The Journal of the Pianola Institute

No. 21  2010

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British Library Cataloguing in Publication Data

The Pianola Journal - Vol.21
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 BR4 0PX. Registered in England number 1937014. Registered Charity number 292727.

Website: www.pianola.org

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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:
Keith Daniels, Mike Davies, Denis Hall, Eileen Law, Rex Lawson and Claire L’Enfant.

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UK and EU - £15
Rest of the world - £25

Overseas subscriptions should be made payable in sterling.
Editorial

Is it old fashioned to believe that the number 21 still bears some significance - something of a coming of age, or perhaps just that it indicates that one has stayed the course, and established one’s self as a serious protagonist in one’s chosen subject. For whatever reason, may I welcome you to our 21st edition, even though it has taken us rather more than twenty one years to achieve it.

A recent experience has brought home to me just what a wide range of interests self-playing instruments embrace, and why the Pianola Institute has always shied away from the expression ‘mechanical music’. A short time ago, I had the opportunity, in the company of two friends, to visit a serious - ‘advanced’ is the term normally used, I think - collector of musical boxes, and we had the privilege of examining and listening to more than a dozen fabulous examples of, in some cases, extremely rare pieces. After a while, once the novelty of hearing the beautiful sound started to wear off, I began to ask myself what the undoubted fascination of these remarkable devices is. The fact that some of the more desirable examples can play only two or three tunes, and, with no provision to vary the repertoire by changing the cylinder, must mean that it is not the music per se which is the primary attraction. No, it must surely be the superb craftsmanship lavished on them by their makers both in the almost unbelievable precision of the pinning of the cylinders, which can contain literally thousands of pins, and the design and manufacture of the combs to produce a particular sound, as well as the skill required to make the boxes containing the mechanisms.

While I would never question the enjoyment in collecting and listening to musical boxes, it does seem to me that pianolas offer a far greater scope for musical enjoyment. There is so much pleasure to be had in playing a fine player piano in good order, but the instrument is only the means to the end of enjoying the music, and really getting to know it and appreciate it in a way that mere listening never quite achieves. The player piano has not so far been bettered in its ability to open up a vast repertoire to the music lover, and rid him or her of the drudgery of acquiring a finger technique while allowing the opportunity to interpret just about any music playable on the piano in his or her own way. What a marvellous invention those pioneers 100 years ago bequeathed to us!

In this issue, Francis Bowdery joins us again with an in-depth look at what we can glean of the playing style of Liszt from the Welte rolls of two of his favoured pupils. Rex Lawson continues his survey of the recording techniques of two more of the early reproducing pianos systems, the Hupfeld Phonolisz and Dea. Sadly, these instruments are now so rare that few of us will ever have the opportunity to hear them. Nevertheless, they form important chapters in the history of the reproducing piano. And we are delighted to welcome...
another new contributor, Robert Matthew-Walker, who reviews our CD/Blu-ray disc of music by Grieg.

The year 2010 is the 150th anniversary of the birth of Ignace Jan Paderewski, the most famous pianist after Liszt in the history of the piano. We are pleased to include a short article on his piano roll activities, together with a CD of the majority of his Welte-Mignon recordings from 1906. This disc will complement the two-CD set of his Duo-Art rolls which we issued in 2003.
Reminiscences of Liszt
Francis Bowdery

When the Welte Mignon reproducing piano was launched, Franz Liszt had been dead for less than twenty years. His presence through his teaching, his compositions, and the memory of his unique and powerful playing, remained a compelling one. Commentators on both gramophone and piano roll recordings would lament that the new technologies had narrowly missed capturing the playing of a figure who had single-handedly revolutionised concert life and piano playing in the nineteenth century.

Welte successfully persuaded pianists of European stature to record in 1905, the first year of the Mignon piano’s commercial activity. Many of the leading pianists of the day had been Liszt’s pupils or had come into his sphere of influence. Naturally, they too were approached to make recordings, and many did. In some cases, such as Friedheim, we have at least a broader view of their art than that afforded by the gramophone. In others, such as Reisenauer and Stavenhagen, piano rolls are the only remaining evidence of their pianism. Among the latters’ recordings are two by each, labelled ‘Nach persönlicher Erinnerungen an Franz Liszt’.1 It is a significant gesture. If the age of recording - and immortalisation, of which performing artists were well aware - had missed Liszt, perhaps it could recall him at second hand through his disciples.

Liszt’s teaching
Liszt’s teaching is well documented in the body of detailed notes and diaries taken at his Weimar masterclasses of the 1880s by Amy Fay, August Göllerich, Carl Lachmund2 and Lina Ramann (Liszt’s biographer), and in written variants provided to Arthur Friedheim and Toni Raab, among others, which survive in archives and in print. There are also reminiscences in large and small scale by Arthur Friedheim, Frederic Lamond, Moriz Rosenthal and Alexander Siloti. All in all, it is possible to reconstruct a broad, usually vivid and sometimes very specific picture of Liszt’s teaching and wishes.

The recurring themes among the commentators on Liszt’s teaching are the exactness of instruction - Liszt always taught with the score, and woe betide the professional player who betrayed lack of technique, preparation or care of detail - and the requirement that something far beyond the mere notes was achieved. The meeting of precision and evocation lay in the frequent exhortation: ‘Create memories.’ The apparent paradox is elucidated in the teaching notes; freedom, not anarchy or indulgence, of treatment based on a secure understanding of the score, was required. At the same time, Liszt offered extensions, variants and cadenzas in older and more recent compositions of his own. (In some cases, modern editions incorporate at least partial detail from these sources.) He frequently illustrated at the keyboard, to mesmeric effect.3
In sum, then, what was desired from Liszt’s students was, to recall a phrase, transcendental playing; one in which expressiveness and lucidity were paramount, while the pianism was so complete as to disappear. It is not without significance that from youth to old age many asserted that no pianist could withstand comparison with Liszt in this regard: ‘We are all corporals, and he is the one and only Field-Marshall …’ (Anton Rubinstein)⁴ ‘… everyone else sounds heavy beside him …’ (Fay)⁵ ‘Where the devil does he get even the technique, let alone all the rest? …’ (Sauer)⁶ The affection, loyalty and even occasional fear that Liszt commanded are reflected in the close bond between his former students even years after his death, their determination to promote his music, and to carry on his ideas and ideals.

When it comes to the performances of Liszt’s pupils we thus have a dual record: a document of their playing, in whatever medium, certainly, but at least potentially also a document of Liszt’s intentions and later thoughts in the pieces concerned. Thus, ‘in personal reminiscence of Liszt’ could signify evocation or quotation. This article is an attempt at an enquiry into which.
The recordings

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Alfred Reisenauer and Bernhard Stavenhagen are among the major names from the dawn of the twentieth century of whom no sound recordings survive. Stavenhagen made one Pathé disc which seems to be irrevocably lost;\(^7\) Reisenauer’s early death eluded any at all. The lack of a conventional ‘recorded legacy’ has marooned them in the pianistic histories. Who were they?

The junior of the two, Reisenauer, was born in 1863 in Königsberg. He went to Liszt in 1874 and quickly became established in the circle. Liszt thought highly of him and felt that he approached his style, ‘yet without imitation’. The teacher was also amused by his pupil’s physical bearing: ‘Malheureusement trop sujet à l’embonpoint’.\(^8\) Reisenauer himself taught at the Leipzig Conservatory from 1900 to 1906. Clarence Adler, another piano roll artist who studied with him, commented of his tone ‘Such richness and quality! I used to think of gold’.\(^9\) Adler was not alone: ‘He never moved, whether he played pianissimo or fortissimo, even when evoking the sonority of an orchestra: his hands and fingers moved quietly over the keyboard. Never any thrashing; mellowness and fullness prevailed all of the time’.\(^10\) (Here is certainly a reminiscence of Liszt; the physical similarity to descriptions of his playing in the 1880s is striking.) Reisenauer’s capacities evidently endowed him with a taste for the major repertoire: Beethoven’s *Hammerklavier* sonata, op. 106 (another echo of his teacher) and *Diabelli* variations, the complete cycle of Chopin’s Preludes, op. 28, Liszt’s *Hungarian Rhapsody* no. 14 and the Tarantelle on Auber’s *Muette de Portici*. He toured widely and to great acclaim - over two thousand concerts in twenty one years - but died on tour in 1907, a victim of alcoholism.

Stavenhagen, born in 1862 in Greiz, Germany, came to Liszt in the summer of 1885, having already begun a concert career. In 1884 he was impressed by the playing of Eugen d’Albert and Arthur Friedheim and found what he felt his own playing lacked; he decided to go to the source.
Liszt’s attachment to the young man is evident in the 1886 photograph in which Stavenhagen stands with the seated Abbé. It was Stavenhagen who succeeded to Friedheim’s role as Liszt’s secretary for the London visit of early 1886, making his own London debut at the Crystal Palace in a programme including Liszt’s First Piano Concerto. He accompanied Liszt to Bayreuth in the summer and gave the funeral oration at Liszt’s graveside following his death there. From the following year until 1890 he toured widely in Europe, Russia and America, being well received. He held court and Kapellmeister posts until 1902 (Weimar and Munich, both succeeding Richard Strauss) at which point he had already been director of the Akademie der Tonkunst for a year. He became director of the Geneva Conservatoire’s piano masterclass in 1907, while also holding director- and conductorship of the municipal orchestra’s subscription concert series. He premiered new music by Mahler and Richard Strauss, among others; his pupils included Edouard Risler and Ernest Hutcheson. Stavenhagen died in Geneva on Christmas Day 1914, from a neglected cold which developed into pleurisy.

If we begin with Stavenhagen’s two recordings above, we are perhaps reminded that the marginally older man was also the very youthful figure of the 1886 photograph with Liszt. He recorded for Welte and later for
Hupfeld in Leipzig: the Welte session produced a total of eight items, these being two Chopin waltzes and the remainder Liszt, including the two St Francis Légendes. The physical vitality of the playing in the two rolls in question is undeniable, as is the freedom of the playing. It is instructive to compare Moriz Rosenthal, one of Liszt’s foremost pupils, with Stavenhagen in the Chopin transcription. Rosenthal’s discs and Ampico roll take a very broad view of both ornamentation and tempo, and lend the piece a strongly elegiac character: much of the detail here will not be found in any printed edition. Stavenhagen’s reading flows with more momentum, and was one of the performances transferred so poorly for the ‘historical’ series of 78 rpm disc issues by Odeon in 1930. Perhaps this may reflect Stavenhagen’s acquaintance with the original song whose text evokes, rather than recalls, the beloved. It is a beautifully shaped performance, with broad tone and freedom of musical speech, and the free treatment of flourishes and final cadenza which one should expect, less elaborate than Rosenthal’s but arguably more in keeping with the original piece’s basically simple character. However, the material itself is simplified; the first flourish (bar 26) replaces Liszt’s figured run with a plainer (though more brilliant?) chromatic scale. Similarly the cadenza from bar 43 is simplified. A glaring wrong bass octave (bar 81, first quaver, left hand) is most likely a roll processing error, being a semitone displacement of the kind Welte seem prone to. The extended coda is also the performer’s own, in keeping with the practice of the time; once again, the material is effective, but not obviously Lisztian, either in harmonic language or pianistic figuration. The sum is an attractive performance, but one whose detail reflects the performer rather more than the composer. It is also striking that the varied passages, and those of greatest technical freedom, are based on finger technique rather than the wrist or shoulder. This is a point which will recur.

In the case of the Hungarian Rhapsody, one encounters a number of altered details. Chromatic scales are substituted for the right hand tremolos in bars 2 and 5, the effect being somewhat banal and echoing the chromatic substitutions in My Joys above. A number of acciaccatura notes and chords are taken rather sluggishly in even rhythm without accents (bars 17, 19, 31, 33), in an alteration which might suggest unwillingness to tense the wrist, but which might possibly be a roll editor’s amendment. Again, a number of passages and flourishes, effective enough in themselves, are simplified versions of the originals (bar 11, 16, 183, 275ff left hand, 285). A number of bars are cut (66-80, 118-121, 205-210, 217-252), the last of these a somewhat flurried jump perhaps suggesting an approaching time limit. On the whole, a pleasing caprice and whimsy characterise the reading, a refreshing change to the fustian which could be (and still can be) served up as a response to these pieces; a number of humorous alterations in the Friska certainly suggest
Liszt’s well-documented powers of improvisation. Once again, however, closer examination betrays a tendency to reduce the technical demands of the music. Is this really a recollection of Liszt’s less bravura pianism in the last years of his life, or the nature of Stavenhagen’s own style?\(^{14}\)

An answer might lie in Stavenhagen’s Welte recording of *St Francis of Paola Walking on the Water*, the second of Liszt’s *Légendes*. An LP transcription was published in the 1970s;\(^ {15}\) Alfred Brendel has remarked on the liberties taken with the score.\(^ {16}\) From August Göllerich’s diaries we learn that Stavenhagen brought this piece to Liszt’s masterclass on 19 December 1885, and Göllerich recorded in detail Liszt’s notes.\(^ {17}\) None of the emendations found in the roll
performance were discussed, played or sanctioned at this session, and it might be noted that Arthur Friedheim, recording the same piece for Aeolian in New York eleven years after Stavenhagen, made only one minor alteration to the very last bars - according to Kenneth Hamilton, from an unpublished MS annotation in Liszt’s hand currently residing in Weimar. The final arbiter is perhaps the effectiveness of the performance, and here it is difficult not to agree with Brendel; the alterations, not based on musically related material, disrupt or fracture the character and flow of the piece. In this case one may wonder how completely Liszt’s teaching was digested. One point which will return below is that some of the emendations seem intended to limit rapid lateral keyboard excursions and echo the simplified treatment of bars 275ff in the Rhapsody above. It might also be noted that the Légende performance is not described as ‘in personal reminiscence’, which qualifies its relevance. But the undermining effect of what are often technical simplifications is again a curious manifestation of Stavenhagen’s musical thinking. The paradox is that his approach appears to be more textually faithful where he is either recalling or attempting to evoke another style, that of Liszt’s own playing.

Alfred Reisenauer’s two recordings are those of a very different pianist. He also can be found on rolls recorded for Hupfeld: the session for Welte set down the Carnaval, op. 9 of Schumann, Berceuse, op. 57 of Chopin, Beethoven Rondos, op. 51 and 129 and the Bagatelle Für Elise, and the Liszt pieces above - nine rolls in all. The one large canvas here, Carnaval, contains characterful and imaginative touches but also a pervasive sense of metrical stiffness, even didacticism, which grows intrusive. On the other hand, the Rondo, op. 129, is rather more successful, partly as a result of the strong motoric drive which propels the argument. The impression is perhaps of a player more sympathetic to musical architecture than poetry. Could it be that Reisenauer was relying in part on the sight-reading abilities remarked upon in the 1880s, or simply that Welte caught him on an off day? Certainly some of the right hand octave work suggests a small and heavy hand, at odds both with Adler’s report above and the evident ease of the lighter playing from the fingers and wrist found in the smaller pieces.

The Hungarian Rhapsody is played with freedom of detail, but without the Magyar swagger brought to it by Paderewski in his disc and roll recordings. The freedom and strength of the opening scales are not continued into the first, fanfare-like melody (bars 6ff), which suggests metrical and physical stiffness - an awkwardness also found in Arthur Friedheim’s roll recording. Reisenauer adds unison skirls to the basses here at the ends of melodic phrases, presumably attempting to evoke gypsy caprice. The second group is played affetuoso, with a strong lean into the first beat of each phrase produced by a ‘stepping’ bass, which might be argued to lend a more sinuous character, but tends to impede forward motion. This also applies to the third
idea, which tends to the same treatment. The most notable features - the extended cimbalom effects (bars 77ff) and glissandi (bars 94ff) - are carried off characterfully, and varied freely as Paderewski also does. The glissandi, a prominent feature of the piece, are sometimes doubled in thirds or sixths, and are taken molto rubato, again like Paderewski. The absence of Paderewski’s scramble in the last section of the Friska - bars 126 onward - is welcome, although Reisenauer simplifies the left hand’s awkward tenth leaps, first to the octave, and then to a rather crude vamp. But finally, the impression seems to be of a colourful but fragmentary reading. This is a matter of structure; Paderewski sets a fundamental tempo which is in view throughout the piece; Reisenauer plays much more in the manner of an improvisation. It is a moot point; arguably, the Rhapsodies are just the latter. Whether they benefit from a greater sense of overview, a ‘line through’, is a point which more recently seems to have been settled in the positive - at least, in terms of how one might expect to hear them played now. That the readings by Stavenhagen and Reisenauer stress caprice and whim above architecture may be suggestive - if open to question.

The recording of ‘The Maiden’s Wish’ perhaps suggests more closely the figure evoked by Adler. Much of the playing is intimate in character, handled with delicacy and evenness; a curious mannerism is the extended trills, in the opening (bar 2) and at points of transition or cadence (e.g. bar 68). (It is possible this may have its origin in Liszt: ‘No trills for investing in the savings bank! I love very long, rich trills!’) The ‘golden’ tone which presumably coloured this is not always presented by the roll - one of the most difficult and elusive characteristics to capture and convey - and as such the playing can seem understated. This in turn exposes the literalness of basic pulse which easily ossifies into rigidity in denser or more assertive writing. But the most striking feature of the performance is that what is played here is not simply ‘The Maiden’s Wish’ as found in the Six Chants polonais (1860) - a suite of six transcriptions of songs from Chopin’s 17 Polish Songs with Piano Accompaniment, op. 74 - but a composite version which draws on the earlier treatment of the same musical material in the ‘Mélodie polonaise’ from the Glanes de Woronince. This earlier setting and its two companion pieces were made during or shortly after Liszt’s first visit to Princess Carolyne Sayn-Wittgenstein, the consort of the latter half of his life, in late February 1847. The first and third pieces are drawn from folk sources; the second employs two Polish tunes, the first being used again in Liszt’s Duo for violin and piano, the second being the Chopin melody, at this stage unpublished as a song but probably extant in a folio collection of the time. Liszt simply set this in the manner of ‘found’ folk material - as its title implies. It was only the 1857 publication of Chopin’s songs which revealed the authorship of ‘The Maiden’s Wish’ to Liszt. What is perhaps most striking about all this is the similarity
between Reisenauer’s present recording, and the later discs (differing in detail from each other) made by Rosenthal of the piece. The resemblance goes further than shared material; although details vary, both pianists employ the overall structure, giving in effect the same relationship between both players as between Stavenhagen and Liszt’s score in *My Joys* above. An outline plan shows this, with MW (‘The Maiden’s Wish’) and MP (‘Mélodie Polonaise’) referring to material from the two different settings (Table 2).
### Table 2

<table>
<thead>
<tr>
<th>Artist</th>
<th>Theme</th>
<th>Variation 1</th>
<th>Variation 2</th>
<th>Variation 3</th>
<th>Coda</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reisenauer</td>
<td>long trills in melody; lh (left hand) harmony adds e/d (giving dominant 7/9 -7 to tonic 6 – 5 in each pair of bars (11-26); cadenza at bar 39 artist’s own</td>
<td>bar 68 cadenza artist’s own, expanded over keyboard: descending figure employs melodic cell of this variation; from bar 69, turns on second quaver of each melodic phrase; from bar 78, lh rhythm modified.</td>
<td>from bar 103, MW triplet figure sequence expanded upward beyond Welte note range, repeated one octave higher rh (right hand); from bar 109, leaps variation (bars 112ff) then double note variation (bars 145ff) taken from MP; freely adopts bars 107-110, MP, modulating G7-C, A7-D for cadenza to Var 3</td>
<td>from bar 141, burlesque treatment, ‘Hungarian’ semitone inflection of melody, semiquaver ‘step bass’ lh echoes HR 10 above</td>
<td>final flourish artist’s own, upward figure with repeated notes almost an inversion of Stavenhagen in <em>My Joys</em></td>
</tr>
<tr>
<td>Rosenthal</td>
<td>long trills in melody, Liszt MW cadenza at bar 39; melody set to tenor in bar 44, from MP</td>
<td>bar 68 cadenza rh very alike to Reisenauer; from bar 78, lh rhythm modified as Reisenauer</td>
<td>from bar 103, extended flourish and melodic variations: eight bars trills, eight bars scherzando chromatic fragments with codetta, eight bars repeated notes, further eight bars trills, complete leaps variation from MP to Var 3</td>
<td>rh triplets from bar 149 lead to restatement of theme in outset version</td>
<td>abbreviated <em>Reminiscences of Liszt</em></td>
</tr>
<tr>
<td>Year</td>
<td>Details</td>
<td>Liszt's Interpretation</td>
<td>Rosenthal's Interpretation</td>
<td>Notes</td>
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</tr>
<tr>
<td>1934</td>
<td>long trills in melody, Liszt MW cadenza at bar 39 with downward chromatic scale; melody set to tenor in bar 44, from MP</td>
<td>as above</td>
<td>as above</td>
<td>as above</td>
<td></td>
</tr>
<tr>
<td>1936</td>
<td>as above, but simple Liszt MW cadenza</td>
<td>as above</td>
<td>as above</td>
<td>as above</td>
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</table>

Liszt frequently played either or both versions of ‘The Maiden’s Wish’ setting even as late as 1886 in London - indeed, contemporary reports are sometimes less than clear which and the parallels between Reisenauer and Rosenthal must raise at least the possibility that this composite version originated, if only in principle, with Liszt himself. (It might be noted also that some characteristics of Liszt’s first treatment adopted by both players - the extended leaps, for example - turn up again later in Rosenthal’s own Strauss paraphrase *Carnival de Vienne*.) We should recall that much of Liszt’s later output stayed in MS in the possession of his students until many years after his death. Publishers’ interest in his work was markedly less than earlier in his life: thus it does not follow that an ‘authoritative’ rethinking of a work would have been endorsed by print. Indeed, much has reached publication only in the period since 1945. Meanwhile, not even the most evangelical of his students and biographers claimed a comprehensive record of all of Liszt’s teaching, and so the significance of performer variants that may not remain in Liszt’s notation is ripe for consideration.

Liszt had been one of the most ‘open-ended’ of composers; his work often went through a very public gestation. His pragmatism as a teacher is evident in the teaching notes; often variants (such as cadenzas for *Un sospiro* - three different versions, all based on the same material but differing in detail and breadth) are strongly a reaction to the student and the occasion, as well as a revisiting of the text. This should not be seen as a destructive arbitrariness or uncertainty. Rather, it exemplifies a quality of the nineteenth century’s musical thinking which the twenty-first century’s search for the ‘definitive’ has rendered almost incomprehensible. This was a time which understood a much closer linkage between performance and work than now; the work embodied a character and fundamental musical material - ‘idea’ - around which the details of presentation orbited. Naturally, different composers reacted in different ways and degrees to this phenomenon; but we should consider the irresolution of Chopin, the most consummate of improvisers, perfectionist
of musical craftsmen (and abysmal of musical calligraphers) when it came to fixing a piece in notation for the first time\textsuperscript{30} - and the resultant divergences between competing first editions and annotated pupils’ copies which continue to create headaches for Chopin editors to the present day. Against even this one example, Liszt’s mutability of detail in teaching appears less heinous than an Urtext fetish might make it seem; and the personal responses of performers to their subjects cannot be dismissed out of hand simply because of lack of literalness. We are driven to notice the difference between surface and content, and the subjective and the arbitrary. Liszt might have been pleased.

I am indebted to Jan Hoare, Rex Lawson and John Taylor for their hospitality and for giving access to various research materials in the preparation of this article. Elgin Strub-Ronayne very kindly provided me with a copy of her article on Bernard Stavenhagen from the EPTA journal, as well as her recording of some of his piano and vocal music and and his piano roll recordings.\textsuperscript{31} Sophia Singer was willing to allow copious amounts of computer time for working up and revision. I should also like to thank the staff of Nottingham City Library music section, not only for their maintenance of a splendidly comprehensive stock, but also their persistence and good humour in running down other rather more obscure material. Finally, I owe thanks to Denis Hall, generous host and proof-reader, for saving me from some outbreaks of brain death - though any that remain are, naturally, my own.

Notes
If readers are interested in hearing a recording of the music rolls discussed in this article, they are asked to write to the Pianola Institute at 6, Southbourne, Hayes, Bromley, Kent BR2 7NJ.

1. Literally, ‘in personal remembrance/recollection of Franz Liszt’. When the rolls were issued in the USA, the translation read ‘As played by Franz Liszt.’

2. After his European studies, Lachmund’s career moved to the USA where he established a teaching institution in New York. He remained in correspondence with a number of the Liszt pupils, in some cases for the duration of their lives. His son, Arno, became one of the Aeolian Company’s Duo-Art music roll editors, working on recordings presumably including those of Friedheim and Siloti.

3. Siloti relates that around 1884-5, he had heard Anton Rubinstein in a Beethoven sonata recital, and had enthused about the performance, particularly that of the ‘Moonlight’ sonata, to Liszt at the beginning of a masterclass two hours later:
‘Seeing a copy of the “Moonlight” sonata among the pieces, he ... began to play, and I held my breath as I listened. Rubinstein had played on a beautiful Bechstein in a hall with very good acoustic properties; Liszt was playing in a little carpeted room, in which small space thirty-five to forty people were sitting, and the piano was worn out, unequal and discordant. He had only played the opening triplets, however, when I felt as if the room no longer held me, and when after the first four bars, the G sharp came in in the right hand I was completely carried away. Not that he accentuated this G sharp; it was simply that he gave it an entirely new sound which even now, after twenty-seven years, I can hear distinctly. He played the whole of the first movement, then the second; the third he only commenced, saying that he was too old and had not the physical strength for it. I then realised that I had completely forgotten having listened to Rubinstein two hours before. As a pianist he no longer existed ... I had tears in my eyes and was quite unstrung ... I have never played this sonata in public; in fact I never heard it again, for if I happened to be at a concert where it was to be played, I always left the hall.’


4. Siloti, A: op cit, p. 355


7. Chopin, Nocturne, op. 27, no. 2, played by Bernhard Stavenhagen:
   disc: Pathé 3 (‘etched label’)


9. Schonberg, H, op. cit., p. 299

10. Johannes Magendanz quoted in Schonberg, H, op. cit., p. 300

11. Chopin, tr. Liszt, My Joys, played by Moriz Rosenthal:
    roll: Ampico 66603-H, released October 1926
    disc: Odeon 171 107, 29 May 1929
    disc: Victor mat. CS 040200, 23 June 1939 unissued in 78 rpm format

12. Chopin, tr. Liszt, My Joys, played by Bernhard Stavenhagen:
    Welte 1035, 9 December 1905, transfer Odeon 04751b, 1930

An anomaly which disfigures this series of roll transfers is that all the performances have been speeded up by anything from 4 to 32 per cent. Stavenhagen’s is the worst affected; the forward motion of the roll performance here becomes a hectic sprint for the finish. This falsification is a great pity, in view of the otherwise attractive sound and
the good dynamic performance of the piano involved. The reason for this acceleration is not clear; the discs are all ten inch sides, which are not excessively filled; and twelve inch sides would have been routinely available by this time. The varied degree of ‘acceleration’ between record sides rules out an accidental displacement of the tempo control; it is perhaps significant that all the performances are contracted to around three and a half minutes. An early entry in the long series of piano roll transfer travesties, then, and all the worse for the apparent plausibility lent by the piano’s dynamic performance - a factor not found in some more recent debacles.

13. This mannerism is somewhat at odds with Liszt’s usual practice. Outside a few examples such as the Grand galop chromatique (1838) and the late Mephisto Polka (1883), it is unusual to find Liszt employing chromatic scales in a purely decorative context. This is distinct from their pictorial use; they are deployed in the second St Francis Légende, and also in the second Ballade at the outset (bass runs) and at the climax of Funérailles (Harmonies poetiques et religieuses). Here their purpose is to establish character: the turbulence of water, unrest or lamentation. Also see note 15 below.

14. This was a period when a number in Liszt’s circle felt that he aged rapidly; a fall on the stairs in the Hofgärtnerei (2 July 1881) was a traumatic event which triggered a number of ailments even after the initial heavy bruising had subsided. We should note Arthur Friedheim’s observation that although ‘towards 1883, Liszt’s sovereign mastery of technique began to abate’, he added ‘there were days when the old mastery reasserted itself in undiminished power’ (Introduction to the Chopin Etudes, Schirmer, New York, 1916). It would be an injustice to assume that a permanently diminished Liszt is necessarily the origin of technical reductions on the part of any of his pupils. In this particular case, we may note that Reisenauer recorded Hungarian Rhapsody no. 12 for Hupfeld (Dea 25225), possibly originally as a Phonolisztr expression roll. This performance is not cut, is not ‘in personal reminiscence,’ and contains none of the technical elisions or simplifications employed by Stavenhagen.

15. Liszt, Légende II: St Francis of Paola walking on the water, played by Bernhard Stavenhagen:

   roll: Welte 1032, 9 December 1905


It might be noted that at the climactic restatement of the main theme (bars 103ff), Stavenhagen substitutes chromatic bass octaves in triplets for the octave and chord accompaniment figure - an echo of the
accompaniment texture earlier in the piece, certainly, but a simplification which here coarsens the texture and rather undermines the musical argument; at this point St Francis is walking triumphantly on the waves, rather than still being threatened by their chromatic uproar.


18. Liszt, Legende II: St Francis of Paola walking on the water, played by Arthur Friedheim:
   roll: Duo-Art 6207, released December 1919


20. William Mason, one of the earliest of Liszt’s students, reports a dinner conversation in 1895 between Stavenhagen, the violinist Ede Reményi and himself:
   ‘... the former began to speak in enthusiastic terms of Liszt’s playing. Reményi interrupted with emphasis: “You have never heard Liszt play - that is, as Liszt used to play in his prime” ’


22. A curiosity is that at least by the time they recorded, a number of the Liszt pupils were showing strain in octave work and passages which involve controlled playing from the whole arm and shoulder, rather than simply the fingers and wrist. Friedheim’s recordings of the 6th (Columbia A 5491, 12 January 1912) and 10th (Duo-Art 5898, released June 1917) Hungarian Rhapsodies, with the right arm progressively stiffening and slowing in bravura octave work, are difficult to reconcile with his formidable contemporary reputation. Lamond, musically noble, can frequently be heard in technical distress in passages apt to cause cramping. Even Siloti, whose magnificent breadth and tone are well conveyed by his Duo-Art piano roll recordings as well as the tiny fragments to survive on disc, is cautious and sounding on the edge of strain in bravura octave and chord work in the otherwise powerful and attractive performance of the twelfth Hungarian Rhapsody (Duo-Art 6585, released December 1922). Perhaps a clue may lie in William Mason’s observation of 1853, made when Liszt was still a comparatively young man - as were many of his pupils when they first came to record:
'It seemed to me that there were certain indications in his playing which warranted the belief that his mechanical powers would begin to wane at a comparatively early period in his career. There was too little pliability, flexion, and relaxation in his muscles; hence a lack of economy in the expenditure of his energies.' (Mason, op. cit.)

Liszt always cautioned his students against imitating him technically - but it may be that, inevitably, some practices were inherited. A technique which does not effectively reduce tension when the arms and shoulders are called into play will raise the kinds of difficulties outlined above. This may explain his frequent admonition to students in the 1880s not to play with exaggerated physical gestures: economy of effort, as well as avoidance of grandiosity.

23. Liszt, Hungarian Rhapsody no. 10, played by Ignace Jan Paderewski:
   - roll: Welte 1259, 27 February 1906
   - disc: Victor 74788, 26 June 1922
   - roll: Duo-Art 6568, released November 1922

24. Liszt, Hungarian Rhapsody no. 10, played by Arthur Friedheim (see note 22 above)

25. August Göllerich, 1884, quoted in Williams A, op cit, p. 635


27. Chopin tr. Liszt, ‘The Maiden’s Wish’, played by Moriz Rosenthal:
   - Edison mat. 19065, 2 March 1929, unissued in 78 rpm format
   - HMV 2B 6006-1  9 February 1934, unissued in 78 rpm format
   - Victor 14300, 22 May 1936 (matrix HMV 2EA 3646-1)

28. ‘It was my good fortune to see and hear the Master at the piano for the first time as, quite lost to the world, he long improvised on some of his own works ... on that same evening the Master also played his “Au lac de Wallenstadt” and some “Chants polonais” by Chopin’ (4 April 1879)
   - Friedrich Eckstein, quoted in Williams, A, op. cit., p 565

Alexander Mackenzie cited Liszt as playing one of the Chants polonais and ‘Cantique d’amour’ (from Harmonies poetiques et religieuses) at the Royal Academy of Music, London, on 6 April 1886. The composer Orsmund Anderton (1861-1934), also present, described this as ‘an extemporisation on a song’.
Quoted in Williams, A, op. cit., p. 665
‘With the first of his “Liebesträume”, the “Chant polonais” from the “Glanes de Woronince” and the sixth of his “Soirées de Vienne”, Liszt’s magic playing fell silent for ever’ (Luxembourg, 9 July 1886)

La Mara (Marie Lipsius), quoted in Williams, A, op. cit., p. 686. She most likely received her information from Stavenhagen, who was present at the event. Carl Lachmund, who was not, has ‘My Joys’ from the Six Chants polonais instead of the earlier setting (Lachmund, C, op. cit., p. 342).

29. Witness the development of the juvenile Studies, op. 1 (1824) through the twelve Grande Etudes (1838) into the familiar Etudes d’execution transcendante (1851). The Paganini Etudes similarly were published (1839), then revised and republished (1851). The 1834 piano piece Harmonies poetiques et religieuses in a rewritten form became the fourth number, Pensées de Morts, of the ten-piece 1851 suite of the same title. Songs might become solos, ‘Die Loreley’, itself extant in two quite different transcriptions, or the three Sonetti di Petrarca, finally included in the second book of the Années de Pèlerinage. The first book of this cycle consisted of revisions of earlier piano pieces from the Album d’un Voyageur and other sources. Most of Liszt’s symphonic music was published in piano two- and four-hand form; indeed, the first Mephisto Waltz was ‘parallel composed’ for orchestra and for piano, while the second began life as an orchestral piece. The habit of reworking and rethinking his music stayed with Liszt long after his retirement as a performer and the eclipse of much of his work, and it would be a mistake to assume that all the reworkings - and they were Liszt’s, not that of his publishing houses - were merely mechanical adaptations, as an examination of, for example, the developments of the Années de Pèlerinage pieces quickly demonstrates.

30. Josef Filsch, Chopin’s pupil, wrote to his parents in 1842:
‘The other day I heard Chopin improvise... It is marvellous to hear him compose in this way; his inspiration is so immediate and complete that he plays without hesitation, as though it had to be thus. But when it comes to writing it down and recapturing the original thought in all its details, he spends days of nervous strain and almost frightening desperation. He alters and retouches the same phrases incessantly and walks up and down like a madman.’ (Quoted in Zamoyski, A, Chopin, Prince of the Romantics, London 2010, p. 206 & p. 327 n27)

31. CD: Bernhard Stavenhagen: compositions performed by Elgin Strub-Ronayne, Monika Dehler and Ernest Hutcheson; Stavenhagen plays Liszt from Piano Rolls, Symposium 1063, 1992
On the Right Track
The Recording of Dynamics for the Reproducing Piano (Part Two)
Rex Lawson

Apologia
In the first part of this article, which dealt mainly with the Welte-Mignon, I referred to the difficulty of seeking to point out errors and misapprehensions on the part of other writers, and I noted that we are all human, and that we all make mistakes. It is only poetic justice, therefore, that I gave myself the opportunity to demonstrate my own errant humanity, and I am indebted to my friends and colleagues in the Pianola Institute for not commenting on my various mistakes. Perhaps that is due to kindness on their part, or perhaps no-one actually read what I had written!

I twice referred to the piano firm of J.D. Philipps as being located in Stuttgart, whereas it was in fact in Frankfurt. I knew this very well, of course, but Stuttgart has always been lodged in the back of my mind, partly through the nameplate on my former Schiedmayer grand piano, which was manufactured in that city, and partly because Hans-W. Schmitz, the well-known German expert on the Welte-Mignon, lives there. But Frankfurt it should be.

The first instalment was written in two main bursts of activity, and as a result one or two items and opinions were repeated, though without detracting very much from the sense of the article. But I omitted to include two illustrations that I listed and described, of the Viennese concert pianist, Alfred Grünfeld, the one an accurate but rather sedate photograph, and the other a charcoal sketch, brought out from Vienna by the father of Jeanette Koch, one of the Members of the Pianola Institute. The sketch says it all about Grünfeld, in much the same way that an edited piano roll, with all its compromises, can often be more telling than a mechanically accurate gramophone record of the same period.

But the omission from Part One is now to the advantage of Part Two, for Grünfeld recorded not only for the Welte-Mignon, but also for the various Hupfeld reproducing and expression pianos. Here he is, in all his glory!

Finally, I stated that a Welte organ recording machine had survived, in two locations, namely the Museum für Musikautomaten in Seewen, Switzerland, and in the estate of the late Durrell Armstrong, proprietor of the Player Piano Company in Wichita. This was due in part to the fact that the inking mechanism had been removed and inadvertently destroyed prior to its sale from a source in New Jersey, and David Rumsey, organ consultant to the Museum at Seewen, has very kindly written to point out that the surviving elements of the recording machine are preserved entirely at Seewen, whereas the Player Piano Company retained an organ roll perforating machine, not necessarily connected with Welte.
Alfred Grünfeld Recording for the Welte-Mignon Popper Studios, Leipzig, January 1905

Portrait of Alfred Grünfeld by Alfred Gerstenbrand, Vienna, c. 1915
I am happy to draw attention to all these errors, partly from a desire for accuracy, and partly in a ready effort to acknowledge my own undoubted failings, making it a little less churlish to highlight those on the part of others.

DYNAMIC RECORDING SYSTEMS
2 The Hupfeld Dea and Phonoliszt

Historical and Technical Background
When the Welte-Mignon sprang to life fully armed in August 1904, it must have come as a bolt from the blue to the German piano industry. The Mignon played fully 80 notes of the piano keyboard, in contrast to the Pianola’s 65 or the Phonola’s 72, its music rolls were recorded by live pianists, and its control of expressive dynamics was far and away superior to any existing player instrument anywhere in the world. That an orchestrion manufacturer from a relatively small provincial city such as Freiburg-im-Breisgau should have stolen a march on the assembled ranks of German piano makers must have wounded many a proud soul, and to judge from his singularly commanding photographs, Ludwig Hupfeld was not without a certain self-esteem. His company, founded in Leipzig in 1892, and with a pedigree going back a further ten years, was one of the most successful manufacturers of automatic musical instruments in the whole of Europe.

Worse still, the Mignon was first displayed, during the Leipzig Michaelismesse (Autumn Fair) of 1904, at nos 33-35 in the Reichsstrasse, the home of Popper and Co., one of Hupfeld’s most important competitors, and only a short ride on the red tram from Ludwig Hupfeld’s retail headquarters of the time. Immediate action was clearly necessary, and the Hupfeld engineering and public relations bandwagon was no doubt given an almighty kickstart. It was surely significant that Hupfeld chose to display a prototype version of its Phonoliszt expression piano at the same fair, without publicly giving a name to the new instrument at that very early stage - a sure sign of a rushed decision, implying that news of the Mignon had probably been around for a month or two.

However, Welte had taken several years to develop the recording and playback systems for its new reproducing piano, and it was simply impossible for Hupfeld to follow suit immediately. In 1904, rolls for the Company’s main player instrument, the Phonola, were arranged from the score, as was the case with all other normal roll companies of the time, so the initial and urgent need was for a process to produce rolls from the playing of live pianists. Although the Phonoliszt, with its 72 notes, three levels of loudness and fast or slow crescendos, was finally put on sale from February 1905 onwards, it took Hupfeld until the September of that year to establish a real-time recording machine. But from then on the Company’s new ‘Künstlerrollen’, or Artists’ Rolls, were recorded and produced alongside its arranged repertoire, and
eventually superseded the earlier variety, so that by the 1920s, nearly all of Hupfeld’s 88-note Animatic player piano rolls were taken from the recordings of live pianists.

A flavour of the Hupfeld publicity machine can be found in the introductory brochure for the new rolls, which attempts to bridge the gap between Aeolian’s Metrostyle line and Welte’s fully automatic Mignon performances, by judiciously deprecating both, one after the other:
'One might feel that the technical reproduction guaranteed by means of the Phonola is so exact, so open to expressiveness, and has reached such a high standard, that it simply cannot be surpassed. But nevertheless an invention has been developed for the Phonola which opens up wholly undreamed of perspectives. There have been well-known attempts to fix the tempo of an artistic performance on a music roll by means of a line which is to be followed with the aid of a tempo lever. This is only a primitive device, however, which is not produced by the artist himself, but only under his guidance, and which affords no opportunity, even for the most skilful player, of reproducing the original playing with all its rhythmic subtleties.

'The Phonola would not be the complete instrument that it is in reality, if it rendered the player slavishly dependent on the artists’ rolls. Rather, the new invention allows the player to concentrate his whole attention on the dynamic reproduction and gradation of the music according to the indications given by the master pianist. If “His Master’s Tempo” really fails to appeal to a musically educated layman, then he only has to manipulate the tempo lever in order to adjust the performance to his own taste, even with an Artist’s Roll.’

Having thus slighted the fully automatic nature of the Welte-Mignon, Hupfeld then proceeded to market its similarly automatic Phonolisz with singular energy. In the first half of 1905, the piano was already on the market, but not the rolls for which it was really designed, and so the earliest advertising only claimed that the Phonolisz was the first instrument of its kind which replaced hand-playing in the most accomplished way. But by September of
that year the Künstlerrollen had finally been announced, and the introductory brochure speaks of recordings by Eugen d’Albert, Harold Bauer, Wilhelm Backhaus, Ferruccio Busoni, Teresa Carreño, Arthur Friedheim, Leopold Godowsky, Alfred Grünfeld, Carl Reinecke, Alfred Reisenauer, Emil Sauer, Xaver Scharwenka and Artur Schnabel. We have often remarked on the foolish rumour that Schnabel refused to record piano rolls, supposedly stating that his playing contained more dynamic levels than any reproducing piano, and so it is satisfying to find him amongst the very first to join the queue!

The range of Hupfeld’s rolls for the Phonola, Phonoliszt and similar instruments is often referred to as 73-note, since it spans a compass of six octaves, from $F_1$ to $F_8$. However, the lowest $F#$ was not included in the original scale, and for much of its life the Phonola was a 72-note instrument, and indeed widely advertised as such. Five perforation spaces were left in the centre of the tracker bar, which could be used for different functions on different instruments, notably the automatic operation of the piano pedals, and for dynamic control. It obviously made sense to be able to use the same perforating machines to produce rolls for a variety of instruments. To make matters a little more complicated, the extra spaces were interleaved with the middle-range pitches of the instrument’s scale. On the later 73-note ‘Solodant’ Phonola system, using a form of accenting similar to Aeolian’s ‘Themodist’, but with small single perforations rather than the familiar ‘ditto-mark’ variety, one of the centre spaces was used to restore the low $F#$ to the overall range, though only as far as the Phonola was concerned. In the Phonoliszt the central spaces were used for the sustaining pedal, three dynamic control mechanisms, and a soft pedal for the bass section of the piano only.

With its three adjustable levels of loudness and undivided pneumatic stack, the Phonoliszt, exhibited for the first time during the Leipzig Michaelismesse in 1904, was designed in the main for public places, such as restaurants and hotels, where the restrictions of dynamics would have been far less important than the ease of operation and general reliability. Its automatic dynamic control was almost exactly half as responsive as that of the Dea, which had six dynamic levels and a divided stack mechanism. In both cases it should be emphasized that, by judicious use of the crescendo and decrescendo facilities, roll editors would have been able to produce reasonably musical results for either instrument, and it would have been almost inevitable that the same system of recording was used for the two types of piano, and indeed for the Artists’ Rolls for the Phonola as well.

The Dea took roughly another two and a half years to produce, being launched at the Leipzig Easter Fair in March 1907, at Hupfeld’s showrooms near the Berliner Bahnhof. In fact, although the Company reported in April to the representative of the Zeitschrift für Instrumentenbau (Musical Instrument Manufacturing Journal) that it already had numerous contracts to supply the
new instrument, it does not seem to have made any great efforts to publicise it until the beginning of 1908, perhaps indicating that there was not yet a very extensive repertoire available.

It nevertheless took its place in the opening concert of Hupfeld’s new Berlin showrooms on 16 November 1907, sharing the programme with a live Phonola player, although a week later it did not feature in Hupfeld’s main Leipzig concert of the year, when Elena Gerhardt topped the bill at the Zentraltheater, accompanied by Ferdinand Karoly on the Phonola. At this early stage the Dea was only available as an upright Rönisch piano, and perhaps the first major event for which it was used had to wait until Hupfeld had succeeded in installing it into a grand piano as well.

Thus, in November 1908, at the Hotel de Pologne in Leipzig, a very early example of a concerto performance with reproducing piano took place, at which Francis Planté ‘performed’ the solo part of the Chopin E minor piano concerto on a Meisterspiel Dea grand piano, while the accompaniment was provided by a Phonola player, again probably Ferdinand Karoly, on an equally new Phonola grand. In what became the time-honoured tradition of such events, Planté the human being was nowhere to be found, since he was sitting quietly by his fireside in south-west France, but the Dea more than made up for his absence, as Frédy Prokesch of Hupfeld reported for Le Monde Musicale:
‘On the 25th November, a very novel concert took place in the great hall of the Hotel de Pologne. Francis Planté was there to play the Chopin Concerto in E minor. But what’s this? Francis Planté? Surely he is at Mont-de-Marsan? The secret that makes it possible, that he can be sitting quietly by the fireside in Mont-de-Marsan, while we are nevertheless enjoying his prodigious talent, is thanks to a most wonderful achievement in the field of technical and musical invention. Francis Planté was invisible, but the superb Dea piano (a grand, since the means of installing such a mechanism is finally possible!) reproduced his interpretation in such a faithful and lifelike way, that with your eyes closed, you might have imagined yourself being at the Salle Érard. Chopin’s piano-writing was accompanied to perfection by (another miracle!) the new Phonola grand piano. Surely this means that the last word of technical perfection has now been achieved? Francis Planté has made out his “Musical Last Will and Testament” in favour of the Dea, which he has (and these are his own words) adopted as the true resting-place of his musical interpretations.’

In all, some one hundred pianists chose to entrust their performances to Hupfeld’s early player pianos, including a few who never recorded elsewhere, such as the composers, Max Bruch, Leo Fall, Franz Lehár and Gabriel Pierné. Recording sessions were in the main held in Leipzig, but also in Vienna and Paris, and many early recordings were made with the rather simpler Phonolislitz in mind, and re-edited later for the Dea’s more sophisticated dynamic system. When comparing the repertoire of the Dea to those of other German reproducing pianos, there are some significant differences to be noted. In particular, there was a greater tendency to record and publish rolls of operetta and light music, in view of the importance to Hupfeld of the commercial success of its café pianos. There were also some real jewels of the classical repertoire, including fourteen rolls played by Scriabin, and a performance by Arthur Friedheim, the secretary of Franz Liszt, of his mentor’s Sonata in B minor, the nearest we shall ever find to a recording of Liszt’s own playing.

The Dea continued to be manufactured and marketed until 1920, when it was replaced by the Triphonola, which used 88-note rolls designed to the international standard agreed in Buffalo in late 1908, which Hupfeld had been producing for many years under the brand name of ‘Animatic.’

**Recording Methods**

In 1905, in response to the Welte-Mignon, Hupfeld’s engineers were given the task of creating both a recording and a playback system for piano rolls, similar to that used by Welte, but in addition for the production of rolls with no dynamic coding, so that the Phonola player at home could add his or her chosen dynamics by means of the foot-pedals. History does not relate who exactly designed the Dea, but it must have been a team led by Robert Frömsdorf, Hupfeld’s factory manager and technical superintendent, who is often to be seen operating the roll recording machine in early Hupfeld
photographs. Amongst the Company’s other technical experts at the
time were Ivan Bajde and Karl Hennig, both of whom were involved in the
development of the Phonolizst Violina, Bajde in particular having developed
over many years a means of playing violin strings with a bow, by means of a
piano keyboard.

By a lucky quirk of fate, we have a reasonable description of Hupfeld’s
recording process, though there are grounds for gentle caution in examining
it. The author, Ludwig Riemann, was present when Grieg recorded, on 11
April 1906, and probably on many other occasions too. In passing, one may
remark that Grieg noted in his diary for this day that he had played six of his
piano pieces for Hupfeld’s ‘Phonolist’ (sic) player piano, confirming, even
with its slight mis-spelling, that the Dea was by no means in evidence at that
time. Riemann was a music educationalist from Essen, who also acted as second
pianist for a few four-hand arrangements published on Hupfeld’s rolls, and
who was, with Dr Otto Neitzel, joint author of a book analysing and describing
the music in Hupfeld’s Phonola and Dea catalogues, ‘Musikästhetische
Betrachtungen.’

Ludwig Riemann himself underlines how grateful he was to be allowed to
view the recording process at first hand, but some inkling of the reason for
his preferment in this respect may be gleaned from the identity of his duet
partner in the rolls which he made, who was Gustav Riemann, presumably a
brother or other family relative. In 1911, a Herr Riemann was the manager of
Hupfeld’s music department, and although one cannot yet be certain that he
was one and the same as the Gustav who recorded Artists’ Rolls, his position
in the company might well account for the courtesies extended to Ludwig
Riemann.

As an educationalist, Ludwig Riemann was a staunch supporter of the
player piano, and in particular of the Phonola. His first major article on the
subject, entitled ‘Die Musikalische Bedeutung der Klavierspielinstrumente’
(The Musical Significance of the Piano Player), appeared in September 1906
in Der Kunstwart, an arts review published fortnightly in Munich. Riemann was
continuing a dialogue begun by the composer, Engelbert Humperdinck, a
keen protagonist of the player piano, and continued by a German musicologist
and kapellmeister, Aloys Obrist, who considered player pianos to be incapable
of being played sensitively. For those who are interested in such things in
the original Gothic script, we have made up an Adobe PDF file of the three
articles, which can be found on the Pianola Institute website, at:

One needs to remember that the exchange of opinions took place in 1906,
when the theme distinguishing mechanisms akin to the Themodist had not yet
been commercially launched, and when the accepted technique for dynamic
control had more to do with levers than with spontaneous variation by means
of the foot-pedals. Equally, Aeolian’s early 65-note Pianola had not outgrown the idea that it still had no division of dynamic control between treble and bass, allowing Hupfeld’s Phonola, with its 72 notes and split pneumatic mechanism, to be trumpeted as a fine triumph for German industry.

At this early stage, Riemann does not go into any great detail with regard to recording methods, but simply explains the process as follows:

‘The transmission of the artist’s playing on to music rolls occurs in the following way: the artist plays at a grand piano. The particular piano is connected to a recording apparatus, which captures every note, the tempo, the rhythm and every nuance with the greatest imaginable accuracy. By means of a special mechanism (an invention of the firm of Hupfeld in Leipzig), everything is then transcribed on to the music roll. In this way the artist’s performance is made permanent, and may be reproduced with virtually complete fidelity. From the great multitude of famous pianists, only a very few played their “recorded” pieces without any wrong notes. The sensitive apparatus also reproduced every imprecision with regard to the playing of chords, legato phrasing and the use of the pedal, which goes to show how much we rely on the overall impression of a piece, and how little attention we have in the past paid to the nature of piano tone and the variations caused by differences of attack.’

In a footnote, Riemann continues:

‘I was able to study the transcribed rolls in the most minute detail. My acoustical and psychological conclusions will be included in my major work on “The Nature of Piano Tone.” The study was of particular interest to me, since I had the opportunity of listening for a full hour to Grieg playing his own pieces for the purposes of the Phonola.’

To our modern ears, the surprise at the discovery of wrong notes is somewhat ingenuous, especially since we now know that roll recording pianos had a tendency to capture the silent brushing of adjacent notes. There was obviously a trade-off between the need for promptness of response to a lightly played key and the desire to mark up only those finger-strokes which resulted in fully sounding notes. As we shall see from Ludwig Riemann’s further and fuller descriptions, his technical understanding of player pianos was not comprehensive, and so one needs to analyse his conclusions very carefully.

Riemann’s main work on the nature of piano tone was published by Breitkopf and Härtel in Leipzig in 1911, and we have once again scanned the relevant excerpts and converted them to PDF format, available for browsing or download at: http://www.pianola.org/pdfs/klavierklang.pdf

On this occasion Riemann goes into considerably more detail about the nature of Hupfeld’s recording system, and he takes the trouble to transcribe an excerpt from one of Grieg’s master rolls, indicating not only Grieg’s idiosyncrasies of interpretation, but also his own misconceptions of the nature of the recording process. It is a lengthy explanation, bound up with theories on the nature of precision in music:
'As a result of my researches into the inconsistencies of the piano, I came to the surprising conclusion that there is no such thing as a simultaneous event on the piano, strictly speaking. In order to establish this musical law I was able to use an apparatus that by means of pneumatic power presses a stylus against a moving roll of paper whenever a note is played, and thereby delineates the note durations by means of lines. If a chord were played all at the same moment, the styli would by definition have all been pressed down at the same time, so that the beginnings of each note would run in a straight horizontal line. I was not able to achieve this at all, even though I used all my strength and willpower to that end. The beginnings lay in descending order from the little finger to the thumb. For chords using all five fingers, the little finger always played first, and the thumb last (see figure 23). And not only that. Each key was connected to five tubes of the mechanism, which corresponded to the main dynamic levels: pp, p, mf, f, ff. According to the force exerted by the finger playing the key, the resultant pneumatic power pressed one or more styli against the paper, so that for example, one line indicated pp, and five lines ff. With a heavily played C major chord in one hand, the thumb gave a measurement of four lines, the index finger two lines, the middle finger three or four lines, the fourth finger one or two lines, and the little finger two to three lines. So much for my willpower and my awareness of synchronicity: the machine spoke the unvarnished truth.\footnote{Such a machine is in use for the recording of “Artists’ Rolls” for the Phonola. I was able to undertake my researches at the Hupfeld Phonola factory in Leipzig.}

\begin{center}
\textbf{Gleichzeitig{\text{"A}} Akkordgriff:}

\textbf{Figur 23.}
\end{center}

\begin{center}
A Chord Played at one Instant (Riemann - Figure 23)
\end{center}

‘One should regard the dotted lines as running along a paper surface. The asynchronous playing of the keys can be seen by means of the small circular points. It goes without saying that a two-handed chord cannot possibly be played in exact synchronism. We are here contemplating a human weakness that is largely unknown and indeed not...
even regarded as a weakness at all. As is the case with so many examples of imprecision in music, it is our opinions and the overall musical effect that guide our judgment. It is enough that we experience the aesthetic pleasure of musical precision simply as an overall impression; indeed, we have gone so far towards embracing the accepted attitudes of our time, that we consider an exact synchronism in playing - the sort that can only be produced mechanically by piano playing devices - to be “unattractive”, and though our professors have for years preached the virtues of the most exact precision in the playing of thirds and small chordal figurations, we on the other hand regard the hammering out of great runs of thirds as ugly.

‘By good fortune I had the opportunity to get to grips with the amorphous nature of our art by means of a practical example, since imprecision does not generally impinge on our conscious minds. There is an invention connected with the player piano that allows human playing to be noted down on a paper roll, in such a way that the duration of the notes is marked by longer or shorter strokes, and the dynamic power of the notes by one or more lines (see fig. 23). In the following example, numerals represent the dynamic steps (1 = pp, 2 = p, 3 = mf, 4 = f, 5 = ff), that Grieg used in his playing. I had the opportunity of personally hearing Grieg playing at a grand piano that was connected to the recording apparatus. After the playing was done, I undertook the laborious task of correlating the dynamic and rhythmic markings with the original score, and I achieved the following result:
Beispiel 100.

Grieg, Erotik, nach Originalspiel des Komponisten.

Grieg, Erotik, from the composer's own performance (Riemann - Example 100)
‘One may compare this transcription from the stencil roll, which is as accurate as I could make it, with the original score (Peters Edition 2425). I shall set down only the initial errors in words: Bar 1 - the legato phrasing is missing; Bar 2 - The e'' of the turn remains held down; the a is not tied to the g; g and c'' are let go too early; no use of the pedal; Bar 3 - a wild arpeggio that has already begun at the last note of bar 2; left-hand arpeggio not supported by the pedal, which is pressed down too late, and therefore not held on; d” held on after c’’ comes in; final quaver arpeggio wrong; legato fails on account of careless octave playing; Bar 4 - arpeggio missing, C ends too early; C held on for an extra semiquaver with the octave D in the following bar, etc. One would very soon tire of any attempt to put all these errors into words.

‘It fits entirely with our unconscious acceptance of musical imprecision, that despite such errors the aesthetic pleasure of this recording is not disturbed or lessened. On the other hand, the player piano technicians are horrified by these transcriptions of original performances, which are in many cases hardly recognisable. Of 40 piano virtuosi who played on the grand piano connected to the recording apparatus, in order to prepare the so-called “Artists’ Rolls”, there was only one whose playing held to the original score. The others departed from it, sometimes quite significantly, and sometimes with the most egregious errors, without detracting from the overall enjoyment of the recorded performance. The idea that the above-mentioned artist might be recognisable on account of his exact playing was in the event put to the test, when at a later concert a sensitive aficionado dismissed the playing of this man with the word, “Pianolist!” The harsh verdict was all the more telling, since the critic had no idea that the man’s playing had previously been praised for its accuracy. So the question of precision plays only a small part, along with the many other components of dramatic rhetoric, in the realization of a musical work. Indeed, we can go further. This lack of precision gives music an indefinable quality: it allows the player to breathe his own life into the musical work. Questions of musical taste, beauty and aesthetic pleasure work against our enjoyment only when the player is unworthy or does not understand the music, or when the opinion of the listener does not accord with the performance, because the aesthetic pleasures of imprecision do not affect us all in the same way.’

Much of what is being written here has little to do with the dynamic recording of piano rolls, but since Riemann is our only detailed, self-confirmed source on the matter of early Hupfeld recording procedures, it is of interest to quote him at length. His musical transcription of Grieg’s playing, however, shows evidence of someone who did not understand the technicalities of pneumatic mechanisms.

It is clear, from the surviving photographs of Hupfeld’s early recording sessions, reproduced in the book, *Namhafte Pianisten im Aufnahmesalon Hupfeld*, edited by Eszther Fontana, and published by the Janos Stekovics Verlag, that the connections between the piano and the Hupfeld recording machine were pneumatic and not electric. This at any rate was the case for the machine.
at the company’s factory in Leipzig, since the connections for those in use in Paris and Vienna are not visible. But tubes, as opposed to wires, are slow communicators of information; variations in air pressure travel at the speed of sound, whereas electrical current mimics the speed of light. The proximity of the recording machine to the piano in the published photographs was no doubt chosen as a direct result of the potential delays that might be introduced by inordinate lengths of tubing. At a Duo-Art concert in the Purcell Room in 1974, at which Busoni and George Gershwin appeared posthumously, a remote roll reader was located in the backstage green room, relaying its information electrically to a series of organ solenoids mounted under the Steinway grands on stage. Unfortunately, the connection for the sustaining pedal in the multiway cable broke down, and in extremis a long tube had to be used, with the result that the pedal was extremely slow to operate, clouding the music in a very embarrassing way. Similarly, the late Gordon Iles, of Artona Music Rolls, had a Steck Duo-Art grand piano in his living room, with a roll reading device by the wall at the bass end of the piano, and tubes connecting it to the normal stack mechanism. Despite the fact that the roll reader was hard against the piano case, it nevertheless resulted in a less than perfect reproduction of the Duo-Art rolls, especially as far as the crisp repetition of the notes was concerned.

In transcribing Grieg’s playing, Ludwig Riemann makes much of the inadvertent slurs that Grieg was supposed to have played. A close examination of his diagram reveals that the E roughly one octave above middle C, e’’ as Riemann refers to it, is rather frequently held on longer than might be expected. In bars 10 and 11 of the example, Grieg apparently holds it on for a whole bar, completely negating the sense of the music, and going to extremes of technical virtuosity in order to sustain rather than repeat it. To anyone with experience of pneumatic mechanisms, it is very clear that something is amiss with the recording device, perhaps a blocked bleed hole, or a sticky pallet valve, and it is equally obvious that the record does not represent Grieg’s playing in this small respect. And yet Riemann does not notice the obvious, which is a clear indication, if one were needed, that he was not likely to have been a member of Hupfeld’s staff, as has been erroneously suggested elsewhere. In any case, he refers to the ‘player piano technicians’ in the third person, a sure sign that he was not of their number.

With the proviso that his descriptions are those of a layman, albeit a musically informed one, we may turn our attention to a restatement of his account of the dynamic recording process:

‘Each key was connected to five tubes of the mechanism, which corresponded to the main dynamic levels: pp, p, mf, f, ff. According to the force exerted by the finger playing the key, the resultant pneumatic power pressed one or more styli against the paper, so that for example, one line indicated pp, and five lines ff.’
We noted in the previous instalment of this article that there were likely to have been five lines at each side of the master roll, one set for treble and another for bass, and not five lines per note, which would have necessitated over four hundred tubes between piano and recorder, which was clearly not the case. Riemann fails to understand that, in such a situation, five lines equates not to five degrees of touch, but to six, since the absence of any line is a good indication of the quietest level. This fits more comfortably with the dynamic control of the Dea, which used six basic levels, with variable speed crescendos and decrescendos between one and the other. Even the Phonoliszt, with its three levels of dynamics, would stem more readily from a system based on a multiple of three. It also means that Riemann’s rendering of Grieg’s playing is somewhat distorted from the dynamic point of view, though it is in any case not at all clear that the dynamic lines exactly matched the printed dynamic indications that he lists. As Duo-Art later discovered, mezzoforte is by no means halfway up the scale from the point of view of exerted power.

It is clear that pneumatic tubing took the signals from the piano to the recording device, but there is nothing that has so far come to light that tells us exactly how the pneumatic signals were created in the first place. Presumably some form of small valves were used, not operated by electrical contacts, because there would have been no point in converting electricity to pneumatic power within the piano itself. Whatever system was used, some effort would no doubt have been made to avoid significantly altering the touch of the recording piano, or the visiting pianists would have had problems in performing in their usual manner.

An example of a similar system, albeit an electrical one, may give us some clues. Walter Bernhard was, from around 1902, one of the senior managers at Popper and Co., whose showrooms in Leipzig, as we saw earlier, were the location for the public launch of the Welte-Mignon, and also for its early recording sessions in 1905 and 1906. Later on, Popper developed its own reproducing piano, the Stella, though this was never as successful as those of the three main German companies in the field, Welte, Hupfeld and Philipps. But in 1908 Bernhard took out a German patent for dynamic recording on piano rolls, presumably in connection with the Stella, and it displays a considerable ingenuity of conception. Whether Bernhard was himself the inventor is unknown, since the practice of the time often named a senior manager of the relevant firm, rather than a mere member of the factory staff.

Bernhard’s patent displays a double piano action, with two hammer and escapement mechanisms pointing in opposite directions, both operated from the same key. The diagram presupposes an upright recording piano, though the patent itself notes that other configurations of hammer action could be used, so that a grand piano is not ruled out. While one hammer travelled to hit the piano string, the other transferred its energy through a pneumatic...
connection to a framework of sprung electrical contacts, of differing lengths. The harder the hammer hit, the more contacts were brought into operation, connecting to a roll-marking mechanism, and thereby drawing a series of parallel lines at each edge of the master roll, one for treble and one for bass. The similarity of this to the description given by Riemann is quite remarkable, although the Bernhard patent mentions only four lines on each side, giving five dynamic steps. It is still possible that Bernhard was active on his own account, and that the patent represents not a product of his employers, Popper and Co., but instead some form of later practice at the Hupfeld factory. Whatever the case, Hupfeld’s recording methods, at this early stage, must have had much in common with the illustration below.

Walter Bernhard - Dynamic Recording Patent, 1908
Kaiserliche Patentschrift nr. 220716
However, the automatic notation of a series of lines at each side of a roll is not the same thing as the dynamic coding needed for operating a reproducing piano in real time, and to carry out the process of conversion, Hupfeld employed a number of musical editors, who can be seen in many of the recording photographs of the time.

Musical and Technical Staff
When the Aeolian Company set up its Duo-Art recording departments in New York and London, it looked to its existing expert Pianola players to become the new Duo-Art recording producers. Similarly, it is likely that Hupfeld turned to those who played the Phonola in order to establish a recording team for the Phonoliszt and Dea. The main Phonola player of the time was Ferdinand Karoly, who in 1905 and 1906 had made an extended tour of Australia and the Far East, demonstrating the new Claviola (Hupfeld’s antipodean name for the Phonola), and who performed at a public concert at the Central Theatre in Leipzig on 26 November 1907, accompanying both Elena Gerhardt in a number of lieder, and Walter Hansmann, violinist and later director of the conservatoire at Weimar, in the Grieg violin sonata. So far, only Karoly’s diary of the Australian tour has come to light, at the Australian National Library, and not any correspondence connected with the recording of rolls in Leipzig.

However, the other known musician involved has left at least some evidence of his participation. Frédy Prokesch was present, on behalf of Hupfeld, at the Dea recording session of the French pianist, Francis Planté, in Paris in early 1908, and he both corresponded with Planté, and reported for Le Monde Musicale on the grand concert given at the Hotel de Pologne in Leipzig on 25 November of that year, when Planté’s recording of the Chopin E minor Piano Concerto was performed on a Dea grand piano, accompanied by a similar Phonola grand, as mentioned earlier in this article.

The names of these two recording producers have not yet been correlated with the faces to be found in the various surviving recording photographs, and this is undoubtedly an area for further research. Of the technical staff, it is known that Robert Frömsdorf, Hupfeld’s factory manager, operated the recording machine until his untimely death in 1908, and no doubt Hupfeld’s other technical experts of the time, including Ivan Bajde and Karl Hennig, were involved.

In the next instalment of this series, we shall look at the recordings for the Duca reproducing piano, manufactured by the firm of J.D. Philipps in Frankfurt.
Paderewski and the Player Piano
Denis Hall

Paderewski has left a good representative collection of disc recordings of the shorter works in his repertoire, made over the period from 1911 right up to 1938, when he paid his last visit to the HMV studios at Abbey Road to complete those titles he had undertaken the previous year. What is not so well known generally is that, like most pianists active during the first thirty years of the twentieth century, he also made a substantial number of reproducing piano roll recordings, and it is these which are the subject of this article.

His first attempt at setting down his interpretations for replay at a later time was not actual reproducing rolls. In the very early years of the twentieth century, the Aeolian Company, makers of the ‘Pianola’ piano player, developed and patented a device called the Metrostyle for use with its Pianola rolls. It is

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**“Music’s Life Line”**

Metrostyled Upon PIANOLA Music-Rolls
by the World’s Greatest Musicians

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The Aeolian Company

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Aeolian Company Advertisement for the Metrostyle line
advertised it as ‘Music’s Life Line’, and this took the form of a red line drawn the length of the roll which moved from side to side, to the left when the music slowed down, and to the right to accelerate. By following this line with a pointer attached to the Pianola’s tempo lever, it ‘enables anyone to play the Pianola with genuine musicianly feeling and expression’. This claim by Aeolian, if a trifle optimistic, is not so fanciful as it may seem, and many of the early Metrostyled rolls, with the line created by a house musician, can work remarkably well. A development of the use of the Metrostyle line was to get famous artists to
create the line, with the aid of a member of Aeolian’s staff. Paderewski was one of those who participated in the scheme, putting his name to a number of compositions. In the light of his future piano roll activities, these Autograph Metrostyle rolls today are little more than historical curiosities. At that time, however, Paderewski must have been enthusiastic, and he had two Pianolas in his residences in Switzerland and California.

At much the same time as Aeolian was promoting its Metrostyle Pianola rolls, the firm of M. Welte und Soehne in Freiburg im Breisgau, Germany, was approaching the idea of reproducing the playing of a pianist from a different angle. The firm was founded in 1832 to manufacture musical clocks, playing very small organ pipes from a mechanism such as is found in musical boxes. From these, it progressed to the production of orchestrions, large self-playing pipe organs, for which it became well known, winning a prize medal for one of its instruments displayed at the London International Exhibition of Industry and Art in 1862. A particularly large example was installed in the billiard room of Adelina Patti’s castle in Wales. The music for these orchestrions was traditionally carried on very large barrels, which were cumbersome, expensive to make, and limited the instruments’ repertoire. But from 1887, Welte took a big leap forward by substituting perforated paper rolls for the barrels, immediately opening up the prospect of a much larger library of music at a more affordable cost.

Orchestrions, in spite of their enormous size (they could be up to 15 1/2 feet high), were very limited in their capabilities, never having more than a few ranks of pipes and a small percussion section. With the popularity of the
piano in late Victorian times, it is hardly surprising that Welte should explore the possibility of its own version of an automatic piano player, and around 1900, Edwin Welte (1876-1958), grandson of the founder of the firm, and his brother-in-law, Karl Bockisch (1874-1952), began to develop what was to be the first true reproducing piano in the world, the Welte-Mignon, which played from paper rolls similar to those developed for the orchestrions. By 1904, the complete system, to record the playing of a pianist in all its subtle detail, and replay it on another piano had been perfected. During that year, Welte and Bockisch recorded a local Freiburg pianist, Eugenie Adam Benard. She must have been a remarkably patient soul, for she recorded no less than 154 titles, some of which remained in the Welte catalogue right up to the end of production in 1932.

The Mignon was first publically exhibited at the Leipzig Fair of 1904 on the stand of Popper and Co., another firm of automatic musical instrument manufacturers. In spite of the only recordings available being those made by Adam Benard, the Mignon made a considerable impression, and from the beginning of 1905, Hugo Popper, owner of Popper and Co., made available his music salon in Leipzig for the Welte recording piano to be set up there. Popper was a man in his fifties, of immense charm, and a well established figure in Leipzig musical circles. He was, therefore, ideally placed to attract any famous pianist who might be visiting Leipzig to play for the new invention. It seems quite remarkable to us today just how successful he was, in that, between January 1905 and April 1906, no fewer than 1200 rolls were recorded. As early as April 1905, Teresa Carreno, Ossip Gabrilowitsch, and the Liszt pupils, Alfred Reisenauer, Arthur Friedheim and Konrad Ansorge, along with a number of lesser known pianists had recorded. But it was not until 27 February 1906 that the most famous pianist of them all, Ignace Jan Paderewski, was finally snared, and on that one day, he made fifteen rolls.

We do not know how these Welte recordings were made, since the inventors, Welte and Bockisch, always kept the process secret, sharing it only with their technical director, and the recording apparatus was locked up after each recording session. A number of theories have been propounded using pneumatics, similar to the method used in the replay mechanism, or electricity, which was well developed by the turn of the twentieth century, and which had been used by Welte in their pipe organs. However, the best anyone can do today, without the emergence of some vital evidence, is to suggest methods how the data necessary to produce the rolls could have been obtained. Suffice to say here, after the pianist had played, his or her assistance was not required. Everything needed to complete the finished roll was captured.

In their contracts with Welte, the pianists were invited to go to Freiburg to approve their rolls; if they were not satisfied, they could re-record particular titles. However, when one thinks of the busy schedules the important artists
had, one must question just how many rolls were actually signed off prior to their publication. This is not to decry the validity of the rolls - merely being realistic.

Paderewski’s performances on that day in 1906 comprise Beethoven’s ‘Moonlight’ sonata, Schubert’s Impromptu, op. 142, no. 3, a group of Chopin, three compositions/transcriptions by Liszt and a couple of his own pieces. The main interest in these first recordings which Paderewski made is the way in which during the short period from 1906 to 1911, when he made his first discs, his playing style changed. While he is, later on, very much the pianist we know from his discs, there is a sense of greater indulgence. Two reasons for this spring to mind. With piano roll recording, there is no pressure to complete the work within the $4^{1/2}$ minute time constraint of the 78 rpm record side, or the need to produce an absolutely note-perfect performance. The other, perhaps more significant, reason is that up till then, he had not heard himself play, and may have decided to modify certain aspects of his interpretations in the light of hearing the rolls.

![Paderewski recording for the Welte-Mignon in Leipzig, 1906](image)

From this Welte recording session, only the Schubert-Liszt *Erlkönig* is unique. As one might expect from the (comparatively) young ‘Lion’ of the keyboard, the performance is wild and full of fire. Paderewski recorded all the other titles again, either on disc or Duo-Art roll, some of the later versions displaying interesting differences in approach. For example, he played the theme of
the Schubert Impromptu significantly slower in 1906 than he did on either the Victor disc or the Duo-Art roll in the 1920s. After that, the differences are less marked. This roll is one of the finest of the Welte collection, and is a good example of Paderewski’s approach to lyrical music, conceiving the music as would a singer, always giving phrases time to breathe. The Polonaise, op. 53, is similar in approach to his playing in the Moonlight Sonata film and the HMV 1936 disc, although of course it is more energetic, as one would expect from the much younger man. There are two textual variants worth commenting on in the Welte performance. Paderewski makes a cut from bars 49 to 81, and at bar 155, he plays a rather flamboyant octave run up to the return of the main theme. The cut might just conceivably have been a memory slip. However, we have evidence from an unexpected source that this was not the case. Paderewski’s friend and pupil, Ernest Schelling, made a Duo-Art piano roll of the work in 1916, and indulges in the same liberties as his master. It seems almost impossible that Schelling could have got those alterations from anyone except Paderewski, and with this evidence, I think one can take it that the Welte performance is how Paderewski was playing the work at that stage in his career.

In commenting on the Welte rolls, a good friend of mine told me that the Chopin Waltz, op. 64, no. 2 brought back strong memories of how Paderewski played when he heard him on his last tour of Great Britain in 1938.

Since I have commented on a speed difference between the Welte performance of the Schubert and the later recordings, it is perhaps appropriate to set down that almost all the original red Welte rolls play at a standard roll speed of three metres per minute, which is determined by the test roll used to check the correct performance of the reproducing action. One can, therefore, be sure that, provided the Welte piano is playing correctly, the tempi are what the pianists intended.

Paderewski, in common with many of the early Welte artists, recorded on only the one occasion. His next major involvement with piano roll recordings was rather different. The Aeolian Company, for whom Paderewski had provided very valuable publicity, realised by the early ’teens of the last century, that if it was to stay a leader in the player piano industry, had to have its own reproducing piano system, and to this end, in 1914, introduced the Duo-Art Pianola. Its earliest rolls were of a distinctly popular flavour, correctly realising that its immediate market would be the wealthy class who, in the main, would not be interested in major classical works. Nevertheless, it was important to have a galaxy of the most famous pianists on its books. And so, in 1917, Paderewski signed an exclusive contract with Aeolian to record rolls for the Duo-Art. His first two rolls for that system came out in 1919, and were Chopin’s Etude, op. 25, no. 9, and, inevitably, his famous Minuet. From then until the late 1920s, he made a series of 35 rolls, 32 being published at the time, the others appearing, not terribly successfully, in the 1960/70s.
Paderewski was by far Duo-Art’s most important artist, and considerable care was taken in the preparation of his rolls. We are, therefore, fortunate in being able to hear his playing in the best possible light while he was still at the height of his powers. Many of the titles duplicate other versions made for Victor around the same time. However, the Chopin Ballades nos. 1 and 3, the third Scherzo and the Schubert/Liszt *Soirée de Vienne* no. 6 do not appear elsewhere, presumably because gramophone companies in the first three decades of the twentieth century were reluctant to record their celebrity artists in works lasting longer than $4\frac{1}{2}$ minutes, the length of side of the 78 rpm record. Having said that, Victor did record Paderewski playing works taking two sides - Liszt’s *Hungarian Rhapsody* no. 2 (Victor 6235), Schelling’s Nocturne (*Ragusa*) (Victor 6700), and the Polonaise, op. 26, no. 2 by Chopin (Victor 7391), the first two titles also appearing on Duo-Art rolls.

Several of the Duo-Art rolls seem to this listener to be particularly successful. Among the Chopin titles, the Mazurka, op. 24, no. 4 is beautifully phrased, displaying those same characteristics which make his disc recordings of mazurkas unique. Schelling’s Nocturne (*Ragusa*) is an example of Paderewski’s ability to cast that magic spell which so endeared him to his audiences throughout his career. The *Soirée de Vienne* takes us back to an earlier age of elegance and freedom of expression which alas has vanished. It has been reported that Paderewski played *Reflets dans l’eau* to Debussy, who told him that his interpretation was not how he had envisaged the work, but that he, Paderewski, should not change anything. It is not difficult to sympathise with Debussy when one listens to Paderewski’s interpretation.
What is the value of these reproducing rolls? The Welte session predates his discs by several years, and gives us the playing of the youthful virtuoso in relaxed and intimate surroundings without the pressures which 78 rpm disc recording imposed. From that occasion, we have first versions of the complete ‘Moonlight’ Sonata, Chopin’s third Ballade, Nocturne, op. 37, no. 2, and Polonaise, op. 53, and Schubert’s Impromptu, op. 142, no. 3. The Duo-Art rolls date mostly from Paderewski’s return to the concert platform after the years during which he devoted all his time and efforts in establishing modern Poland. The playing is, therefore, that of a more mature and thoughtful artist, and it is fortunate that the Duo-Art system was so successful in capturing the spirit of his playing while he was still at the peak of his powers. Good reproductions of these Duo-Art rolls, I think, make the playing of this great artist more accessible to a younger generation than the elderly 78 rpm discs, fine though they are.

I am sad to have to conclude this article with a warning. Reproducing rolls will only do justice to the artists who recorded them when the reproducing pianos are in first class order. Regrettably, these are few and far between. A particularly bad example of what I am referring to is the two-CD set of Paderewski’s Welte rolls issued by Dux (0324/0325). Not only does the booklet make exaggerated claims for the quality of the recordings, it is full of misinformation about reproducing pianos generally. These recordings are a travesty of how the rolls can and should sound.
### Appendix 1 - List of Paderewski’s Welte Rolls

<table>
<thead>
<tr>
<th>Roll no.</th>
<th>Composer</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1246</td>
<td>Beethoven</td>
<td>Sonata, op. 27, no. 2, Movements 1 and 2</td>
</tr>
<tr>
<td>1247</td>
<td>Beethoven</td>
<td>Sonata, op. 27, no. 2, Movement 3</td>
</tr>
<tr>
<td>1248</td>
<td>Schubert</td>
<td>Impromptu, op. 142, no. 3</td>
</tr>
<tr>
<td>1249</td>
<td>Chopin</td>
<td>Ballade no. 3, op. 47</td>
</tr>
<tr>
<td>1251</td>
<td>Chopin</td>
<td>Mazurka, op. 24, no. 4</td>
</tr>
<tr>
<td>1253</td>
<td>Chopin</td>
<td>Etude, op. 25, no. 9</td>
</tr>
<tr>
<td>1254</td>
<td>Chopin</td>
<td>Etude, op. 10, no. 3</td>
</tr>
<tr>
<td>1255</td>
<td>Chopin</td>
<td>Nocturne, op. 37, no. 2</td>
</tr>
<tr>
<td>1256</td>
<td>Chopin</td>
<td>Polonaise, op. 53</td>
</tr>
<tr>
<td>1257</td>
<td>Chopin</td>
<td>Waltz, op. 64, no. 2</td>
</tr>
<tr>
<td>1259</td>
<td>Liszt</td>
<td>Hungarian Rhapsody no. 10</td>
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<tr>
<td>1260</td>
<td>Schubert/Liszt</td>
<td><em>The Erl King</em></td>
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<tr>
<td>1261</td>
<td>Schubert/Liszt</td>
<td>‘Hark! Hark! The Lark’ (Ständchen)</td>
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<tr>
<td>1262</td>
<td>Paderewski</td>
<td>Nocturne, op. 16, no. 4</td>
</tr>
<tr>
<td>1263</td>
<td>Paderewski</td>
<td>Menuett a l’antique, op. 14, no. 1</td>
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### Appendix 2 - List of Paderewski’s Duo-Art Rolls

<table>
<thead>
<tr>
<th>Roll no.</th>
<th>Composer</th>
<th>Title</th>
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<tr>
<td>6097</td>
<td>Chopin</td>
<td>Etude, op. 25, no. 9</td>
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<td>6100</td>
<td>Paderewski</td>
<td>Minuet, op. 14, no. 1</td>
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<td>6140</td>
<td>Chopin</td>
<td>Polonaise Militaire, op. 40, no. 1</td>
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<td>6551</td>
<td>Chopin</td>
<td>Valse Brillante, op. 34, no. 1</td>
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<td>6558</td>
<td>Paderewski</td>
<td>Caprice ‘genre Scarlatti’, op. 14, no. 3</td>
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<td>6562</td>
<td>Paderewski</td>
<td>Nocturne, op. 16, no. 4</td>
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<td>6566</td>
<td>Chopin</td>
<td>Mazurka, op. 24, no. 4</td>
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<td>6567</td>
<td>Chopin/Liszt</td>
<td>‘My Joy’ (Polish Songs), op. 74, no. 12</td>
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<td>6568</td>
<td>Liszt</td>
<td>Hungarian Rhapsody no. 10</td>
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<td>6569</td>
<td>Mendelssohn</td>
<td>‘Spinning Song’, op. 67, no. 4</td>
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<td>6594</td>
<td>Chopin/Liszt</td>
<td>‘The Maiden’s Wish’ (Polish Songs), op. 74, no. 1</td>
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<td>6618</td>
<td>Chopin</td>
<td>Valse, op. 42</td>
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<td>6670</td>
<td>Liszt</td>
<td>Hungarian Rhapsody no. 2</td>
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<td>6681</td>
<td>Paderewski</td>
<td>Melodie, op. 8, no. 3</td>
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<td>6694</td>
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<td>‘Hark! Hark! The Lark’</td>
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<td>Schubert</td>
<td>Impromptu, op. 142, no. 2</td>
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<td>Chopin</td>
<td>Mazurka, op. 17, no. 4</td>
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<td>Chopin</td>
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<td>6847</td>
<td>Chopin</td>
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<td>6929</td>
<td>Beethoven</td>
<td>Sonata, op. 27, no. 2, Movements 1 &amp; 2</td>
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<td>Composer</td>
<td>Piece Description</td>
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<td>6930</td>
<td>Beethoven</td>
<td>Sonata, op. 27, no. 2, Movement 3</td>
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<td>7160</td>
<td>Chopin</td>
<td>Scherzo no. 3, op. 39</td>
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<td>7186</td>
<td>Debussy</td>
<td>Reflets dans l’eau (Images)</td>
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<td>7215</td>
<td>Schelling</td>
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<td>Légende, op. 16, no. 1</td>
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<td>7348</td>
<td>Schubert</td>
<td>Impromptu, op. 142, no. 3</td>
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<td><em>Soirée de Vienne</em>, op. 67, no. 6</td>
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<td>Paderewski</td>
<td><em>Cracovienne Fantastique</em>, op. 14, no. 6</td>
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<td>7508</td>
<td>Wagner/Liszt</td>
<td>‘Liebestod’ (Tristan &amp; Isolde)</td>
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<td>7509</td>
<td>Liszt</td>
<td>La Campanella (Paganini Etudes)</td>
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<td>7510</td>
<td>Schubert/Liszt</td>
<td><em>Soirée de Vienne</em> no. 6 (reissue of 7435)</td>
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<td>Ballade no. 1, op. 23</td>
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<td>8020</td>
<td>Schumann</td>
<td>The Prophet Bird, op. 82, no. 7</td>
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<td>8022</td>
<td>Chopin</td>
<td>Etude, op. 10, no. 5</td>
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Review:
**Edvard Grieg, Piano Concerto in A minor, op. 16:** Percy Grainger, piano (Duo-Art music roll, 1921); Kristiansand Symfoniorkester/Rolf Gupta, conductor

**Wedding Day at Troldhaugen op 65 no 6; Album Leaf, op. 28 no 1; Album Leaf, op. 28 no. 2; Erotikon, op. 43, no. 5:** Edvard Grieg, piano (Phonola music rolls, 1906)

**To Spring, op. 43, no. 6:** Percy Grainger, piano (Duo-Art music roll, 1919)

**Sonata for Violin and Piano no. 3 in C minor, op. 45:** Øyvind Bjorå, violin; Rex Lawson, pianola

*Lindberg Lyd AS, 2L60 [CD & Blu-ray disc]*

**Robert Matthew-Walker**

There have been a number of piano concerto re-recordings in which the solo part has been played from a piano roll with a modern symphony orchestra, resulting in varying degrees of success, but this quite outstanding new version couples Percy Grainger’s Duo-Art rolls of the complete work made in 1921, with the Kristiansand Symphony Orchestra, recorded together in Kristiansand Cathedral in February 2009.

Grainger’s Duo-Art performance has been used in this way in the past, notably on an Australian RCA LP, and there exist several off-air recordings of him playing the Grieg Concerto. The importance of Grainger’s performance is that he studied the work intensively with the composer in the summer of 1907, prior to a planned performance in England in September of that year. But Grieg was mortally ill: having set out from his home ‘Troldhaugen’ (a few miles outside Bergen) to travel to England early in the month, he was taken ill and died in Bergen, prior to embarking aboard ship. He was 64. So no performance of the Concerto was ever given by Grainger with the composer conducting. At the Festival where Grieg was to have appeared, Sir Charles Stanford conducted in his stead.

But the greatest interest still surrounded Grainger in the Concerto, for Grieg’s final thoughts on the work were conveyed to Grainger in those last months and weeks; not only was this important in itself, but also the significance was enhanced by the fact that Grieg was forever tinkering with the work, altering the orchestration here and there, and occasionally the solo part (but never by more than the occasional changed note or phrasing marks). Grainger’s edition of the work, published by G. Schirmer and Company in 1920, is now regarded as absolutely definitive, and therefore any performance by Grainger has to be taken very seriously indeed. It is also of no little significance that in 1908 Grainger recorded for the Gramophone Company
Robert Matthew-Walker

(His Master’s Voice) a performance of the cadenza from the first movement of the Concerto - the first time any of the work had ever been recorded, and although HMV issued the Concerto in 1910, played by Wilhelm Backhaus, with the New Symphony Orchestra under Sir Landon Ronald, this was a heavily cut version of all three movements. Later, the same artists recorded the work complete.

The story of Grainger’s attempts to record the Grieg Piano Concerto commercially makes for sad reading in the history of the gramophone. Grainger played the work frequently in his long and active life but as time went by no record company showed interest in recording the Concerto with him as soloist. Many opportunities were therefore missed in this way (it is rumoured that Leopold Stokowski would not record the Grieg Concerto unless Grainger were the soloist), and the lost opportunities remain as standing reproaches to the record companies concerned - the more so when one considers the popularity of the work. There are at least three off-air live performances of the work with Grainger as soloist (1945, 1956, 1957) but they are all let down by very indifferent mono sound and less than perfect orchestral playing.

Therefore, to hear this always delightful and utterly original work (it is the first Concerto ever written to end slowly) as Grainger and the composer (as we assume from Grieg’s own endorsements of Grainger’s playing) would have us hear it, the combination of a full piano roll version played by Grainger with a modern symphony orchestra is as close as we are ever likely to get. But this is no easy task; the decline in popularity of the piano roll medium in the early 1930s was brought about by a combination of factors - the rise of electrical recording, the economic disaster of the Wall Street Crash and the subsequent Depression (with the consequential mass unemployment and the virtual cessation of the manufacture of reproducing pianos and the cost of their upkeep) - and the passage of time has not always treated either the rolls or the reproducing pianos kindly.

It is only with the dedication and sheer musical enthusiasm of various devotees that this legacy has been preserved at all: and of the various different reproducing systems not all of them are utterly reliable in every respect. On the other hand, when a perfect roll is played back on an instrument built or adapted for the particular system’s purpose, the result is often quite astonishingly convincing: we should not forget the contemporary endorsements by many great artists (including Grieg) as to the validity of their performances captured in this way - these people were not fools, nor were they easily persuaded, so we must assume that what they heard in the first three decades of the twentieth century were reproductions of their playing in a manner such as have not always been recaptured by later generations.

This is where this particular recorded performance is so good: at no time are we aware in terms of chording or voicing in the piano part that we
are not listening to a real musician at the piano. Grainger’s performance is
sometimes described as ‘controversial’ - but it surely is not. Grainger has a
wonderful sense of forward momentum, allied to occasional highly expressive
rubatos which never intrude upon the flow of the music, and the result is a
real performance, compelling and highly convincing.

Of course, this would certainly be set at naught if the orchestral support
was not of equal stature, and this is where the Kristiansand Symphony
Orchestra and their conductor Rolf Gupta score so heavily. Goodness knows
how much rehearsal this took before the recording was made, but the result
is more than well worth it, for we have here a genuine performance all round,
most excellently recorded and balanced, which has impressed me as a musical
experience. It is a fine performance by Grainger, enhanced beyond measure
by the most sympathetic partnership.

As if that were not enough, we also have four piano rolls on the CD played
by Grieg himself from 1906, recorded in the Phonola process, and sounding
superb; in comparison with the G. & T. 1903 disc recordings made by Grieg in
Paris, they are clearly by the same pianist, although as they are not restricted
in terms of their playing-time, we get the complete works, short though they
be. This group ends with Grainger playing ‘To Spring’, op. 43, no. 6, a Duo-
Art roll from 1919, and sounding even fresher and clearer than Grieg’s own
playing. There are also guides to other related recordings in this project able
to be downloaded, including performances by Arthur de Greef - who did
perform Grieg’s Concerto with the composer conducting.

Nor is this all - a most remarkable addition to this repertoire is a
performance of Grieg’s Third Violin Sonata in C minor, op. 45 by Øyvind
Bjorå, violin, and Rex Lawson, pianola. This extraordinary achievement results
in a genuine performance of the work, although the technical means by which
it has been accomplished deserve a separate article.

The result, however, is an absolutely remarkable success, one which, in
terms of the CD overall, takes us back 100 years and more to the composer
himself and a performing tradition which has virtually disappeared. Thanks
to the endeavours of those early recording pioneers in a system which
eventually was virtually to disappear, and equally to those who have devoted
much of their lives to the restoration of this extraordinarily rich and still often
misunderstood legacy, we can today hear just what it must have been like to be
in those audiences of a century and more ago.

Our heartfelt thanks are due to the dedication of those experts, Rex
Lawson especially, and his colleagues in the Pianola Institute of London, the
executives of the 2L company, the musicians and conductor of the orchestra,
the technicians and other engineers who made this entire project possible.
Those who still doubt the validity of piano rolls should think again.
Appendix CD: Aeolia 1005
Paderewski - His Welte-Mignon Piano Rolls

We are pleased to include with this Journal a CD of the rolls Paderewski made for the Welte-Mignon in Leipzig on 27th February 1906. They were recorded on the Steinway-Welte grand belonging to Denis Hall.

1. Minuet, op. 14, no. 1  Paderewski  Roll no. 1263
2. Nocturne, op. 16, no. 4  Paderewski  Roll no. 1262
3. Impromptu, op. 142, no. 3  Schubert  Roll no. 1248
4. The Erl King  Schubert/Liszt  Roll no. 1260
5. Hark! Hark! The Lark (Ständchen)  Schubert/Liszt  Roll no. 1261
6. Ballade no. 3, op. 47  Chopin  Roll no. 1249
7. Etude, op. 10, no. 3  Chopin  Roll no. 1254
8. Etude, op. 25, no. 9  Chopin  Roll no. 1253
9. Polonaise, op. 53  Chopin  Roll no. 1256
10. Mazurka, op. 24, no. 4  Chopin  Roll no. 1251
11. Waltz, op. 64, no. 2  Chopin  Roll no. 1257
12. Hungarian Rhapsody no. 10  Liszt  Roll no. 1259

We thank Richard Black, Thomas Jansen, Denis Hall, Rex Lawson, Michael Magnus Osborn, John Taylor and Richard Vernon for their assistance in the production of this CD.
Contributors

Francis Bowdery became interested in player and reproducing pianos while still at school. He has researched and re-scored historic compositions for both types of instrument, and prepared new music rolls of a number of these, ranging from Stravinsky to Ligeti, for both concerts and recordings. His parallel interest in historic piano recordings and performance style embraces both piano roll and gramophone recordings, and greatly influences his work as a musical instrument restorer.

Denis Hall has been interested in recordings of pianists since his schooldays, when he could buy new 78 rpm records of his keyboard heroes. He first became aware of reproducing pianos in the early 1960s, and bought his first Duo-Art in 1965. These days he spends much of his time in retirement maintaining his own reproducing pianos in a condition which he hopes does justice to the virtuos of 100 years ago who entrusted their art to the piano roll medium.

Rex Lawson is a concert pianolist who has been involved in research and music-making with these instruments since 1974. 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 hundred or so composers who have been interested in its possibilities during the course of the twentieth century. In 2004, he gave the world première of Nancarrow Concerto for Pianola by Paul Usher.

Robert Matthew-Walker is well known in the field of classical recording, having held major posts with CBS Masterworks and RCA Records in London, as well as being instrumental in the founding of Chandos Records. As a reviewer, he contributes regularly to the leading classical record publications. He has a particular love for the music of Grieg, and has written a book specifically on the recordings made by the composer himself. He writes regularly for the Journal of the Grieg Society.
Notes
Notes