piano, usually under the keys, but sometimes at a point close to where the hammer hit the string. As the pianist played, the circuits were closed, and in some cases the information was relayed to a moving roll of carbonized paper by pressure from a row of small stylus points, one for each note. These stylus
points pressed the paper against the carbon surface and made lines on it. In other cases, the roll was actually punched out in real time by a set of vibrating punches operating at high speed. The roll was wound on to a take-up spool revolving at a constant speed, thus recording all the subtle speed variations of the performance. The use of the sustaining (5) and soft (una corda) (6) pedals was noted in the same way. The technology to make this part of the roll was perfected in the very early years of the twentieth century, before the invention of reproducing pianos, and was an automatic process. The pianist played and the note record was traced.

This leaves the recording of the pianist’s dynamics (4), the feature which distinguishes the reproducing piano from the more common foot-operated pianola. The methods used by the various reproducing piano manufacturers differed from system to system.

Edwin Welte claimed that right from the inception of the Welte-Mignon in 1905, he could record the dynamics of the pianist’s playing automatically in real time. He always kept his method secret, but it would have been an electrical or pneumatic system. To what extent that system could record hammer speeds we may never know, but at the very least it must have been
able to differentiate between loud and soft playing, and between accented notes and melodies, and accompaniments.

Ampico and Duo-Art used methods which were not automatic. In the case of Ampico, for most of its classical and salon issues, a musician/stenographer was employed to mark a score as the pianist played, noting the general rise and fall of the dynamics, and also any accents and counter-melodies.

Duo-Art had a recording console mounted on a small desk, incorporating two control knobs operated by a recording producer, and by dialling in the appropriate power levels, he could register the overall level of playing, as well as any melody line or accent. As the pianist played, a rough dynamic coding was perforated alongside the note record.

The technicians were always professional pianists in their own right, and probably would have known the works to be recorded beforehand. They also encouraged the artists to play through the pieces before the recording took place. With experience, they became extremely skilled at taking down accurate data.
Creating the Reproducing Piano Roll

Having obtained the data, the second part of the process utilized a method which was in principle similar for all systems. The recording of the notes was checked and any obvious mistakes corrected. The roll editor/producer then added coding, in the form of perforations at the edges of the roll, to operate the dynamic expression mechanism of the reproducing piano, working from the data obtained at the recording session. Ampico and Duo-Art often invited the artist to participate in this editing process; Welte-Mignon, however, chose not to do this, finding that it was not necessary. When the roll was completed, it was played to the artist, who then approved and signed off the interpretation. The roll was then duplicated and sold to the public.

It is important to note that the creation of the roll was not an automatic process. It required musical as well as technical decisions to be made by the roll editor, particularly in inserting the dynamic coding, those additional perforations at the edges of a roll outside the scale of the playing notes. The editor had to have an intimate knowledge of how the reproducing action of his particular system worked, and how to interpret the recorded data to make the reproducing piano play at the desired dynamic level at any particular moment. This was a real art as well as a science, and the success or otherwise of the record roll depended on how well the editor did his job.

Basic Reproducing Piano Technology

All reproducing pianos operate using the same basic principles. Their pneumatic actions work by suction. The power to operate them is generated by an exhauster pump driven by a small electric motor. The pump produces a high enough level of suction to operate all the necessary functions of the reproducing action, and to play the piano action itself at the loudest level needed for a particular piano in a particular setting. The function of the reproducing action is to reduce the level of suction (i.e., the power applied to the piano action) at any given moment to that required to 'reproduce' the playing of the artist.

Each reproducing system employs a different method of controlling the suction level applied to the player action, and the recordings made for one type of instrument are not compatible with those for another.

The Welte-Mignon reproducing action was marketed in three forms - the original German type dating from 1904, the subsequent German type, playing rolls cut on green paper, and the later American 'Licensee' version - although all performed in the same way. The system remained in principle unaltered until the end of production around 1932. This piano plays 80 notes, from bottom C to top G*, sacrificing the bottom three and top five notes to

* The ‘green’ system played all 88 notes of the full piano compass.
Ampico piano roll showing extended perforations (bleeding)
accommodate the expression perforations. The reproducing action divides
the piano keyboard in two at middle C, there being a separate controlling
mechanism for each section. Each expression mechanism can produce a
crescendo from \textit{pp} to \textit{ff} at a fixed rate, and back again to \textit{pp}. Superimposed on
this is a device to change the dynamic level very quickly. When switched on
and off instantaneously, an accented note can be picked out, or if switched on,
can change the level from quiet to loud quickly. Similarly, the level can be
reduced from loud to soft quickly. This device is known as the 'Sforzando'. In
addition, there is a control to bring the level of playing to a pre-set \textit{mezzo-forte},
which resets the playing to a definite known point from time to time. The
sustaining and soft pedals are operated as the pianist recorded them. With
skilful use of these controls, a roll producer/editor can make the Welte piano
reproduce the artist's playing.

The Ampico went through a number of detailed changes in its early days,
but for general purposes it will suffice to describe the version which had
arrived by 1919 and continued until the launch of the 'new' Ampico in 1929. It
was for the earlier system that most of the fine classical and salon rolls were
produced. The Ampico player unit operates 83 notes, from bottom B to top
A. As with the Welte-Mignon, the Ampico has two separate identical
expression mechanisms, the player action being divided in the middle of the
piano between E and F. The overall level of playing is controlled by two
crescendo mechanisms, fast and slow. The slow crescendo increases playing
level from \textit{pp} to \textit{ff} in 11 seconds, and the fast in two seconds. Decrescendos
operate in a similar way. In addition, there is the possibility of adding six
levels of playing instantaneously to produce accented notes, or make quick
overall changes. These levels are known as 'intensities', and because they
operate by adding a certain additional power \textit{above} the point at which the
crescendo control has reached, virtually any level can be achieved, subject to
the overall maximum. Again, it depends on the roll producer/editor to use
the means at his disposal to make the Ampico piano reproduce the artist's
performance. The sustaining and soft pedals work in the same way as other
reproducing pianos.

An important additional feature is found on Ampico rolls. The sustaining
pedal on a reproducing piano is operated by a pneumatic motor, and when
correctly adjusted will function very quickly. In practice, however, it has been
found that it is well-nigh impossible to duplicate with absolute accuracy the
speed of operation of that pedal from one instrument to another. Ampico
found that by extending note perforations beyond where the recording
pianist released the keys to where he released the pedal, very subtle effects
could be consistently reproduced. This practice was known as 'bleeding'.
Another result of bleeding, covered in Ampico's patent, was that the tonal
richness of the piano was claimed to be increased. The complete effect was
never quite the same as that of the original interpretation, but by using the extended perforations and the automatic sustaining pedal in conjunction with each other, the character of the pianist's playing could be heard in greater detail than with the other systems, one of the big advantages of the Ampico.

The Duo-Art system plays 80 notes of the normal 88 note compass, from bottom C sharp to top G sharp, the positions for the remaining four notes top and bottom being used to operate the dynamic level coding. The system divides the music into 'Theme' and 'Accompaniment', each having its own independent dynamic control mechanism. Both can deliver 16 levels of power, from pp to ff (zero to 15 in Duo-Art terminology), and they are arranged so that each Theme gradation is slightly louder than its corresponding Accompaniment level.

The loudness at which the whole piano plays is normally controlled by the Accompaniment mechanism, which tends to produce crescendos and diminuendos, rather than fixed steps. However, the player action is divided into two between middle E flat and E natural, and when a sudden change in dynamic level is required for melody notes or accented chords, perforations at the edges of the roll (known as 'Themodist' perforations) enable the control of either the bass or treble (or both) sections of the piano to switch to play at the Theme dynamic level, the other part of the keyboard remaining at the Accompaniment level. This switching operates only for the instant the
Themodist perforations are being read by the mechanism, permitting the
Themed notes or chords to be separated from adjacent Accompaniment notes
very accurately; this is one of the Duo-Art’s particular strengths.

These descriptions of the three main systems will give the reader a feel for
the way in which typical reproducing pianos work. They will also illustrate why
each type has to be assessed separately in its own right, as well as showing that
each system has its strengths and limitations, and therefore must rely on the
roll producers to make the most of the 'hardware' at their disposal. In practice
all the systems are considerably more versatile than these brief descriptions
might suggest.

The job of the roll editor is of paramount importance in the creation of a
reproducing piano roll. As noted above, the recording of the note pitches,
positions and durations and the use of the sustaining and soft pedals was
largely an automatic process which was used by all the piano roll companies,
and was perfected in the early years of the twentieth century. By contrast, the
record of the dynamic strengths used by the artist was obtained in different
ways by each roll manufacturer. Once that information was to hand, it then
became the province of the roll editor to translate the data into commands,
additional perforations at the edges of the roll, to make the reproducing
action of the piano play at the required dynamic level at a particular instant.
The roll editors were highly skilled people, both musically and technically,
and only a handful of people are known to have been employed to edit the
important pianists' recordings throughout the whole active period of the
reproducing piano.

Roll editing is to some degree subjective, and the personality of the editor,
in addition to that of the artist, tends to come through in the final roll. An
experienced listener can often tell if he is listening to a Welte piano or an
Ampico or a Duo-Art from certain tell-tale signs. The editors became very
familiar with their respective reproducing systems, and knew how to make
them reproduce exactly the effects they were seeking. There would have been
certain basic 'rules' to which they would have adhered, but some of the more
subtle effects would only have been obtained by trial and error, experimenting
with one combination of dynamic perforations or another until just the
desired result was achieved. And this would have been carried out on an
editing piano, presumably set up to the company's current highest standards.

The fact that this method of editing was used means that to obtain the best
possible result from a reproducing roll, it must be played back on a correctly
functioning original instrument; there is no additional information which can
somehow be reclaimed by designing a 'more efficient' mechanism. In this
way, reproducing rolls are quite different from early disc recordings, where
the recording techniques outstripped the record players of the time. This does
not mean that it would not be possible to build a computer model of, say, a
Duo-Art piano which would function as well as an original instrument (1). However, the performance of a perfectly restored old piano would have to be very carefully analysed, and the speeds at which the original expression mechanism operated, and the ways in which the piano may intentionally not have reproduced exactly what appears on the roll at a particular time taken into account in a computer replay programme. While we have the original instruments around, that does seem, to me, a rather pointless exercise! Beware of claims made for 'improved' expression mechanisms for any of the old reproducing pianos!!!

Before leaving the subject of how the mechanisms work, there are a few limitations common to all pneumatic reproducing pianos.

Probably the most important to grasp is that no pneumatic action can play at more than one level at any one time. The fact that player actions traditionally are divided roughly in half (bass and treble), immediately enables the treble to play at one level and the bass at another. However, what happens if the music demands that the piano has to play at more than one level in either half of the keyboard? The answer is that it has to be faked. The two (or more) levels have to be separated by a brief moment in time. Because the reproducing actions can operate very quickly, this time can be short, so short that the ear is deceived into not realising what has happened. A melody note will either precede its accompaniment, or will be minutely delayed. In practice, many pianists play in this manner without realising it, more frequently artists from the generations who made piano roll recordings than is common today. Nevertheless, this deception does take place almost all the time in a reproducing piano roll recording.

Also, because there is the limitation of the player action only playing at one level at any one time, it cannot completely reproduce every slight variation in touch of the original performance. There is, then, reproduced only as much information from the original performance as is necessary to create the impression - the portrait - of the artist's playing. This process, known in present-day parlance as 'masking', is used today in the digital recording of minidisks, where because of the limitations of electronic space, what the system thinks the human brain will not miss, it leaves out. This is much more subtle than is the case with the reproducing piano, but because it tends to be applied automatically, in some ways it is less successful than on a reproducing piano roll recording, where the decisions are made on each occasion by a skilled musician.

It was only right at the end of the commercial life of the reproducing piano that someone developed the means of accurately measuring the speed of the piano hammer as it hit the string. Ampico, from 1924, employed Dr Clarence Hickman, a brilliant physicist, and gave him virtually carte blanche to improve the Ampico piano. One result was a completely new and very fine
reproducing action for the Ampico, but which was not really compatible with the previous Ampico system, for which a large and valuable library of music rolls had been recorded. Another success, which concerns us here, was the spark chronograph, a device which could measure the speed of the hammer during its last 1/8" travel before it hit the string. This, one might think, ought to result in more realistic rolls, since all previous guesswork as to dynamics would be eliminated. In practice, however, the quality of the rolls recorded by the old and new methods is indistinguishable, and the Ampico editors found that the main advantage of the spark chronograph was that it allowed the roll to be manufactured more quickly than from the old data.

There were even occasions when utilising the hammer speed data was not successful. One quoted case was of the playing of E. Robert Schmitz, whose playing on the Ampico was subjectively too loud (2). The conclusion drawn at that time was that one missed the presence of the artist sitting at the keyboard; with him there, his dynamic levels were acceptable. So the roll was coded to play more quietly!

Fortunately for the success of the reproducing piano, the note pitches, durations and placings are the most important aspects in reproducing a performance which can often be recognised from these alone; they were the automatic part of the roll-making process, and the part which could be made accurately. The dynamics are really the icing on the cake. In fact it may not
be desirable to reproduce in absolute terms the force with which a pianist played. The range of tone which a concert grand can handle with ease may sound punishing and unmusical if transferred exactly to a small upright. The roll editors and producers were well aware of this and became very good at creating dynamic coding levels which sound convincing. Specifically, they realised that throughout a musical performance, there are constant, sometimes almost imperceptible crescendos and diminuendos which must be reproduced if the music is to sound interesting. The balance between melodies and accompaniments is critical, and the general contrast between loud and quiet playing fundamental. But absolute accuracy in reproducing hammer speeds is not a requisite.

The use of the sustaining and soft (una corda) pedals was recorded. As far as possible, the sustaining pedal was reproduced just as the artist had played. However, the speed at which the automatic pedal operated on the editing pianos must have varied, as one does meet pedalling from time to time on published rolls which one might charitably describe as somewhat eccentric, if not distinctly suspect. One group of rolls which needs to be approached with particular caution is those Duo-Arts issued by Aeolian in London. On the other hand, Ampico rolls are particularly good in their reproduction of the sustaining pedal.

The soft pedal on an upright piano moves the hammers closer to the strings (half blow). On most grands, the whole action moves sideways, the hammers hitting only two of the three strings, and with a softer part of the hammer felt. On reproducing grands, however, a half-blow arrangement is normally fitted. This is used as an additional aid to reproducing the pianist’s dynamics. Although the use of the soft pedal is recorded, in play-back it is consequently used more frequently than in the original performance. Two notable exceptions to this are on the original Welte rolls, and those Duo-Arts produced in London, where the use of the soft pedal is almost certainly as the artist played. Some Welte grands had a half-blow fitted; others, a key shift. All Ampico and Duo-Art grands (after a few very early examples) had a half blow, and a few late Duo-Art grands had a key shift as well - but never only a key shift.

The roll editors and producers worked at their factory specification reproducing pianos to create music rolls which sounded right.

**Reproducing the Performances Today**

So far we have outlined the processes and methods used to manufacture the music rolls which the recording artist would accept as representing his performance when played back on the piano roll company's own piano, be it Welte-Mignon, Ampico or Duo-Art.

What benchmarks do we have when we try to recreate these reproducing piano roll performances 70, 80, even 90 years after they were recorded?
There is little audible evidence of how the reproducing piano companies expected their pianos to sound. In 1927, Aeolian in London made a disc recording of Grainger's Duo-Art roll of *To Spring* by Grieg (Cat. no. 6206) (3). This recording, regrettably, is so distant that one cannot really form any opinion of how that instrument was performing. It sounds tonally soft, and with virtually no dynamic contrasts. Odeon/Parlophone made a series of disc recordings of Welte pianos in the thirties (4); there seem to have been either different microphone/studio set-ups, and/or more than one piano - it is not clear which. These recordings sound extremely natural and convincing as piano playing in their own right, although some of the roll speeds are too fast. The discs are all 10"/25cm 78s, and it is probable that the Welte technician, or whoever was looking after the piano in the studio, was asked to speed up some of the performance to fit the time constraints of the discs. The dynamic range of these performances, too, is rather more limited than one might have expected. This may have been the recording process, although not necessarily so. There were Welte recitals staged in Germany in the mid-twenties, and in at least one of the reviews, comment is made that the piano did not play as loudly as the critic thought it should.

These two examples are the only ones we have of pianos recorded at a time when the manufacturers could have guaranteed that they were up to specification.
We do, of course, have many directly recorded 78rpm discs with which to compare the rolls. Pianists recorded many titles for both discs and rolls, and given the sonic limitations of early recording techniques, the evidence is there for the listening.

There are two separate aspects to consider when restoring one of the original reproducing pianos - (1) the piano itself and (2) the player or reproducing action and rolls.

1. **The Pianos**

Ideally, a reproducing piano should be an exact copy of the instrument on which the pianist made his recording, and it should be listened to in a room or studio with similar acoustics. This is clearly almost never going to happen. One must therefore accept certain compromises which one hopes will not be too damaging in recreating the original performance. In any event, no two pianos are exactly the same. Harold Bauer, to take one example, was aware of this in the twenties, and wrote in his autobiography\(^{(5)}\) that it was always somewhat discouraging, in spite of all the trouble taken when editing a roll, that the dynamics set to produce certain effects on the piano which was being used for auditioning purposes varied when the roll was played on another piano. ‘This was due to minute differences in quality of tone and in resistance within the action, and there was no way of overcoming the difficulty.’

Certain ground rules may nevertheless be set. The recording pianos were usually grands of medium size - between 6'0” and 7'6”; only rarely were concert grands used. It goes without saying that these instruments would have been in pristine condition, responsive to the touch, tonally very even throughout their entire compass, and with the action regulated to perfection.

These requirements may be translated directly across to the reproducing instrument, a top quality grand or very large upright whose soundboard size and string length will be comparable to a 6' grand. Fashions in piano tone have changed since the hey-day of the reproducing piano, and in order to get the piano to respond to the signals from the reproducing action as envisaged by the artist, it must be fitted with the correct hammers, properly voiced; this means toned more deeply and softer than is encountered in a modern concert instrument. Extreme evenness in the regulation of the piano action is essential, and not easy to achieve. Without this, the piano will not be able to deliver the complete dynamic range intended by the manufacturer.

2. **The Player/Reproducing Action and Rolls**

The player/reproducing action must also be rebuilt to the highest standards. Player actions are made of wood, leather, rubberized cloth, felt and metal, a combination of materials which modern technicians would be unlikely to
choose for a precision piece of equipment. Nevertheless, the restorer must work to very fine tolerances - in some instances to + or - .002" (the thickness of tissue paper). Written service instructions were published\(^6\) but they do not give all the data necessary for a successful restoration, and the experience of the rebuilder becomes an important factor in determining how well the rebuilt action will perform. All reproducing piano manufacturers published test rolls which are designed to confirm that once a piano has been fully restored, it will perform certain important functions of the mechanism correctly. Unless a piano meets the tests, it cannot be claimed to be performing as the manufacturers intended.

In outlining the essentials for a restored reproducing piano, such phrases as 'correct hammers', 'properly voiced' and 'the experience of the rebuilder' have crept in, introducing a subjective element. 'Soft' piano hammers to one person will be 'warm and full toned', and to another 'like cotton wool and lifeless'! Within a limited range, the dynamics of a reproducing action can be varied. In the final analysis, those nice decisions as to tone, and delicate action adjustments come down to the background of the person looking after the piano, and his musical good taste, but not at the expense of the piano failing to perform to the test roll. But if the result is not a musical performance, then the restoration is a failure. One knows that the greatest artists of the day were prepared to endorse what they heard when they made the recordings, so it is not unreasonable to assume that the pianos did work once. Today, as must have been the case in the early years of the twentieth century, people with musical perception and the interest in the technical side of these instruments as well, are very rare.

Recorded piano rolls are designed to be played back on the reproducing piano, the speed setting being fixed at the beginning of the roll. This speed is normally marked as, for example, 'Tempo 80', meaning that the roll plays back at a speed of 8' per minute. The main exception to this is on the original German Welte pianos, where all the rolls play back at the same speed, around 9.75' per minute. Because the roll is wound on to a take-up spool revolving at a constant speed as it plays, the actual roll speed gradually increases, but provided the correct size of take-up spool is used, always the case in an original instrument, the cutting of the roll takes this into account, and the speed of the music does not increase. If the roll is not played back at the correct speed, there is no obvious give-away, as in gramophone/phonograph recordings, where the pitch alters. I think it is safe to say that, allowing for the very occasional production error on the part of the roll manufacturer, provided the roll is played at the marked speed, the performance, as far as note positions and durations are concerned, will be the same as the original performance. It should be noted that because the Ampico and Welte systems rely on the expression functions working in fixed predetermined times, if a
Duo-Art piano roll showing Tempo marking 90 (playing speed 9 feet per minute)
roll on these systems is not played back at the correct speed, the dynamic information will not be correct. However, in practical terms, the speed will have to be substantially wrong before too blatant errors become obvious.

There are two sizes of take-up spool regularly met with - the original size for Ampico and Duo-Art pianos having a circumference of 6". However, in a few late Duo-Art instruments and the 'new' Ampico, the size was increased to 8½". The idea behind this large size was to enable those pianos to play longer rolls with a running time of up to 30 minutes, as against a maximum of the earlier rolls of about 15 minutes. However, when the later pianos play rolls, particularly longer rolls, designed for earlier pianos, the music slows down during the play-back to the extent that the performance is noticeably affected.

The original German Welte rolls were designed for pianos with a take-up spool circumference of 8½". When these rolls were recut for the later American version of the Welte system, whose pianos had a 6" circumference take-up spool, the rolls were not always re-edited to compensate, resulting sometimes in performances which at the end of the roll sound ridiculously fast. These problems only arise when a roll is played on an instrument for which it was not designed, hardly a valid criticism of the reproducing piano, but still one which is occasionally met with today.

In order to lend greater credibility to the reproducing piano, claims are sometimes made that piano roll recordings are digital, and therefore must be accurate! Certainly, the fact that the software (the roll) has holes perforated which must be either on or off has similarities with modern digital techniques. However, the holes are punched at frequencies varying usually between 20 and just over 30 increments to the inch, very crude rates in computer terms. An average roll achieves an accuracy of about 1/50 second at its commencement, and because the roll, as it plays, winds on to a take-up spool, its playing speed gradually increases, thereby improving the accuracy as it plays. This standard of accuracy is just about adequate. Much of the time no audible damage is done to the music, but the shortcomings can occasionally be heard in slight unevennesses in rhythm because the holes cannot be punched in quite the right places. This limitation, however, is as nothing compared to the errors which can creep into the performance of a badly functioning reproducing piano (the digital to analogue converter)!

Commercial piano rolls were generally duplicated from master rolls, that is, specially prepared rolls which were made two or three times normal playing length. The reason for this was to enable the rolls sold to the public to be guaranteed to be identical, copy after copy, year after year. This was certainly the case with Ampico and Duo-Art. Welte generally, however, did not have lengthened master rolls. The version they used for copying from was a carefully corrected playable roll which, in itself, was completely accurate. By
making copies from a standard length roll, slight inaccuracies crept in. They
can be seen by comparing different copies of the same roll against each other,
and also against the master. They show up in rhythmic hiccups, as described
above, and in the dynamic information being upset - for example, the wrong
note being accented in a fast passage of music. Very rarely, the sustaining
pedal may come on or off at just the wrong moment.

A similar one-to-one system of copying was widely used when reproducing
rolls for all the systems started to be recut during the 1960s, ’70s and ’80s, and
even in some cases more recently. These rolls are often the only copies freely
available, but they are never quite as good as the originals from the first 30
years of the twentieth century.

Conclusion

After the reader has been guided through the strengths and so many of the
weaknesses of the reproducing piano and its rolls, he may be forgiven for
wondering if the whole thing is worth bothering about!!!

Just how good were these reproducing pianos? Are our expectations in
2002 higher than those 70 to 90 years ago? To what extent were these
somewhat complicated pneumatic actions successful? What could they really
do?

It is not generally appreciated that when a reproducing piano is not
playing correctly, it will distort the interpretation, even if the piano sound
itself is magnificent. The piano may play loudly when it should be playing
softly, and vice-versa; the rhythm may be uneven and the tempo too fast or too
slow; the use of the pedals may be incorrect; these are apart from those errors
in the rolls themselves.

Reproducing pianos do, however, start with one enormous advantage, but
one which most present day listeners do not have the opportunity to enjoy -
the sound of a real piano playing in their own home. Compared to a fine
example meticulously restored and playing a first class roll, the most expensive
hi-fi pales into insignificance. No loudspeaker comes anywhere near the real
thing. But this is of no value if the interpretation is not convincing.
Reproducing pianos must at the very least sound as if someone was sitting
playing at the keyboard. But they must go further than that if they are to be
accepted as an alternative 'carrier' to disc and tape as a means of preserving
the interpretations of a whole generation of pianists active between 1904 and
1932, some of whom chose to record only for the reproducing piano in
preference to the 78 rpm disc. I suppose one must concede that present day
expectations are higher than when the rolls were being cut. We have grown
up used to hearing artists live in concert, and being able to compare their
performances with their recordings. But what is so astonishing is that many of
Photograph of the Viennese pianist Alfred Grünfeld

His portrait
the piano roll recordings of 95 years ago will stand up to examination today. When one listens to some of the early pianists, many of whom had big reputations in their time, one hears what seems to us some very strange playing. One is inclined to suspect the rolls, but fortunately a few of these artists made disc recordings which one can compare with their Welte rolls made at about the same time. Pugno on disc and roll is obviously the same artist. Listen and compare his Scarlatti Sonata and the Liszt 11th Hungarian Rhapsody. Then there is Grieg - his Butterfly and Bridal Procession, Op. 19/2; both the rolls and the discs display the same interpretations. Saint-Saëns is there too. And of the other early recording pianists, there are Grünfeld and de Pachmann. When one comes to later generations, most of the artists who made disc recordings also recorded for Ampico and Duo-Art as well as Welte. Their disc and roll recordings are usually very similar.

Of course the reproducing piano could not record and play back every exact detail of a performance; it would be foolish to claim that it could. But what it can do is to paint a most vivid portrait which may be compared with the photograph provided by the disc. And sometimes the portrait is the more revealing of the two.

Reproducing piano roll performances should not, in my opinion, be subjected to too close scrutiny. In all good reproducing rolls, the main features of an interpretation are present, and in the later rolls, much of the detail as well. The quality of the rolls did improve over the years, much as has the quality of audio recording. But it can be misleading to attack a music roll with a ruler, and make pronouncements as to how Debussy may have played a note a ¼ millimetre earlier than Gieseking in the same composition. Similarly, one should not construct a whole learned paper on the use of the sustaining pedal by pupils of Liszt based on measuring the rolls of Lamond, Friedheim and Siloti. There may be very good reasons why the roll editors had to make slight alterations to get the overall interpretation to sound the way the artists wanted. An art student would not try to identify the brands of cosmetics used by the Mona Lisa from her portrait!

At their best, reproducing pianos are a magnificent invention, and they still have the ability to astound the listener. They complement the other types of recording, and in a number of important cases are the only means we have of listening to and appreciating some of the greatest pianists of the nineteenth and early twentieth centuries.

Acknowledgements

I should like to thank Larry Givens and Rex Lawson for their help in the preparation of this article. Their ideas and useful comments have contributed in no small way to making it more accurate, more worthwhile and clearer than it would otherwise have been.
Notes

1. Music roll transcribing system, Richard Stibbons, Mechanical Music Digest


3. Aeolian Company 78rpm record no. M0447

4. Odeon 04748  *Norwegian Bridal March* (Grieg) Grieg Welte 1276
   Odeon 04748  Etude, Op. 10/8 (Chopin) Kleeberg Welte 454
   Parlophone P070  *The Two Larks* (Leschetizky) Leschetizky Welte 1203
   Parlophone P0120  Spanish Dance no. 5 (Granados) Granados Welte 2780
   Parlophone P0120  *Kleiner Walzer* (Carreño) Carreño Welte 371
   Odeon (probably)  *My Joy* (Chopin/Liszt) Reisenauer Welte 325

   There may be other titles.


6. e.g., *The Ampico Reproducing Piano - Inspectors’ Instruction Book 1919* with 1920 Supplement, Engineering Department of the American Piano Co.

An Interview With Wolfgang Heisig

Rex Lawson

Wolfgang Heisig is a composer and Phonola player living and working in the former East Germany. He perforates his own music rolls, and gives concerts in many parts of Europe

![Wolfgang Heisig. Photo © M.Creutziger](image)

RL: Wolfgang Heisig, you are well known in the musical world as a composer and leading performer on the player-piano. Your Phonola push-up piano-player is a familiar sight at contemporary music festivals throughout Germany. Your career and musical enthusiasms embrace a very wide range of music. What brought you to music in the first place?

WH: When I was a child, we had an Ibach upright piano in the family living room, and I began tinkling the ivories when I was about 7 or 8 years old. To begin with, I wanted to play the ‘hits’ that I heard every night on the radio from West Germany, and I was rather pleased with myself when I managed to play an entire boogie-woogie in front of my class at school. Alas, the teacher forbade any repeat performances in the strictest terms!

RL: Clearly you were an anarchic composer in the making. Did you also come across the player piano at that time?
WH: No, that was later. I remember the date exactly. It was 11 January 1978, when Deutschlandfunk, one of the radio stations in the ‘West’, broadcast a musical portrait of Conlon Nancarrow, produced by Walter Zimmermann. They played his *Blues*, and Studies nos 12, 24, 25, 21 and 40b. It wasn’t until ten years later, when I visited Jürgen Hocker, that I saw and heard an actual player piano for myself. I wrote *Ringparabel*, which was my first composition for Phonola, in 1990, and I played it in München as part of J.A. Riedl’s ‘Klang-Aktionen’ concert series.

RL: So what was it about the player piano that aroused your particular interest?

WH: Well actually it’s the piano player that I use for my concerts, a Phonola push-up manufactured by Ludwig Hupfeld, although I am of course interested in the player piano in general. For one thing, the mechanical way in which the player action works on the piano keys gives it its own distinct musical ethos. Quite apart from the structure of any music on roll, it’s a style of musical reproduction that has many unique qualities, and this fascinates me.

Also, the very anachronism of the player piano is a real source of delight - a 100 year old semi-automatic instrument with not a trace of electronic circuitry, but one on which I can, for example, play a composition that has been written only ten days before, and which has been sent by email to my completely electronic PC.

Of course the violin is an older instrument than the piano, and yet it is still used for contemporary music, and indeed the advent of the computer has allowed composers much more freedom in the way they write violin music. But the player piano is many instruments in one, and for me it forms a bridge between the unrestricted artistic freedom to organise musical structures, while adhering to the generally accepted musical limits of tone-colour, duration and pitch.

RL: How did these underlying musical principles lead you towards particular compositions?

WH: Some of my works come from special musical ideas, which I was able to put into practice with the help of the player piano. For example, in *Ringparabel*, I used a 5-note motif that is inverted, reversed, augmented, diminished, varied, transposed and so on, and which can be played simultaneously in up to 8 different tempi.

In my *Etüde Kwic & Kwoc*, the opening theme of the Bach A minor Violin Concerto is played by an imaginary pianist, whose finger becomes dislocated, so that his performance ends up in disaster.
In *Kode*, I transcribed a number of different coding systems into musical form, including bar codes, Morse code, braille and scansion signs. The artistic results are twofold - a synthesis of music and graphics.

Other works I have written are *Se Io Ho Ben La Tua Parola Intesa* for violin, 2 clarinets and Phonola, *Heislvertonungen* for speaker and Phonola, *Cageface* for speaking Phonola-player (or Phonola-playing speaker!), *Castles* for slide projector and Phonola, *Lettrismen* for Phonola without piano, and *Écriture Automatique* for Phonola and pneumatic percussion.

**RL:** All these works are for Phonola rather than any other type of player piano (or piano-player). So one might say that you are a ‘Phonolist’ rather than a Pianolist. Is there a particular reason for this, and do you prefer the Phonola?

**WH:** As I’m sure you know, in the German language our nouns have three genders, masculine, feminine and neuter. For some reason the Pianola is neuter, *Das* Pianola, and the Phonola is feminine, *Die* Phonola. So of course I love my Phonola! But you might say that the Phonola is the sister of the Pianola.

I live not far from Leipzig, where the Phonola was built. Indeed, the factory still stands, though it is used for other things. I daresay if I lived in London or New York, I would play the Pianola. Technically speaking there are hardly any differences.

You will remember that you and I both took part in a concert on 7 June 2000 at the Gasteig concert hall in Münich. Amongst other things, we performed Nancarrow’s Studies nos 40b and 44, on your Pianola and my Phonola simultaneously. We played in perfect harmony, just like sisters!

**RL:** Well, I was an only child, so I’ll take your word for it! Since this interview is becoming a little personal, let’s take the opportunity to find out something of the man behind the music. Tell us about your life, your career, your family. Do you really have sisters?

**WH:** Yes, I have three sisters, who get on famously, and two brothers as well. I was born in 1952 at Zwickau, where Robert Schumann lived. After military service in Gotha (near the Steck piano factory), I went in 1972 to study piano and composition at the Musikhochschule in Dresden, and I worked over the years as a bank teller, church choirmaster, bar pianist, music therapist and high school music teacher. I am married to a general practitioner who specialises in neurology and psychiatry, and we have two sons, plus various animals, including a very affectionate donkey.
Since 1990 I have been giving Phonola concerts in Germany, Austria, Switzerland and the Czech Republic. I also construct musical sculptures, and these and the scores of my compositions, which can be highly graphic, have been exhibited all over Germany, including Berlin and Kiel, and even as far away as Riga in Latvia.

In 2000 I became a member of the Free Academy of the Arts in Leipzig.

RL: All this and the perforation of music rolls as well! You have a busy life. I saw your roll perforating machine when I visited you two years ago, and it impressed me by its cleanliness and accuracy. Not a drop of oil on the floor! It's a single punch machine, isn't it? Can you tell us how it works?

WH: Yes, there's a single punch that moves across the paper, with two PC-controlled stepper motors for the 'x' and 'y' axes. The punch head works pneumatically, with compressed air, and I use continuous computer paper with sprocket holes at the edge, which is fed through a paper splitter and trimmed to size after the notes have been perforated. The machine was designed and built by local firms in Dresden, with the aid of a government grant after the reunification of Germany.

RL: I know that you publish your own series of music rolls, which includes many of your own compositions. But apart from your own music, which other compositions feature in your catalogue?

WH: The collected works of Conlon Nancarrow are my most important project. I never grow tired of studying these masterpieces, and performing and re-perforating them from my corrected scores. Other composers whose works I have arranged for player piano, or who have written music specially for the instrument, include Tom Johnson, Gavin Bryars, Josef Anton Riedl, Jakob Ullmann, Lyonel Feininger, Charles Ives and Erik Satie.

RL: It's a considerable achievement, and I wish you good luck with your roll sales and forthcoming concerts. As a final question, what is your vision of the future of the player piano and its music?

WH: Well, the most immediate future for my own Phonola is a series of four concerts at the 'Klangrausch' festival in Leipzig in July 2002, and then I have to prepare a series of Wagner recitals for the Dresden Music Festival, as well as a concert with soprano, featuring the '5 Canciones Negras' by Xaver Montsalvatge.

But speaking more generally, I feel that player piano music occupies a small but important corner in contemporary musical life, and it should be safeguarded. We have a duty to preserve our musical heritage, and
this is just as important as the active encouragement and support of new and imaginative composers for the future. It would be good to establish a European player piano centre, where a library and archive could be housed, which everyone could use, where push-ups could be sold, repaired and rented, and where all the worthwhile music rolls of the world could be brought together, digitally scanned and then perforated on demand. That’s my vision!

RL: Wolfgang, thank you very much for talking to us. Let’s hope that together we can put some of your ideals into practice.

Wolfgang Heisig’s music rolls are listed on his website, www.heisigrollen.de, where details of prices may also be found. His compositions are not exclusively for player piano, as may be seen from the following list:

Lokaltermix for 30 unprepared actors
Atuwa for aluminium bread bin
Passionsmusik for organ
Tonwarenfabrik for 9 performers
2000 Words for performing ensemble as desired
Le Marteau Sans Maitre Avec Le Maitre Sans Marteau for flute, viola, guitar, percussion and pneumatic drill.
Also works for string quartet, orchestra, piano, and voices.
Player Piano

James Kirkup

Why is the red velvet tabouret turning
turning in front of the yellowing keys,
the yellowing keys of the player piano
belting out oldfashioned Swiss melodies?

Who was it sitting there playing the piano
playing the piano her hands in her lap?
And why did she vanish as soon as she heard me
give her closed door a polite little tap?

— Someone’s still playing the yellowing keyboard,
someone who’s gone, though her strange scent lingers.
The tabouret’s turning, but someone departed
keeps playing the keys with invisible fingers —

The yellowing keys of the player piano
belting out oldfashioned Swiss melodies
on the yellowing keys of the player piano
the player piano’s cold yellowing keys ...

This poem is an excerpt from One Man Band, Poems Without Words, by James Kirkup. It is published by Hub Editions, 4 Victoria Cottages, Church Road, Terrington St John, Near Wisbech, Cambridgeshire, PE14 7SS, who also publish several other books of poems by the same author.
The Medcraft Perforator

Rex Lawson

*Sylvia and Harry Medcraft at the roll perforator*

In the past year the Pianola Institute has purchased two items of equipment that will help it to promote and present the pianola during the twenty-first century. From Wolfgang Heisig in Germany it has obtained a Hupfeld 88-note push-up Phonola that is to be converted to a reproducing piano 'vorsetzer', to be used in public concerts of Duo-Art, Ampico and possibly Welte recordings. The instrument is to give its first main public performance in March 2003, as part of a Festival devoted to the music of Serge Prokofiev, to be held at the South Bank in London.

The second major acquisition has been the roll perforating machine designed and built by Harry and Sylvia Medcraft in the early 1970s, which was used by them for the copying of Duo-Art and other rolls until Harry's death in the late 1980s. The machine is now housed in the music studio at the new home of Rex Lawson and Rona Eastwood, and during the coming year it will be comprehensively cleaned, serviced and generally revived. The intention is to modify it to run from computer, and to use it for a wide variety of Themodist and Duo-Art rolls, both old and new.

Harry Medcraft was one of the first radio amateurs in Britain, and his callsign, G5JV, was well-known to the international radio fraternity. He ran a radio and electronic retail business under the name of 'Rex Radio', and when he retired and left the firm to his sons, he and Sylvia spent nearly all their time
building the new perforating machine. I met them first in 1972, when they copied Percy Grainger’s Duo-Art rolls of the Grieg Piano Concerto, which I then edited for use in a concert at the Queen Elizabeth Hall with the English Sinfonia.

The design of the machine is reasonably conventional, as Harry was lent a set of photographs taken in the 1950s of the former Aeolian and Ampico perforating machines that ended up at the Aeolian-American factory in East Rochester, New York. But it is one thing to look at a set of elderly photos, and quite another to use them as the inspiration for a completely new machine.

While the design was Harry’s, much of the construction work was undertaken by Sylvia, who at the age of sixty taught herself to use a lathe and milling machine, with quite phenomenal precision. All the punches and dies were milled to an accuracy of half a thou (0.0005”), and the punches were deliberately made to be less strong towards the top, so that if any punch became seized in the machine, it was less likely to damage the die plate.

Harry and Sylvia used their machine in the main for making copies of existing rolls, in particular Duo-Arts. Several systems were tried for the reading of original rolls, including at one time a comb of copper wire contacts, but the final solution that Harry devised was a specially milled tracker bar with particularly fine slots, operating miniature pneumatic valves that in turn made electrical contacts and so controlled the punch solenoids.

In general the original roll was pulled through at a step rate of around 16 per inch, and the copy roll was driven at the same rate. However, one of Harry’s inventions ensured that when a Themodist type perforation was encountered on the original, then the current step was shortened, so that the next reading was taken in exact synchronisation with the original punch row. There are generally many such Themodist perforations on Duo-Art rolls, so in practice the reading device was re-synchronised many hundreds of times during each roll copying process.

In the early ’80s, Denis Hall and I began giving concerts of two-pianola music, and we used rolls that were copied by Harry and Sylvia, then edited to form compatible duo rolls, and then copied again. At the time we took some photographs of the machine and its inventors, and the view of both of them provides a good impression of the way the copying was carried out. A complete bedroom had been given over to roll copying, with an adjacent bedroom housing the lathes, injection moulding machine, and other tools necessary for development and operation.

Visiting the Medcrafts was a marathon experience, since neither enthusiast went to bed much before sunrise, so that those with more regular employment left in the small hours with the prospect of little sleep in store. Although he had capacity for up to ten rolls on his feeder spools, Harry tended to cut only half-a-dozen at a time, like many other roll copyists before
Perforator punch head and paper transport

Roll reader
and since. The moulds for the plastic injection machine that formed the spool ends were also home built, and could be quickly modified to provide either left or right hand ends.

In all, the machine was far more of a social experience than an industrial process. The perforating of new rolls was regularly punctuated with coffee, music at the Weber grand downstairs, or even enforced replays of the television snooker, which fascinated Sylvia in the early days of colour. We hope this social aspect will remain a feature of the perforating machine, though its hours of operation are likely to be less nocturnal. As it is brought into operation in the latter part of 2002, volunteers will be welcome. Once the initial enthusiasms wear off, the production of rolls can be a very tedious process, as many have found in the past. If the Pianola Institute is to produce its own rolls, then we hope it will do so with the help of many friends and colleagues.
The Ampico Recordings of Leo Ornstein

John Farmer

The recent death of Leo Ornstein received a surprising amount of notice in the press, including an obituary in The Times. Twenty years ago, other than a few Ampico owners, only the most recondite musicologists could recall anything about him. The entry in Elaine Obenchain’s excellent Ampico catalogue, first printed in 1977, gives a good thumb-nail sketch of his curious career, which began as a respected young virtuoso pianist who played mainly conventional nineteenth century repertoire, then evolving into an enfant terrible of percussive modernism, who then almost totally faded into an academic teaching role after no more than a few years of notorious celebrity.

Ornstein recorded 25 Ampico rolls from 1916 to 1929 and so was a regular artist through almost the whole period of their studio recordings. The quality of his playing remained consistent throughout this period. After making allowances for some variations in the quality of roll editing and the fact that the earliest rolls would have been made for the Stoddart Ampico format, which does not always transcribe perfectly to the codings used for the Ampico action of the period 1919 to 1928, one can admire Ornstein’s intelligent and accurate performances.

Of the early rolls Reflets dans l’eau is outstanding for its range of colour and poetic musicianship. Melody in F sounds rather silly and affected and the interesting Hungarian Rhapsody no. 13 is treated with exaggerated and ponderous emphasis throughout the lengthy ‘Lassan’ section over which Ornstein spends so long that he has to curtail the splendid finale by omitting its best parts so as to complete the piece within the roll’s playing time! Ornstein completely redeems himself with the Chopin Nocturne, Op. 15/2 in F sharp played with clever rubatos, slow tempos and fine tonal effects in the middle section, giving a spontaneous improvisational effect.

The recording of the Chopin Valse Brillante, Op. 34/2 in A minor shows great originality in its treatment. This piece begins in mystical vein like a nocturne and then follows light filigree passages played with faultless delicacy. In the slower sections right and left hands speak independently to create a most unusual and imaginative interpretation.

Dvorak’s Humoresque presents the challenge of a hackneyed piece from which a virtuoso pianist is expected to produce new insights. Ornstein succeeds very well in this respect using very slow tempos to generate a perfumed and exotic atmosphere not normally associated with this work.

Debussy’s Arabesque no. 1 in E major is played at a leisurely tempo bringing out all its colours and textures. Here Ornstein allows the composer’s notes to speak for themselves without interpretative embellishment.
Two pieces from the middle period of Ampico recording (c. 1924/5) show Ornstein at his best. *Grillen*, Schumann Fantasie Pieces, Op. 12/4, is given a thoroughly stylish and clearly accented performance, and the powerful Grieg Op. 29/1, *Improvisation* is played not at all in an improvisational manner but rather in the persuasive tempo and accents which this excellent and little known piece deserves.

Leschetizky's *Barcarolle*, a late B Ampico recording (c. 1928), is given a wonderful controlled and impressionistic performance which would have delighted its composer, with clearly articulated passages and restrained delicacy.

The most considerable composition in the Ampico set is Chopin's 4th Ballade in F minor. Here Ornstein realises that respect is needed for the composer's intention. Tempos are carefully observed and rubatos are restrained. However, he shows his originality in bringing out inner voices within the left hand accompaniment figures with much advantage to the conception of this work. His virtuosity gives an excellent and clearly articulated account of the breathtaking final passages of one of Chopin's greatest works.
It remains to comment on his recording of his own compositions, Berceuse and Prelude Tragique. Both of these pieces are well enough played but I am afraid that I cannot see much virtue in the music of either, although some admire a certain neo Debussian/Russian flavour in the Berceuse. The Prelude Tragique sounds to me more like a very weak pastiche of Rachmaninov.

It is worth noting that Ornstein was the first artist of real note to make original recordings for Ampico. Most of the distinguished pianists who appeared on early Ampico rolls had made their recordings for Welte-Mignon, e.g., Josef Lhévinne, these being transferred across to the Ampico system by agreement with Welte. Such recordings were once described to the writer by Edgar Fairchild as ‘washed-over Weltes’ in a disparaging tone of voice!

Ornstein’s Ampico recordings are a valuable resource which may come to be referred to by musicologists if any of his later unknown compositions emerge into the public gaze. He was, whatever his merits as a composer, a fine and original artist whose playing can often demonstrate what can be made of a familiar piece by the application of a musician’s imagination.

The following biographical note referred to by John Farmer is from The Complete Catalogue of Ampico Reproducing Piano Rolls by Elaine Obenchain (William H Edgerton, 1977).

Leo Ornstein

This artist entered Petrograd Conservatory at ten, but anti-Semitic problems persuaded him to move to the United States in 1906 where he studied at New England Conservatory and the Institute of Musical Art. By 1916 he was playing comparison concerts demonstrating the Ampico. Ornstein managed to create controversy throughout most of his career. As a trailblazer in the field of modern music, he used dissonance to unusual effect and often incurred rebukes from more conservative musical minds. One baffled Norwegian critic concluded ‘(the) young man went temporarily mad’. Ornstein explained his philosophy in a 1919 Etude article: ‘The artist must first and foremost be sincere and true to himself absolutely - relentlessly. If he does not believe in his own artistic instincts how can he ever make others believe in them?’ He felt there was considerable difference between eccentricity in music and modernism that had been built on classic foundations. By 1926 Etude noted, ‘(his) interest in ultra-modernistic music and his radical compositions have won him the reputation of an iconoclast. His concert programs, however, have been unusually orthodox.’ But some critics were still not happy. Paul Rosenfeld said ‘Ornstein’s one-time imagination seems to have exhausted itself completely. If his name will live, it will only be because he was one of the earliest of the modernists, who pointed the way upon which other, and more gifted, composers might travel’. Undisturbed by the furor
among the critics, large and enthusiastic audiences gathered for any Ornstein performance. Ornstein went on to teach at Philadelphia Musical Academy from 1924 to 1935, was a faculty member at Temple University and headed his own school of music. He is currently living in Texas and has devoted the latter part of his career to composition.

Leo Ornstein’s Ampico Rolls

Arabesque no. 1, E major, Debussy, 61233H, 100565 (2)
Arabesque, Op. 18, Schumann, 56166K
Ballade no. 4, Op. 52, F Minor, Chopin, 63153H
Barcarola (Venezia), Recollections of Italy (Souvenirs d’Italie), Leschetizky, 68883H, 100565 (3)
Berceuse, Ornstein, 50643F
Concerto no. 4, Op. 70, D Minor, mvt 1, ‘moderato assai’ (solo piano part only), Rubinstein, 69243H
Danse Nègre, Op. 58/5, Scott, 58003H, 100565 (4)
Duet Songs without Words no.18, Op. 38, A flat, Mendelssohn, 56175H
En bateau (In a Boat), Zwecker, 57243H
Etude La Piccola, Op. 43/2, F minor, Leschetizky, 64141H
Etude, Op. 2/1, C sharp minor, Scriabine, 63711H
Grillen (Whims), Fantasiestücke (Fantasie Pieces), Op. 12/4, Schumann, 62811H
Humoresque, Op. 101/7, Dvorak, 52425K
Hungarian Rhapsody (Rhapsodie Hongroise) no. 13, Liszt, 51607M
Improvisation (on a Norwegian folk song), Op. 29/1, A minor, Grieg, 64581H
Kreisleriana, Op. 16/2, B flat, Schumann, 68123H
Kreisleriana, Op. 16/8, E flat, Schumann, 68453H
Liebestraum (Love’s Dream), Nocturne no. 1, A flat, Liszt, 63333H, 100565V (4)
Liebestraum, Nocturne no. 3, A flat, Liszt, 50425H
Melody in F, Rubinstein, 50665J
Nocturne, Op. 15/2, F sharp, Chopin, 50654H, 100565V (1)
Prélude Tragique, G sharp minor, Ornstein, 56063H
Reflets dans l’eau (Reflections in the Water), Debussy, 50715H
Valse Brillante, Op. 34/2, A minor, Chopin, 55145H
Waltz, Op. 64/2, C sharp minor, Chopin, 55184H
Regarding the Art of Reproducing

W. Creary Woods

This article was first published in the Music Trade Review, 11 December, 1920

W. Creary Woods, writer of the following article, has been connected with the recording department of the Aeolian Company from the time the Duo-Art piano and its accompanying records were first introduced to the trade, having charge of the making of the Duo-Art records from the time the first record is made by the pianist until the edited and corrected master is ready for duplication as a finished product. His views therefore, are authoritative and of general interest – Editor, Music Trade Review.

The art of reproducing the performance of a pianist on a music roll has developed to such an extent that comparatively few people realize what enormous progress has been made in the last few years toward a perfect reproduction.

Reproducing pianos and artists’ rolls have been manufactured for the past fifteen years or more, but the idea, in the beginning, was so novel and results so interesting that little criticism was expressed – the fact that a pianist played and his interpretation was recorded simultaneously, however crude, was in itself quite a remarkable achievement. Many of these earlier recordings are being marketed today as perfect reproductions. No one will deny that the first automobile was a wonderful piece of mechanism, and yet, when we compare it to our present luxurious motor cars, one is apt to smile at the ‘vintage’ of 1905.

For example, the Duo-Art reproducing piano and its artists’ records made today, compared to the earlier reproducing piano and records, is quite as advanced as the present motor car is to the one of 1905.

The reason for this great development was the decision made by the Aeolian Co. a few years ago to enlist the co-operation of the great artists in making the records and developing the recording and manufacturing devices in order to obtain the highest results demanded by the artists. Heretofore, no manufacturer has permitted an artist making records to ‘correct’ his records, not considering the shortcomings of the performer, or any defects in the recording apparatus. Uneven rhythms, incorrect pedalling, faulty tone constituted a few of the imperfections, and while these records still contained many characteristics of the performer the record as a whole was not by any means a perfect one.

The co-operation of the great artists, such as Paderewski, Hofmann, Busoni, Bauer, Grainger, Ganz etc, and their intense interest in the development of the records have been a great inspiration for the present high standard of the Duo-Art rolls.
This company's process of recording is a comparatively simple one. The artist is seated at an ordinary grand piano which is connected by an electric cable to the cutting machine in an adjoining room. At a given signal the pianist plays, and the recording machine is so finely constructed that it registers precisely the artist's performance – the most minute changes of rhythm, staccato, legato, pedalling, gradation of tone, pianissimo, fortissimo. So, for the first time, after the recording of a selection the artist can immediately hear his exact rendition of the composition.

If all this is accomplished during the performance, why is it necessary to 'correct' the record? While every artist holds a perfect mental picture as to the interpretation of a composition, yet comparatively few are satisfied with their actual performance. Therefore, to attain the perfect is always the artist's goal. This is possible only through a record of his playing, as whatever is faulty in the rendition is corrected and the finished roll presents his perfect performance.

Now one can understand why Saint-Saëns remarked that he would rather play for fifty thousand people than make one record, and also why Josef Hofmann (with his remarkable inventive ability) considers the making of Duo-Art records the most interesting work that he has undertaken.

We can now appreciate the satisfaction of the artist after the completion of his record. This record not only presents a perfect performance, but a lasting impression of his interpretation.

The importance of Duo-Art records in bringing the performances of the greatest artists into the home and raising the standard of musical appreciation cannot possibly be overestimated and the artist is afforded unlimited possibilities to present his best work to a greater public.
Concert review:

*Vive le Pianola!* A Soirée Musicale for violin and Pianola, Leighton House, 14 July 2001

Gina Cowen

*Thomas Hewitt Jones with Rex Lawson in rehearsal*

How do you start to describe a pianola concert? I used to write occasional reviews for the Independent, and would turn up, say, at the Festival Hall reasonably confident of both the instruments I was going to hear and the skill of the artist or ensemble. The audiences also knew largely what was to be expected and so there was a kind of complacency which allowed you to focus on the music, because what was what, was understood.

I have never been to a pianola concert before and confess to hardly know a pianola from a pineapple, so at the Pianola Institute’s concert at Leighton House, a while ago, this reviewer admits to a certain amount of initial confusion except to the obvious fact that Rex Lawson is an inspired performer and promoter of this unusual and endearing instrument. He came on to the stage like some amused prophet, beard flowing, eyes sparkling. He spoke informatively and wittily and made us all prepared to listen. Humour is a great connector. But when he sat down at the pianola, IT began to play, and, apparently, with little connection to the 'artist'. What to make of a machine that apparently plays the piano on its own, with the operator sitting there like
some treadle sewing machinist, hands and feet at the service of a predetermined musical outcome?

There were clearly some in the audience who, like me, were new to this style of music-making, but it also appeared that a rather large number of people strolling in the garden of Leighton House during the concert interval seemed to be members of some secret society. I heard phrases such as ‘pedal dexterity’, ‘the secret’s in the thousands of tiny little perforations’ and ‘he has a great foot for music’. Looking back on the occasion from a few month’s distance, it certainly seems that I heard such comments, though it may well be that they were fed to me subsequently by my new friends in the pianola world. One has the feeling of having entered a previously unexplored world of music, a world that most of the guidebooks leave well alone. And there is something a little ‘secret’ about the pianola, the fantastical flat yet rolling landscape of little dots on a paper ground that in turn produces a world of sound, way beyond the physical capabilities of hands on a keyboard.

The programme notes were detailed and informative, yet I decided just to listen, as though at any normal violin and piano recital, albeit acknowledging that much of the keyboard music we heard could not have been played by hand, even by Evgeny Kissin. The pianola can produce fistfuls of notes at will, but the intriguing thing is that it can also be judged by the musical nature of the performance, to start with almost a contradiction in concept, since how can a machine produce a musical performance? It soon became apparent that the ‘performer’, or certainly this performer, was able to coax some extraordinary emotion out of the box.

The first work was Sir Alexander Mackenzie’s Britannia Overture, a rollicking ride on the high seas that didn’t quite know when to stop. It was an orchestral piece specially arranged for the pianola by the composer, though there was the feeling that it might have sailed past with a little more wind in its sails if the orchestral tone colours could have been present as well. Very spirited, highly rhythmic, quite a thrill in fact, and Rex Lawson moved in some way connected to the music, though I still had no real idea what he was doing.

The Marche Républicaine by Sydney Smith sounded like Victorian lacework music and, like Victorian art, gave little away in terms of real emotion. But the César Franck Violin Sonata was a thoroughly musical performance, whichever way you judge it. Editha Konwitschny has a confident musical character and a warm, rich tone; perfect for the Franck. Here it was not possible to ignore the profound rapport between violinist and pianola player, and it was definitely not a case of the cart following the horse. Closing my eyes, I could imagine the touch of a pianist, and on opening them again, it became a little less incongruous to take in the pianola set in front of the resident grand piano. Lawson and Konwitschny played with commitment and great style. If one missed at times the ease with which a pianist can interact, it was in fact almost
disturbing to realise with what ease the pianola WAS interacting. And then to realise that it was not that easy. Perhaps it was the intense concentration of the two artists that created such musical coherence. A beautiful performance of a challenging work, which had the audience in its thrall.

Thomas Hewitt Jones's *Automata*, a suite specially written for the pianola, and given its first performance at this concert, was an impressive study in sonorities from such a young man. Armed with a roll call of musical achievements; composer, cellist in the National Youth Orchestra, accomplished organist (having performed at the Royal Festival Hall) and winner of several prizes from the Royal College of Music, Hewitt Jones seems set to become an eminent contributor to British musical life. The suite, in three movements, made much of the pianola's surfeit of fingers, but in the quieter slow movement showed a calm, confident reflectiveness. It would be good to hear the work again, so much musical invention is not easy to digest at one hearing. It would be good, for that matter, to hear more works by Hewitt Jones.

As with much of the concert, the interval was not too long, and Rex Lawson's several references to the need to vacate the building before the period of hire ran out betrayed a slight worry. But then, who wouldn't be worried with the prospect of the concert hall disappearing or whatever calamity might occur when hire-runs-out? In the second half he relaxed more into the music, and Debussy's *Clair de Lune*, in a quirky little pianola arrangement, reminded us, quite deliciously, of the evening's French theme.

Apparently Ravel was intrigued by the pianola, and indeed composed specifically for it; though in keeping with his image of miniaturist, *Frontispice* bubbled away all too briefly, a fountain of water that died almost as soon as it arose. Milhaud's *Le Boeuf sur le Toit* (the Cow on the Roof) was a rather meatier work, with South American dance rhythms to set the feet tapping. Like the *Britannia* Overture it risked outstaying its welcome, though Rex Lawson brought dynamic contrasts to his performance that made up for the repetitive themes.

Stravinsky and Nancarrow, whose music followed, were apparently the most prolific pianola composers of the 20th century. Nancarrow came as no surprise, but the extent of Stravinsky's involvement with what must have been predominantly a domestic instrument was something new. His *Etude pour Pianola*, neither too short nor too long, danced much more naturally than the Milhaud. There was less of the tourist, more realism, more earthiness.

In fact, Nancarrow did provide something of a surprise. I had expected overwhelming torrents of notes, cascades of counterpoint, but his studies nos 12 and 6 turned out to be far gentler than I had imagined. The first grew from quiet beginnings into a final roar, but I particularly liked the second, a wistful, dreamlike sketch that suggested the warm haze of the Mexican sun.
To end the concert, Rex Lawson had chosen a roll of his own arrangement of Sir Charles Mackerras's *Pineapple Poll*, based on themes from the Gilbert and Sullivan operettas. The ballet score has an exquisite lightness of touch and it was good to find something of the same subtlety in the pianola roll, even though it formed a somewhat fire-under-bushel finale of the work, and as we assumed, finale of the concert as well. But Editha Konwitschny, who had been waiting patiently for the whole of the second half, appeared once more to play Fritz Kreisler's *Rondino on a Theme of Beethoven*, and charmed the audience with the Viennese flavour of her phrasing, deftly upheld by Lawson.

It was a seriously good concert. And, frankly, more musical warmth from a pianola than I have heard from many concert grands under various forgettable hands. Certainly, by the end of the evening I had a much better idea of what a 'pianolist's' feet and hands get up to. Leighton House was a delightful setting for this unusual occasion (nostalgic landscapes on the walls, serious interior decoration to admire in the interval). The programme was, on later reading, fascinating and informative. But it made me wonder why anyone would go to such evident efforts to play chamber music with a pianola. Would it not be just as easy to practise the music and play by hand? And yet, as a nation we love eccentrics, and despite the allusions to France in the title and music of the concert, it is only in Britain, perhaps, that one would be able to attend such a recital, and enjoy it so thoroughly.
Review:
1929 Skinner Organ - Opus 783. Residence Player Organ at Elm Court, Butler, Pennsylvania. JAV 123 (2CD Set), JAV Recordings Inc

Denis Hall

The Residence Player or Reproducing Pipe Organ must be the most elaborate roll playing instrument ever developed. These instruments were fabulously expensive, not so much because of the intrinsic worth of the organs themselves, (they were usually quite small instruments), but because of the unbelievably complicated electro-pneumatic actions required to operate the fully automatic music rolls.

Small reed organs playing simple music rolls date back to the 1870s. These developed into larger, more elaborate manifestations, such as the Aeolian Company's 'Orchestrelles', high quality instruments which, in their final form, could play two manual organ music by means of 116 note music rolls being read by a double 58 note tracker bar, the two sets of holes being slightly offset.

Aeolian in 1897 launched its wildly successful piano-player, the Pianola, which turned out to be a far more lucrative product than its inventors had ever imagined, and it was at least in part the profits from Pianolas that enabled Aeolian to create roll operated pipe organs for installation in the mansions of some of the richest people in the world. It was not such a big step to take to develop a completely automatic player system which could reproduce the performances of famous organists of the day, incorporating their tempi, rhythm, phrasing, and even their changes in registration. Several companies developed their own versions of these reproducing pipe organs, including Welte, Wurlitzer, Austin and Skinner. It is a recording of a Skinner organ which is the subject of this review.

A splendidly produced booklet accompanies this 2 CD set. It provides a very full description of the organ and the technical aspects of the player unit, as well as notes on the music, and biographical details of the organists and composers.

What immediately strikes a British person listening to this organ is what a strange instrument it is. It is described as a symphonic or orchestral organ, and as such bears little resemblance to a traditional organ. This particular instrument has 12 speaking stops, with 15 ranks (three celestes), but by the use of what is called 'duplexing', stops on one of its two manuals may be played on the other, and vice versa. This gives greater variety in registration, but the sound of the full organ cannot hide the fact of the true size of the
instrument. The specification consists of mostly solo-type 8' stops such as French Horn, English Horn, Clarinet, Orchestral Flute, all scaled to a similar fairly quiet level, only a Diapason 8' and a Trumpet 8' being louder. The result is a number of very beautiful individual voices, but one longs in vain for a decent diapason or reed chorus. Organs such as these never became popular in Europe, apart from theatre organs of the Wurlitzer type.

To what extent the orchestral organ influenced the repertoire played in America during the early twentieth century, or the repertoire encouraged organ builders to design these organs, I do not know. Whichever is the case, the music on these CDs mostly suits the instrument well. Out of 30 items, only seven are original organ works, and of these seven, three are definitely of the salon type written for this type of instrument; the remaining 23 selections are all arrangements of piano or orchestral music.

Of the organists represented on roll, only the Canadian, Lynwood Farnham and the great Marcel Dupré are remembered today, although all the artists seem to have been good players. One has the feeling that Dupré is struggling with the limited specification of the organ to find suitable combinations of stops for his purposes. This organ is definitely not what he must have been used to play in the big churches in Paris! Of interest to roll collectors are five rolls 'arranged by Albert Snow'. These are orchestral pieces where the basic interpretation was probably played by Snow, and then the roll arrangement filled out later on the drawing board, a technique also used by Ampico in its rolls, and Duo-Art in its special arrangements, both with similar success.

In addition to the roll performances, a young American organist, Ken Cowen, plays three pieces 'live', and is joined in a duet by Peter Stoltzfus in a selection of Brahms Neue Liebeslieder Waltzes. The registrations are more successful than on some of the rolls, suggesting that perhaps the voicing of the stops on this particular organ is not quite the same as on the organ on which the artists recorded in the 1920s.

Whatever one's personal likes and dislikes, this instrument is beautifully voiced, perfectly in tune, and the reproducing player mechanism works faultlessly. The recording is in the demonstration class. It is hard to imagine a more convincing example of a residence player organ.

JAV Recordings are distributed in the U.K. and Europe by Allegro Music, www.allegro.co.uk, telephone 0121 643 7553.
## Contents:

### Disc #1
1. **Mozart**: The Marriage of Figaro Overture  
   (Roll #718 - Arranged by Albert Snow)  
   4:28
2. **Johnston**: Pavane in A  
   (Roll #506 - Edwin Arthur Kraft, organist)  
   3:36
3. **Böhmi**: Calm as the Night (Ken Cowan, organist)  
   3:26
4. **D’Aquin**: Noel and Variations  
   (Roll #574 - Marcel Dupré, organist)  
   4:04
5. **Bonnet**: Elles (Ken Cowan, organist)  
   2:54
6. **Dupré**: Improvisation on *Adeste Fideles*  
   (Roll #762 - Marcel Dupré, organist)  
   8:04
7. **G.Nevin**: Will O’ The Wisp  
   (Roll #518 - Chandler Goldthwaite, organist)  
   3:12
8. **Jeppson**: Pantomine  
   (Roll #602 - Lynwood Farnham, organist)  
   4:31
9. **Karg-Elert**: Clair de Lune  
   (Roll #524 - Ernest Mitchell, organist)  
   4:05
10. **Dethier**: The Brook  
    (Roll #508 - Edwin Arthur Kraft, organist)  
    7:03
11. **Kern**: Kalua (Roll #543 - Ernest Mitchell, organist)  
    4:20
12. **Dvořák**: Finale from the *New World Symphony*  
    (Roll #577 - Arranged by Albert Snow)  
    10:48

### Disc #2
1. **Chabrier**: España  
   (Roll #715 - Arranged by Albert Snow)  
   6:24
2. **Moszkowski**: Etude in F, Op. 72, No 6  
   (Ken Cowan, organist)  
   1:52
3. **Moszkowski**: Serenata  
   (Roll #536 - Charles Heinroth, organist)  
   2:31
4. **Rossini**: Barber of Saville  
   (Roll #590 - Arranged by Albert Snow)  
   8:48
5. **Kreisler**: Caprice Viennois (Roll #517)  
   4:27
   
   **Brahms**: from Neue Liebeslieder waltzes (Op. 65)  
   (Peter Stoltzfus and Ken Cowan, organists)  
   
   6. *My heart, renounce hopes of being saved*: 
      50
   7. *Dark shades of night*:  
      1:50
   8. *My fingers on either hand I have adorned with rings*:  
      1:28
   9. *From the mountains, wave after wave*:  
      1:19
   10. *Soft grass all around, lovely, quiet spot!*:  
      1:33
   11. *Everything you say to me you flatterer you say in vain!*:  
      4:47
   12. *Dark forest, your shade is so gloomy!*:  
      1:28
   13. *Eyes of flame, dark hair, rapturous, rash boy!*:  
      2:04
   14. **Mendelssohn**: Fingal’s Cave Overture  
    (Roll #713 - Arranged by Albert Snow)  
    9:56
   15. **Offenbach**: Barcarolle from *Tales of Hoffman* (Roll #595)  
    3:54
   16. **Ireland**: Elgwy (Ken Cowan, organist)  
    3:50
   17. **Lacombe**: Aubade Printaniere (Roll #603)  
    5:31
   18. **Herbert**: Selections from *The Red Mill*  
    (Roll #793 - Chandler Goldthwaite, organist)  
    10:12
Contributors

Gina Cowen was formerly a concert agent, managing a number of international musicians, including Claudio Abbado. For the past several years, however, she has run her own business, designing and manufacturing jewellery based on seaglass. She continues to work as a part-time journalist and writer, and has contributed reviews to the Independent. Her friends tell her that she makes the best marmalade in Britain.

John Farmer enjoys the distinction of having persuaded a sceptical musical public of the artistic worth of the reproducing piano at a time when it was at its lowest ebb. Through his supervision of a superb series of piano roll recordings for the BBC in the early 1960s, the Ampico overnight became respectable again. He is a leading authority on the system in his knowledge of its catalogue and its musical and technical capabilities.

Denis Hall has for many years been an enthusiast of historic performance recordings both on piano roll and disc and in making them accessible to present-day music lovers. He has involved himself in the restoration and preparation of reproducing pianos for concerts and recordings and in the transfer of 78 rpm recordings to master tape for LP and CD reissue.

James Kirkup is a well-known poet, translator and travel writer, born in 1918 in South Shields. A graduate of Durham University, he has held many academic posts in Britain and the Far East, and now lives in the tranquility of the Andorran hills. Over the years he has published numerous volumes of poetry, and his collected papers are stored at Yale University. He has also published many books on Japan, and translated works by Dürrenmatt, Ibsen, Valéry, and others.

Rex Lawson is a concert pianolist who has been involved in research and music-making with these instruments since 1971. He has travelled with his pianola to the USA, Canada and many European countries, transporting it by plane, ship, car and even, in 1986, by gondola in Venice. He has made a special study of music written for the pianola, by the eighty or so composers who have been interested in its possibilities during the course of the twentieth century. In 1998 he accompanied the Siobhan Davies Dance Company in their many performances of 88, a new dance work to the music of Conlon Nancarrow.

W. Creary Woods was employed by the Aeolian Company in America. He was one of the team responsible for developing the Duo-Art reproducing system, and became the main recording producer/editor of classical Duo-Art rolls in the States. He can be seen in several photographs operating the machine used to trace the dynamic levels at which the recording artist played, and also with pianists working at an editing piano making corrections to their rolls. He was married to Edna Bentz, a Duo-Art recording artist.