ELECTRIC SHOCK

The New York Times heartily congratulated the judge on his action: 'Nobody whose nerves were comprised of a substance less than steel, it declared, would be able to tolerate a ragtime song on a phonograph. In its fanaticism, the newspaper overlooked the significance of the phonograph and its rivals. These machines not only offered an instant solution to a debate about musical copyright, but ensured that both performers and their compositions would endure beyond their natural lifespans. More important still was their role in democratising the distribution of music, which was not available in the home of anyone - regardless of their musical ability - who could afford to purchase a phonograph record or cylinder.

You can study the great artists. It is not mere mechanical music - it is the living voice of the singer.
Gramophone advertisement, 1904

In your own home, miles and miles away from London, during the long dark evenings that are with us now, for a small outlay, you can be seated comfortably round your fire listening to the best Songs, the Best Bands, and the best of the World's Musical Talent.
Anglophon e advertisement, 1904

The birth of recorded sound, no matter how crude its early manifestations, represented a profound shift in the nature of human existence; as profound, it could be argued, as the representation of human speech and thought on papyrus, parchment, paper or, in due course, computer screen. Thomas Edison intended his invention as a means of documenting conversations or debate, or preserving the speeches and bons mots of great men, or as a vehicle for education of the young. He might have been amused to learn that his phonograph was used in 1903 by a suspicious wife to record conversations between her husband and another woman, which were introduced as evidence during their divorce proceedings.

Even before his device reached the public, an American scientist anticipated its ability to conjure up the past: 'How startling it will be to reproduce and hear at pleasure the voice of the dead!' Edison himself believed that 'The Phonograph will undoubtedly be liberally devoted to music. A song sung on the Phonograph is reproduced with marvellous accuracy and power.' Yet he appears not to have considered a more philosophical consequence of his machine: that a musical performance would not only be captured and held, but would thereby be changed in essence and in form.

The composer Claude Debussy reflected upon the strangeness of this transformation in 1913: 'In a time like ours, when the genius of engineers has reached such undreamed of proportions, one can hear famous pieces of music as easily as one can buy a glass of beer. It only costs ten centimes, too, just like the automatic weighing scale! Should we not fear this domestication of sound, this magic preserved in a disc that anyone can awaken at will? Will it not mean a diminution of the secret forces of art, which until now have been considered indestructible?' Instead, it was performances that were now indestructible, as long as the artefact on which they were stored remained undamaged.

Those artefacts were often fragile, and assumed many forms. Edison's first phonograph, invented in 1877, was exhibited across the United States as 'The Miracle of the 19th Century ... The Talking Wonder'. At its heart was a metal cylinder, wrapped in a layer of tin foil, which was 'inscribed' as a recording was made. A stylus was then used to retrieve the sound from the cylinder as it was turned by hand. Audiences flocked to see it in action, but the novelty was soon exhausted, and Edison abandoned the device to concentrate on the electric light. Alexander Graham Bell and Charles Tainter contrived a rival machine, the graphophone, in 1887, substituting wax for the tin foil. Edison countered by adding an electric motor; and in 1888 a company was formed to market both models.

In a preview of the 'format wars' that would mark each stage of technological development ahead, Thomas Edison's phonograph and cylinder were soon pitched into battle with Emil Berliner's gramophone. Berliner's recording was captured on a disc - originally made of metal, although he soon created a cheaper alternative from hard rubber. The cylinder was, in its virgin form, unique: each example represented an individual performance, and the musician who wished to make commercial capital out of his or her skills would have to reprise their piece as often as the market required. Faced with Berliner's gramophone record, which allowed for multiple duplicates of an original performance, Edison's team were forced to concoct their own mass production, at some cost to the already dubious audio quality of their machine.

THE VOICE OF THE DEAD

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Those deficiencies convinced ‘people of sensitivity [that] the Gramophone was merely an instrument which made objectionable noises; while Edison’s cylinder was ‘not then capable of producing any music that was not blatant or vulgar’. Those more generous in spirit were prepared to concede that recordings could deliver a faithful reproduction of the shape and duration of a musical piece; but one journalist remarked that ‘You will find that the effect of any song upon a record is immensely improved if you play over the accompaniment from the music upon the piano, while it is being played upon the machine.’

Aside from its novelty appeal, recorded sound needed to offer substance that would transcend the barbed-wire scratchiness and foggy hiss, the tin-can tone and horizon-distant volume, which afflicted a majority of early discs. In 1894, the Edison Kinetoscope Company augmented its jerky ‘peep show’ films with cylinder recordings, which required the consumer to peer through an eyepiece and insert stethoscope tubes in their ears. The combination of inadequate sound and indistinct vision was presumably more appealing than either without the other.

Another exploratory venture into the union of science and music involved the earliest experiments with wireless telephony, or ‘radio’. In 1906, just five years after Marconi sent his first telephonic message across the Atlantic, a Massachusetts engineer named Reginald Fessenden was able to ‘broadcast’ his own rudimentary violin solos, and readings from the New Testament, to ships just offshore. Fessenden also anticipated the role of the disc jockey by beaming a gramophone record of Handel’s ‘Largo’ aria to his handful of listeners. (Lee de Forest of New York subsequently claimed this achievement for himself, after he broadcast the William Tell overture from the city’s Parker Building in 1907; his hubris was rewarded when the entire building burned to the ground a few weeks later.)

Almost a century before a broadband connection was assumed to be a key requirement of civilised life, telephone subscribers in Wilmington, Delaware were offered a ‘dial up’ phonograph service: ‘Attached to the wall near the telephone is a box containing a special receiver, adapted to throw out a large volume of sound into the room ... At the central office, the lines of musical subscribers are tapped to a manual board attended by an operator. A number of phonographs are available, and a representative assortment of records kept on hand ... When it is desired to entertain a party of friends, the user calls the music department and requests that a