



Plate 1

Nature Builds No Machines (1858)__2.49

Plate 2

Flora and Fossils (1868)__3.25

Plate 3

Sinkers and Sinners (1905)__2.32

Plate 4

Job (29 June 1910)__4.45

Plate 5

Overland: Pitscape (1930)__3.36

Plate 6

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Plate 7

Underworld: Journey to the Tippler Room (1930)__3.55

Plate 8

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Plate 9

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Plate 10

Pneuma: Mr Shinwell's reply (14 July 1931)__2.56

Plate 11

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GLOFA PENALLTA: LLUN SAIN

Mae'r gwaith o gloddio am lo yng Nghymru wedi'i gynrychioli mewn engrafiadau, darluniau, a phaentiadau ers iddo ddod i'r amlwg fel diwydiant cartref ar ddechrau'r drydedd ganrif ar ddeg. O ail hanner y bedwaredd ganrif ar bymtheg hyd ddiwedd y diwydiant yn yr 1980au, daeth y dull mawr a chymhleth hwn o gynhyrchu yn genre arwyddocaol yn nhirluniau Cymru. Fodd bynnag, ychydig o sylw sydd wedi ei roi i gymeriad acwstig y diwydiant, sydd yr un mor drawiadol a nodedig. Roedd yn amhosibl cadw cofnod o soniaredd y glofeydd tan ganol y 1920au, pan ddatblygwyd offer sain trydanol a allai godi ystod gweddol eang o amleddau yn y sbectrwm sain.

Golygai'r datblygiad newydd fod modd i gwmni British Movietone greu *South Wales Colliers Go Down the Mine*, a ryddhawyd ym 1930. Ei destun yw Glofa Penallta, ger Hengoed yng Nghwm Rhymni. Y ffilm oedd 'y lluniau sain cyntaf o lofa ym Mhrydain'. (Roedd 'Lluniau sain' yn cyfeirio at ffilm sine gydag effeithiau sain a deialog wedi'i recordio arni.)

Dim ond tair blynedd cyn hynny y rhyddhawyd y ffilm sain fasnachol gyntaf, *The Jazz Singer*. Yn ogystal â bod yn newyddbeth o hyd felly i'r gynulleidfa, roedd 'lluniau sain' British Movietone News ar flaen y gad o ran technoleg glyweled newydd hefyd.

PENALLTA COLLIERY: SOUND PICTURES

Coalmining in Wales has been represented in engravings, drawings, and paintings ever since it emerged as a cottage industry in the early 13th century. From the second half of the 19th century until its demise in the 1980s, what grew into a large and complex means of production became a significant genre in Welsh landscape art. However, little attention has been paid to the equally impressive and distinctive acoustic character of the industry. Until the development in the mid-1920s of electrical audio equipment able to record a reasonably broad range of frequencies in the sound spectrum, it was impossible to capture the collieries' sonorities.

The innovation enabled the British Movietone newsreel company to make *South Wales Colliers Go Down the Mine*, which was released in 1930. Its subject is Penallta Colliery, which was situated near Hengoed in the Rhymney Valley. The movie represented the 'first sound pictures of a British coalmine'. ('Sound pictures' referred to a cine film with sound effects and dialogue recorded on it.)

The first commercial sound movie, *The Jazz Singer*, had been released only three years earlier. British Movietone News' 'sound pictures' were, therefore, not only still a novelty as far as the audience was concerned but also at the cutting-edge

Mae sinematograffi du a gwyn *South Wales Colliers Go Down the Mine* yn urddasoli llafur y glowyr ac yn dramateiddio peiriannau'r pwll. Mae'r naddwyr a'r rhidyllwyr yn edrych fel fersiynau wedi eu hanimeiddio o weithwyr wedi'u paentio ar feddrod hynafol yn yr Aifft. Gwneir i bistonau, cranciau, siaffftiau, a chwylrodau ymddangos yn hynod bwerus, effeithlon, peryglus, a rhyfeddol o brydferth - fel yr oeddent. Roedd y gwaith cyfarwyddo disgybledig, y golygu craff a naratif oedd wedi ei ystyried yn ddeallus yn golygu bod y ffilm yn dangos ac yn adrodd storri am 'un sifft ym mywyd' y pwll glo, yn ogystal â rhoi eglurhad eithaf manwl o'r camau yn y gwaith o gynhyrchu glo, mewn ychydig dros un munud ar ddeg.

Yn wahanol i Pathé News (a

ddechreuodd wneud rhaglenni dogfen a riliau newyddion ym 1910), nid oedd cynyrchiadau British Movietone yn cynnwys troslais ansylweddol a hydreiddiol i ddisgrifio'r digwyddiadau ar y sgrin. Yn hytrach, mae ffilm Penallta yn cynnwys cyfres o esboniadau o'r ffordd y caiff y glo ei dynnu a'i brosesu, a adroddir gan Oruchwyliwr y pwll. Mewn geiriau eraill, rhywun oedd yn rhan o'r olygfa ac yn ei deall. Ar wahân i'w ymyriadau, gan y lluniau symudol yn unig mae'r stori yn cael ei 'hadrodd'.

Mae'r ffilm hefyd yn cynnwys amrywiaeth o synau sy'n gysylltiedig â'r amgylchedd gwaith, gan gynnwys synau rhwyllau sgrin, hydroleg, niwmateg, olwynion, tramiau, a chewyll ar waith; lleisiau glowyr; yn ogystal ag anterliwtiau cerddorol rhwng gwahanol benodau'r ffilm.

of new audiovisual technology.

The black and white cinematography of *South Wales Colliers Go Down the Mine* dignifies the colliers' labour and dramatizes the pit's machinery. The hewers and sifters look like animated versions of workers painted on an ancient Egyptian tomb. Pistons, cranks, shafts, and flywheels are made to appear immensely powerful, efficient, dangerous, and exquisitely beautiful — as indeed they were. Disciplined direction, astute editing, and an intelligently considered narrative conception enabled the movie to show and tell a story about 'a shift in the life of' the colliery, as well as explain the stages of coal production in some detail, in just over eleven minutes.

Unlike Pathé News (which began making documentaries and newsreels

in 1910), British Movietone's releases didn't feature a disembodied and pervasive voice-over describing events on screen. Instead, the Penallta Colliery movie incorporates a series of explanations about how coal is extracted and processed, narrated by the pit's Overman. In other words, someone who was in the scene and in-the-know. Apart from his interventions, the story is 'spoken' by the moving pictures alone.

The movie also includes a variety of sounds associated with the working environment, including the noises of screen meshes, hydraulics, pneumatics, pit-wheels, drums, and cages in operation; the voices of colliers; as well as musical interludes that partition the movie's chapters. These provided the raw materials for my suite of compositions. Several additional sources contributed

Rhain oedd deunyddiau crai fy nghyfres o gyfansoddiadau. Cyfrannodd sawl ffynhonnell ychwanegol at y gwaith. Er enghraifft, mae un trac yn cynnwys troslythreniad cyflawn o sŵn tudalennau Beibl ‘King James’ yn cael eu darllen, ac mae eraill yn cynnwys samplau bach o sain a gymerwyd o recordiad 78-rpm gan y Black Dyke Mills Band o waith Jacques Offenback, *Orpheus in the Underworld: Agorawd* (1858), a ryddhawyd yn 1936.

Cefais fy magu mewn cymuned lofaol. Roedd fy nhaid ar ochr fy mam yn Oruchwyliwr yng Nglofa Beynon, y Blaenau, Sir Fynwy, ac yn flaenor yn y capel. Roedd fy nhaid ar ochr fy nhad yn Weindar yng Nglofa Cwmtyleri, Abertyleri, ac arferai fod yn Gomiwnydd. Fel wŷr i'r *'head honcho'* yng Nglofa Beynon,

cefais ryddid yn y pwll. Bûm yn yfed te yn ffreutur y glowyr, yn cyfrif y caneris, a bwydo siwgr lwmp i ferlod y pwll. Roedd y cyfuniad llesmeiriol o chwys, fflwcs, olew, saim, a llwch calch yn llenwi fy ffroenau. Gallwn ei flasau yn fy ngheg. Roedd yn feddwol. Sŵn y cawell a'i gargo o lowyr yn esgyn ac yn disgyn i siafft y pwll, yr olwynion codi'n symud, y corn yn cyhoeddi dechrau a diwedd y siffitiau, hymian dychrynlyd y generaduron trydan 50 Hz, crac a gwreichionen y switshis, a chlonc haearn-ar-haearn wrth i'r tryciau glo gael eu siyntio - gwnaeth hyn oll argraff barhaol ar fy nghof acwstig. Cyfrannodd yr atgof o'r seiniau hyn yn sylweddol at wireddu cyseinedd emosiynol y cyfansoddiadau.

Nid yw themâu'r cyfansoddiadau yn dilyn datblygiad y naratif nac yn gyfyngedig i destun y ffilm. Roedd

to the works. For example, one track includes the aggregate superimposition of the sound of pages from the King James Version of the Bible being read, while some others incorporate small samples of sound content taken from a 78-rpm recording made by the Black Dyke Mills Band of Jacques Offenback's *Orpheus in the Underworld: Overture* (1858), released in 1936.

I grew up in a coalmining community. My maternal grandfather was the Overman at Beynon's Colliery, Blaina, Monmouthshire, and a chapel deacon. My paternal grandfather was a Winder at the Cwmtillery Colliery, Abertillery, and had been a Communist. As grandson of the 'head honcho' at Beynon's Colliery, I was given the freedom of the pit. I drank tea in the colliers' canteen, counted the canaries, and

fed sugar cubes to the pit ponies. The heady blend of sweat, flux, oil, grease, and coaldust filled my nostrils. I could taste it in my mouth. Intoxicating. The sounds of the cage and its cargo of miners ascending and descending the pit shaft, the winding wheels in motion, the hooter that announced the beginning and end of shifts, the electricity generators' terrifying 50Hz hum, the crack and spark of switches being turned on and off, and the clank of iron-on-iron as the coal trucks were shunted, made an enduring impression on my acoustic memory. The recollection of these sonorities contributed significantly to realizing the compositions' emotional resonances.

The compositions' themes neither follow the narrative development nor are restricted to the subject matter of the movie. The source had to be

yn rhaid goresgyn y ffynhonnell er mwyn iddo ddod yn rhywbeth arall. Fy nod oedd creu darluniau wedi eu hysgogi gan sain a lluniau wedi eu gwneud o sain. Mae'r traciau yn seiliedig ar drac sain y ffilm yn bennaf. Nid yw'r albwm yn ymgysylltu â dimensiwn sinematig y ffilm. Fodd bynnag, dylanwadodd ei delweddaeth yn gryf ar fy null o ddechongli a thrawsnewid y seiniau.

Roedd angen mynd i'r afael ag ansawdd sain y ffilm hefyd. 8,500Hz oedd ystod amledd sain trac ffilm sain-optegol Movietone. Mae ystod y fersiwn ddigidol diffiniad uchel o'r gwreiddiol - y bûm yn gweithio ag ef ar yr albwm hwn - ychydig yn ehangach rhwng 800Hz a 10kHz, sef ystod amledd canolig-uchel i uchel. Ni chlywir unrhyw synau o fewn ystod 31-700Hz, sef ystod amledd canolig-isel i isel, o gwbl yn y ffilm.

Ar y rhan hon o'r sbectrwm sain y mae llawer o'r synau a gynhyrchir gan beiriannau glofaol yn digwydd. Felly, ni allai trac sain y ffilm wneud cyfiawnder â realiti sonig y testun. Nid oes llawer o ystod ddynamig i'r trac sain yn gyffredinol chwaith. O ganlyniad, mae synau uchel a chymhleth yn aneglur. Yn aml, mae'n anodd dirnad beth sy'n digwydd mewn golygfa heb weld at y lluniau.

Felly, hyd yn oed cyn gweithio gyda'r trac sain, roedd angen adfer a dehongli'r sain, gydag arweiniad y ddelwedd. Er mwyn ymestyn y sbectrwm sain, creais 'ffug' amleddau is trwy ostwng y proffil sain gwreiddiol hyd at ddau wythfed, ac ail-recordio samplau yn acwstig trwy seinyddion monitor ac is-seinydd. Wedi hynny, cafodd y proffil sain uwch ei integreiddio â'r ffynhonnell wreiddiol.

overcome for it to become something else. Rather, my aim was to create pictures evoked by sound and pictures made of sound. The tracks are based upon the movie's soundtrack, principally. The album doesn't engage with the cinematic dimension of the movie. However, its imagery strongly informed my approach to the interpretation and transformation of the sounds.

The movie's sound quality also needed to be overcome. Movietone's optical-sound film track had a sound frequency range of 8,500Hz. The high-definition digitized version of the original – which I worked with on this album -- has a somewhat broader range from 800Hz to 10kHz, occupying the high-mid to high frequency range. Sounds within the 31-700Hz range, which represents low-mid to low frequency

range, are entirely absent. Many of the noises produced by colliery machinery occupy this part of the audio spectrum. Therefore, the film's soundtrack could not do justice to the sonic reality of its subject. The soundtrack also has little dynamic range overall. Consequently, loud and complex sounds are rendered indistinctly. Often, it's difficult to discern what is taking place in a scene without reference to the pictures.

Thus, even before working with the soundtrack, a restorative and interpretive approach to the sound -- tutored by the image -- was required. In order to extend the audio spectrum, I fabricated 'false' lower frequencies by dropping the original sound profile by up to two octaves, and re-recording samples acoustically through monitor speakers and a subwoofer. The enhanced sound

Addaswyd ac aildrefnwyd y synau trwy gymhwyso amrywiol ddulliau a thechnegau digidol, megis collage, arosod, gwrthdro, ymestyn, a synthesis. Roedd y cyfansoddi'n digwydd ar feddalwedd cyfrifiadurol gyda chymorth offer a ddefnyddir gan DJs. Yn y ffyrdd hyn, daeth caledwedd cloddio glo hanesyddol a cherddoriaeth gyfoes yn un.

Cafodd synau'r ffilm eu trin a'u trefnu mewn modd sy'n ysgogi'r ddelweddaeth, strwythurau, syniadau, nawsau, cyd-destunau, a chefnidiroedd a awgrymir gan gynnwys y ffilm. Er enghraifft: y gweithgareddau, y bobl, y prosesau, y mecanweithiau a'r lleoedd a bortreadir; hanes Glofa Penallta a maes glo De Cymru; ac agweddau ar y diwylliannau Beiblaidd a chrefyddol oedd wedi ei gysylltu'n anorfod â gwaith a bywyd y glofeydd yn ystod y

19^{eg} a dechrau'r 20^{fed} ganrif.

Ar ôl dychwelyd at waith ymchwil ar gloddio am lo ar ôl dros ugain mlynedd, sylweddolais fod yn rhaid i'm hagwedd at y prosiect CD hwn, ac at hanes echdynnu tanwydd ffosil yn gyffredinol, gydnabod cyd-destun presennol y newid yn yr hinsawdd. Ers COP26 yn enwedig, mae'r diwydiant glo wedi dod yn un o'r prif elynion cyhoeddus. Felly, pa bynnag ymlyniad rhamantaidd sydd gennym o hyd at lofeydd Cymru, mae angen ei leddfu gan y sylweddoliad eu bod wedi cyfrannu at yr argyfwng amgylcheddol presennol. Yn yr ystyr hwn, mae *Penallta Colliery: Sound Pictures* yr un ymwneud i'r un graddau â'n presennol a'n dyfodol ag y mae â gorffennol y pwll.

John Harvey, Mehefin 2022

profile was, afterwards, integrated with the original source.

The sounds were modified and rearranged by applying various digital methods and techniques, such as collaging, superimposition, inversion, stretching, and synthesis. Composition took place on computer software aided by equipment used by DJs. In these ways, the hardware of historical coalmining and contemporary music making coalesced.

The movie's sounds were manipulated and arranged in such a way as to evoke imagery, structures, ideas, moods, contexts, and backgrounds suggested by the movie's content. For example: the activities, people, processes, mechanisms, and places portrayed; the histories of the Penallta Colliery and South Wales coalfield; and aspects of the biblical

and religious cultures that were inextricably bound up with colliery work and life during the 19th and early-20th centuries.

Having returned to research on coalmining after over two decades absence, I realized that my approach to this CD project, and the history of fossil-fuel extraction in general, had to acknowledge the current context of climate change. Since COP26, especially, the coal industry has become public enemy number one. Therefore, whatever romantic attachment we may still have to Welsh collieries, needs to be tempered by the realization that they contributed to the current environmental crisis. In this sense, *Penallta Colliery: Sound Pictures* is as much about our present and future as it is about the pit's past.

John Harvey, June 2022

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John Harvey

Offerynnau a Chynhyrchu:

Adobe Audition CC, Allen & Heath Xone:96 mixer, Apple MacBookPro, cyfrifiadur personol wedi'i addasu a Windows 10, Eventide ModFactor, PitchFactor, TimeFactor, a Space pedals, rhyngwyneb sain Fireface UCX, Korg Kaos Pad Effects Processor Quad a Kaos Pad Dynamic Effects Sampler, Native Instruments Traktor Kontrol X1 Mk2 a Scratch 6 Digital-Vinyl-System, Moog MF-105 Midi Murf a MF-108M Cluster Flux, effeithiau OTO Biscuit 8-bit a ffilter analog, rhyngwyneb RME Babyface Proaudio, uned ffilter Sherman Filterbank 2, uned ffilter Sherman/Rodec Restyler, a throfwrdd Stanton S-150.

Ffynonellau:

Black Dyke Mills Band, *Orpheus in the Underworld* – Agorawd Rhan 1 a Rhan 2 (Jacques Offenbach; arr. gan AO Pearce) His Master's Voice, BD 676 (1936); British Movietone News, *South Wales Colliers Go Down the Mine*, Cyf. 1, Rhif 39 (1930) (Trwydded a chaniatâd trwy garedigrwydd Associated Press); Holy Bible, King James (Awdurdodedig) Fersiwn (1611), Trinitarian Bible Society [n.d.].

Hoffwn ddiolch i staff Llyfrgell Genedlaethol Cymru a'r Archif Sgrin a Sain am eu hanogaeth a'u cefnogaeth barhaus i gyfres *The Aural Bible*.

Pob cyfansoddiad gan:

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Yr Ysgol Gelf, Prifysgol Aberystwyth, 2022

Rhyddhawyd gan:

Archif Sgrin a Sain, 2022

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Mae'r prosiect a'r recordiad yn gydweithrediad rhwng yr Archif Sgrin a Sain, Llyfrgell Genedlaethol Cymru, Aberystwyth a'r Ysgol Gelf, Aberystwyth.

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Sources:

Black Dyke Mills Band, *Orpheus in the Underworld* – Overture Part 1 and Part 2 (Jacques Offenbach; arr. by A. O. Pearce) His Master's Voice, BD 676 (1936); British Movietone News, *South Wales Colliers Go Down the Mine*, Vol. 1, No. 39 (1930) (Licence and permissions courtesy of Associated Press); Holy Bible, King James (Authorised) Version (1611), Trinitarian Bible Society [n. d.].

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