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Instruments of Division: The Role of Audio Technology in the Transition From the Weimar Republic to the Nazi State

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A thesis submitted to the University of Huddersfield in partial
fulfilment of the requirements for the degree of Doctor of Philosophy

University of Huddersfield
School of Music, Humanities and Media

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Abstract

Audio technology in the popular imagination had an ambiguous role in the culture and politics of the Weimar period, being both a medium of progressive modernism in the jazz-age, and, under Nazi control, an instrument of repression and conformity. The aim of this study is to understand the role of audio technology – the radio, gramophone, electronic musical instruments, sound film and their associated and interconnected ecosystems – in the musical, cultural and political ideas of the Weimar republic (1918-33) and the subsequent impact of these ideas on the transition to the Nazi State (1933-45). Studies of the culture and politics of the Weimar and Nazi period are largely delineated by genre: arts, music, literature, politics and their respective artefacts which position technology as the end result of a historic processes. In contrast, this study focuses on audio technology as a socio-political actor in the development of a broad range of cultural and political concepts of the time. I will argue that a primary driver of social change was the symbiotic relationship between technology and the social, political and economic ideas of the period – a relationship that had an often unintentional and unpredictable impact on German society. In contrast to the received image of the Weimar period where audio technology is depicted as a medium of progressive modernity, this study finds that it had a much more ambiguous disruptive influence on the era. Methodologically, this research is supported by secondary literature and primary sources: contemporary journals, literature and archival research and audio recordings.

By analysing primary sources and secondary literature I demonstrate that in contrast to the received image of the Weimar period, audio technology had a much more ambiguous disruptive influence that contributed to the emergence and acceptance of totalitarianism.

List of Abbreviations:

DVP: *Deutsche Volkspartei*: the conservative-liberal party during the Weimar period

HHI: *Heinrich-Hertz-Institut für Schwingungsforschung* (Heinrich-Hertz Institute for Vibration Research) 1928-1945. A Berlin based private/state research institution. The *HHI* became the world leader in electronic instrument design through the work of Kock, Nernst, Vierling, Sennhieser and Bode.

KdF: *Kraft durch Freude* (Strength Through Joy): Nazi recreation and tourism organisation. The KdF funded the development of a number of electronic musical instruments including the *Trautonium* and the *Grosstonorgel*.

KfdK: *Kampfbund für deutsche Kultur* (Militant league for German Culture). Nazi cultural organisation founded in 1920 by Alfred Rosenberg. Sidelined by Goebbels in 1935.

KPD: Communist Party of Germany

NSDAP: *Nationalsozialistische Deutsche Arbeiterpartei* (The National Socialist German Workers' Party or Nazi party)

REM: *Reichsministerium für Wissenschaft, Erziehung und Volksbildung* (Reich Ministry of Science, Education & Culture' or Reich Education Ministry)

RKK: *Reichskulturkammer* (State Culture Chamber). Established by Goebbels in 1933 to administer all German culture.

RM: *Reichsmark*. German currency during Weimar and Nazi periods.

RMK: *Reichsmusikkammer* (State Music Chamber). Oversaw all German music during the Nazi period. Richard Strauss was the president from 1933 to 1935 followed by Peter Raabe.

RPM: *Reichspostministerium* (State post Ministry)

RRG: *Reichs-Rundfunk-Gesellschaft* (State Radio Union). The majority shareholder of the German radio network, responsible for national broadcast policy.

RVS: *Rundfunkverssuchsstelle* (Radio Research Office). 1928-1933. Pioneering audio research and training institution based at the Berlin *Musik Hochschule*.

SPD: Social Democratic Party of Germany

Ufa : *Universal Film-Aktiengesellschaft*. Largest film producer in Germany during the period.

USPD: Independent Social Democratic Party. Left wing tendency that split from the SPD in 1917 to join the KPD

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Introduction

This dissertation examines the role of audio technologies – gramophone, radio, electronic musical instruments, tape and wire recorders and sound film – in the music, culture and politics of the German Weimar Republic (1919-1933) and the transition to the Third Reich (1933-1945). The central argument addressed by this thesis is, that in contrast to the received image of the period where audio technology is positioned as an agent for progressive modernity resulting in a flowering of democratised, liberal, progressive culture, audio technology had an overall disruptive and divisive effect on Weimar society, a divisiveness that played a significant part in the transition to Nazi totalitarianism. Secondly I will argue that audio technology had a critical role in determining the 'new politics' of Nazism whose ideology was a culmination of debates originating from the Weimar period and nineteenth century.

The central concepts and ideologies that form the basis of this study – *Kultur und Technik*, *Erlebnis*, *Lebensphilosophie* and radical utopianism – were founded, on the whole, during the nineteenth century period of rapid industrialisation in Germany: a period of intense debate concerning the contrasting nature of materialism and humanity that resulted in the emergence of a form of 'irrational' romanticism in response to enlightenment certainties.¹ The cultural and political tensions in Germany during the early twentieth century were caused, on the whole, by the collision of these nineteenth century ideals with forms of technological modernity, specifically commercial mass culture and the cult of rationalisation in the 1920s. Audio technology's role in this collision between technology (*Technik*²) and German culture (*Kultur*) forms the central theme of this study.

¹ Though this is itself a necessary simplification. On the causes of the rise of nineteenth century romanticism see: Löwy and Sayre, *Romanticism Against the Tide of Modernity*.

² *Technik* in its basic usage translates to English as 'technology', However, there is a significant difference between the German word *Technik* and 'technology' – see page 35.

The debate that became known as the conflict between *Kultur und Technik* (sometimes *Kultur und Zivilisation*) was the seemingly irreconcilable conflict between reason, modernity and machine with irrationality, spirit and nature. The *Kultur und Technik* conflict had a particular effect on German Music, which, until the arrival of commercial audio technologies, was an unchallenged elite institution, maintained and defined by the *Bildungsbürgertum* middle classes.³ Due to its central and defining role in German national identity, German Music found itself in the frontline of the struggle for cultural hegemony.⁴ This study will explore this critical incursion of technology into German Music following World War 1, a series of events that not only challenged the ownership and control of music but changed who listened to music and how music was listened to.

The first major work that examined the *Kultur und Technik* dichotomy was Jeffrey Herf's 'Reactionary Modernism: Technology, Culture and Politics in Weimar and the Third Reich' (1985). Herf identified a tendency within Nazi philosophy that he called 'reactionary modernism' – an inherently paradoxical reconciliation between the apparently irreconcilable forces of *Kultur und Technik*.⁵ Herf argues that reactionary modernism originated from a specific class of post-1918 technocratic nationalists who were educated in elite institutions, producing a philosophy that enabled the simultaneous existence of both *Blüt und Boden* volkisch tribalism, with the *Volkswagen* and the *Autobahnen*:

The reactionary modernists were nationalists who turned the romantic anti-capitalism of the German Right away from backward-looking pastoralism, pointing instead to the outlines of a beautiful new order replacing the formless chaos due to capitalism in a united, technologically advanced nation.⁶

³ In this dissertation I use the capitalised form of 'German Music' to denote the bourgeois tradition of German concert hall music and separate it from other musics of the period – see page 36.

⁴ Applegate and Potter, *Music and German National Identity*, 31-2.

⁵ 'The paradox of reactionary modernism is that it rejected reason but embraced technology, reconciled *Innerlichkeit* with technical modernity'; Herf, *Reactionary Modernism*, 224.

⁶ Herf, *Reactionary Modernism*, 2.

The aim of Herf's study was to solve the 'paradox of reactionary modernism' i.e. a socio-political investigation into how the Nazi's resolved their irrational tendencies with the rationalism of modernism – essentially a resolution of the *Kultur und Technik* dichotomy of the nineteenth century. Herf's concept provides a compelling explanation for the apparent paradox of the *Kultur und Technik* divide. However, to accept the idea of a paradox one must accept that technology and 'unreason' are somehow incompatible. Rohkrämer criticises the foundation of reactionary modernism by challenging the paradoxicality of Herf's central tenet:

It is simply not strange or paradoxical to 'reject the Enlightenment and embrace technology at the same time' (Herf) , but common practice in nineteenth- and twentieth-century Germany as well as in many other countries. Instrumental reason and technology are available for an endless number of different purposes, many of which are not humane or enlightened...The attempt to maintain power and achieve its central policy goals largely determined its usage of technology, not a preconceived world view.⁷

Herf's concept of reactionary modernism, therefore, I suggest was less a 'paradox' and more a way of thinking that originated from the middle classes cautious acceptance of technology. The *Bildungsbürgertum* outwardly expressed allegiance to the establishment, spiritual values of *Kultur* but were able to maintain a pragmatic materialism when events required. This tendency can be seen most clearly in the practice of defensive modernism described in this dissertation – a way of thinking that led to a form of reactionary modernism and the overall acceptance of technology within German society and *Kultur*.

⁷ Rohkrämer, *Antimodernism, Reactionary Modernism And National Socialism*, 49.

Although I accept Herf's concept of 'reactionary modernism' as a description of the type of romantic modernism adopted by the National Socialist German Workers' Party (NSDAP), my problem with Herf's study begins with his binary demarcation of modernism and rationality i.e. it was neither rational or irrational to be concerned about the intrusion of technology into German society and, as this study will show, the modernist tendency itself was founded on many tenets of irrationalism and mysticism. The Weimar period is habitually defined by explicit divisions between factions and schools of thought when, as this study will show, the boundaries were in reality fluid and changeable: for instance the cult of rationalisation of the 1920s founded on objective rationality and perceived at the time as the pinnacle of scientific modernity, as Peukert pointed out, later 'transmuted into the embodiment of irrationality'.⁸ Modernism then, had little to resolve with the forces of irrationality, a reality demonstrated by the Nazi's willingness to engage with it. In contrast to Herf's apparent paradox, I will argue that the *Kultur und Technik* debate was not an issue that defined modernist and reactionary positions but a romantic concept that was found across the spectrum of opinion throughout the Weimar period and one that surfaced in a number of often conflicting and contrasting ways during the Weimar period. That the *Kultur und Technik* schism endured to such an extent during the Weimar period was the result of its adoption by the *Bildungsbürgertum* as a pragmatic defensive position in relation to a shift in power towards the new technological class (the 'masses' and the industrial barons). In short, *Kultur und Technik* was a defensive class position that recalled past certainties of a pre-industrial hierarchy rather than a strict dichotomy between rationality and unreason and, as the twentieth century progressed, it was gradually eroded by the overwhelming adoption of technological modernity and particularly, audio technologies.

An additional concept that was also to have a profound impact on the development of German Music and its relationship with technology – one that will be explored in the

⁸ Peukert, *The Weimar Republic*, 117.

coming chapters – was *Erlebnis*, a central concept of the neo-romantic movement of *Lebensphilosophie*. The concept of *Erlebnis* was defined by the German romantic philosopher, Wilhelm Dilthey, who proposed that only the unmediated immediacy of *Erlebnis*, the ‘lived experience’ could communicate knowledge or truth. Arguing that *Erlebnis* could not be rationalised or fully put into words, Dilthey maintained the primacy of experience over reason and emotion over material fact. *Erlebnis* became a popular and enduring romantic concept – and one that was related particularly to music – during the period of technological expansion. This study will explore both the influence of *Erlebnis* on the institution of German Music and on the development of technological forms of music and political ideas during the Weimar and Nazi periods. The intrusion of audio technology into the sacrosanct world of German Music and *Kultur* particularly animated the debates around *Kultur und Technik* and *Erlebnis*: on one hand audio technology polarised and hardened anti-technology thinking by challenging musical traditions, concepts and institutions but on the other, by repositioning technology as an aspirational domestic device (instead of a mundane necessity) it paved the way for the mass acceptance of technology into people’s everyday lives. This dichotomous distinction between popularity and prohibition further widened the schism between techno-positivists and techno-sceptics in the German population and defined boundaries between ‘low’ and ‘high’ art.

Why ‘Audio Technology’?

A unique aspect of this thesis is its focus on audio technology as a socio-political actor – by which I mean that audio technology had a reciprocal relationship with society, in that it was both an agent and catalyst of social change – and was itself changed by the same cyclical process. Studies of the culture and politics of the Weimar and Nazi period are largely delineated by genre: arts, music, literature, politics and their respective artefacts. In this study I will focus on technology, specifically audio technology and its associated ecosystems and their connections to economic, musical, cultural, philosophical and

political trends. Studies of technology tend to position it as the end result of a process – a tool in achieving a particular outcome (for instance, studies on the use of radio as a propaganda tool during the Nazi regime). This research, in contrast, argues that the primary driver of social change was the symbiotic relationship between technology and the social, political and economic ideas of the period – a relationship that had an often unintentional and unpredictable impact on German society.

Having a close, reciprocal relationship with the varied socio-political ideas that surrounded it, audio technology was shaped, and was shaped by the, the turbulent contours of the Weimar and Nazi periods. Manipulated by the contrasting forces of technological innovation, commercial exploitation and political ideology, audio technology assumed a key role in the socio-cultural debates of the period – debates that shifted from an aesthetic argument to a political struggle – and as such, the study of audio technology offers a particular, distinct insight into the interconnected socio-political ideas that surrounded it.

The development of audio technology followed a unique trajectory: from its military origins it rapidly mutated into new, unexpected forms: consumer products, mass spectacles and mass media, new forms that had a profound impact on the everyday lives of the German people. This unpredictable and rapid development of this technology caused concern in a society built on tradition and hierarchy. Crossing and questioning class, gender and political boundaries, audio technology brought the contrasting and divergent lines of German thought into sharp relief: for some it fulfilled both a desire for new methods of musical expression and a liberation from establishment control, while for many, it represented a real and imminent threat to the very existence of German *Kultur* and German society. As the nationalist composer Hans Pfitzner described it, it was a continuation of the First World War using 'foreign' technological culture to finally destroy Germany:

Perhaps in no more than two or three decades – Beethoven’s symphonies and Wagnerian operas and other symbols of our art will not be played at all...Now I see this world vanishing completely and another one surfacing yes, it is already here and begins its triumphal march through Europe, grinding everything – the American tanks of the spiritual battle against European culture!⁹

The study of these contrasting responses to music technology reveals the divergent attitudes to technological modernity that defined the trajectory of German thought, a direction that ultimately resulted in the ascendancy of totalitarianism in 1933.

Why have I grouped different technologies together as ‘audio technology’? At the beginning of their development in the early twentieth century, audio technologies were a connected series of devices, interlinked through shared ecosystems and technological origins. Presenting an individual technology for examination in isolation, say, electronic musical instruments or radio, creates a synthetic narrative based on historical hindsight where the taxonomies of devices have been filtered by economies, politics and commerce. In this study I have grouped a number of technologies that I will refer to as ‘audio technology’. These include: radio, gramophones, microphones, amplification, loudspeakers, electronic musical instruments, electro-mechanical musical instruments, sound film recording, tape recorders and their associated ecosystems throughout the period of, roughly, 1914-1939. This grouping of audio technologies is determined by their interdependence in terms of their origins, their use, their interconnected cultures and ecosystems, social impact and also by how they were perceived and understood at the time.

⁹ Pfitzner cited in Weiner, *Undertones of Insurrection*, 66.

Under the combined forces of commerce and innovation, technological development during this period was in a constant state of flux and evolution – a dynamic that allowed it to be re-imagined in radically different ways, quite distinct from its original intention. In the same way that the computer – originally a business calculating machine – is now used as a domestic media and communication device, Weimar era artists repurposed and recombined elements of technology to achieve their, often utopian goals: Brecht’s proposal for a many-many radio network, Mager’s use of radio-tubes to generate microtonal sounds, Toch’s reinvention of the gramophone disc as a musical instrument and Pfenninger and Spielmann’s application of sound film for sound synthesis. Audio technology was ripe for experimentation and reappropriation irrespective of its original purpose.

During the Weimar period these proto-technologies had yet to be filtered into the taxonomies that we would understand today. Their development and use were inextricably cross-linked and intertwined. For example, although radio and the gramophone were born from distinctly different technical traditions their existence was wholly dependent on a symbiotic arrangement; for radio to become a viable medium it needed music from gramophones to ‘fill the space’, and gramophones needed radio to establish and promote itself as a consumer object. As Chanan put it: ‘...records and radio fell upon each other rapaciously. Radio fed off records to fill up air time; records were attracted to radio as an aural showcase.’¹⁰ This interdependence is significant because the ‘cultural vacuum’ it created became a primary factor in the disruption of traditional cultural hierarchies. In contrast to this functional interdependence, radio and electronic musical instruments had an overlapping and close technical relationship; electronic musical instruments shared a genealogy: early valve instruments were classified as ‘aether-wave’ or ‘radio-electric’ instruments revealing their connected origins with radio. Amongst many examples that illustrate this close association is the *Volkstrautonium*

¹⁰ Chanan, *Repeated Takes*, 8.

(1933), one of the first German commercial electronic instruments. This instrument was designed as a radio add-on device (it had no speaker or amplifier of its own) and was designed to be plugged into and played through a radio receiver. The commercial marketing by Telefunken promoted the *Trautonium* in a catalogue where its design and categorisation was indistinguishable from radio equipment, and it was sold through a network of radio dealers to a radio-owning domestic market. Similarly, Nernst's *Neo Bechstein Flügel* was an electrically amplified grand piano with a built in radio allowing owners to play along to specially broadcast radio music lessons. The ultimate example of this type of technologically-amalgamated thinking was the establishment of the *Rundfunkversuchsstelle* – a 'Bauhaus for multimedia'. To achieve this ambition, the RVS curriculum consisted of multi-audio technological classes in sound-film, composition for electronic media, broadcast technology, gramophone recording, radio composition, microphone techniques, electronic music which were all designed ultimately to be expressed through the medium of radio. The *Rundfunkversuchsstelle* (RVS) epitomised the modernist obsession with the resolution of *Kultur & Technik* in a final, technological *Gesamtkunstwerk* – Georg Schünemann, director of the *Rundfunkversuchsstelle*: 'After a century of mutual alienation, music and technology can come together and work together'.¹¹ In conclusion: 'audio technology' in this study refers to an interconnected mix of artefacts, ecosystems and technologies in an early state of development whose contemporary taxonomy had yet to be defined. These technologies were used irrespective of contemporary boundaries by artists and musicians across an eclectic range of mediums.

Why the Weimar Republic era?

The Weimar Republic has probably received more attention in popular culture and academic research than perhaps any era in modern European history – research that has, however, tended to form a 'received image' that I will argue, contributes to an

¹¹ Georg Schünemann quoted in Schenk, *Die Hochschule für Musik zu Berlin*, 260.

approach that is overly simplistic and, in the case of this study, overlooks the complex relationship between society, music and technology during the Weimar period. This received image has been set in the popular imagination by academic texts, literature, and film – perhaps most iconically by Christopher Isherwood’s 1939 novel *Goodbye to Berlin* (and its subsequent dramatisations), presenting 1930s Berlin as a glamorous amalgam of exoticism, danger and creativity – an image echoed by Peter Gay in *Weimar Culture* (1968), for whom the period was ‘a precarious glory, a dance on the edge of a volcano. Weimar Culture was the creation of outsiders, propelled by history into the inside, for a short, dizzying, fragile moment.’¹² Weimar is represented here as an isolated, unique, transient, disconnected event rather than one that was contiguous with historical currents. Hung argues that this surprisingly simplistic ‘prevailing image’¹³ proved resilient because it served multiple purposes: in order to claim cultural authority, exiled Weimar intellectuals constructed a ‘romanticized image of the glittering culture of the Weimar Republic’ in contrast to the totalitarianism of Nazi rule, and, post-1945, both *DDR* (East Germany) and *BRD* (West Germany) politicians maintained negative and positive images of Weimar to legitimise their divergent political aspirations.¹⁴ More recent scholarship – for instance, the political and economic analysis of Detlev Peukert (1987)¹⁵, Jost Hermand and Frank Trommler (1978)¹⁶ – began to question this narrative and acknowledge the political and social complexities of the period. Cultural analysis has, however, tended to maintain the received image with scholars generally limiting their research to a well-trod canon of literary and visual arts: Berlin Dada, the art of George Grosz and Max Beckmann, Bauhaus modernism, the architecture of Gropius, Mies van der Rohe and Erich Mendelsohn, the writings of Walter Benjamin, Adorno and the Frankfurt school, Thomas Mann and Döblin and the films of Fritz Lang, Riefenstahl and

¹² Gay, *Weimar Culture*, 17.

¹³ Hung, ‘Beyond Glitter and Doom’, 10.

¹⁴ *Ibid*, 11.

¹⁵ Peukert, *The Weimar Republic*.

¹⁶ Hermand and Trommler, *Die Kultur der Weimarer*.

Murnau.¹⁷ Apart from a few examples, there has been little research into the audio cultures of the Weimar era, an omission that results in a misrepresentation of the complexities and dynamics of Weimar culture. This silence is all the more unfortunate considering that by 1930, Germany had become a world-leader in audio technology and the creative application of technology, and that the early twentieth century was the apex of a pivotal cultural shift from a predominantly visual culture (painting and photography) to an audio culture (sound film, gramophone, radio, amplification) in what Jonathan Sterne termed the 'ensoniment'.¹⁸ The 'ensoniment' for Sterne was the aural equivalent to the 19th-century enlightenment ('light' being a visual revelation) that began with the scientific enquiry into acoustics and perception in the mid nineteenth century (Helmholtz, Koenig and others) and ended with radio, telephone, gramophone and electronic instruments around 1930: in Sterne's perception, 'sound, hearing and listening are central to the cultural life of modernity'.¹⁹ My dissertation aims to explore an under-researched aspect of Weimar studies that combines the twentieth century 'ensoniment' with the expansion of technology beyond industry and infrastructure into culture. The Weimar period saw an explosion of technological innovation related to audio and music, but very few studies have focussed on this technology and their subsequent socio-political impact. In an attempt to draw a more accurate picture of the period, one that does not conform to neat delineations of political or cultural movements or the received image of 'Weimar culture', I will refer to the work and ideas of more marginal characters and ideologies who though influential at the time are consistently omitted from contemporary studies.

The relationship between music and technology was a particularly central concern in German thought during the Weimar period – a discourse shaped by the recent history of

¹⁷ For example, see: Rewald, Buruma and Eberle, *Glitter and doom: German portraits from the 1920s*.

¹⁸ Sterne, *The Audible Past: Cultural Origins of Sound Production*, 2.

¹⁹ Sterne suggests 1925 as the endpoint but I propose 1930 with the introduction of sound film and visual mass media as being the point where audio and visual cultures combined.

the nation's development. Bismarck's unified German Empire (1871) was barely thirty years old at the beginning of the twentieth century and was a brittle amalgam of diverse, often antagonistic linguistic, religious and politically varied micro-states. In contrast to competing industrialised nations, Germany during this period was distinguished by the absence of a foundational 'myth' – a unifying ethos that represented an aspirational vision of Germanness to the disparate German peoples.²⁰ This vision was ultimately provided in part by the creation of a 'tradition' of German Music – a loose musical history that despite its intangibility (but, as we shall see, manipulability), placed music at the centre of German *Kultur* and distinguished, it was believed, the German *Geist* (spirit) from other nations.²¹

Coincident with the foundation of the German Empire was the rapid period of 'high' industrialisation (1870-1900), a technological revolution that had a seismically disruptive effect on the lives of many Germans. This societal shift brought about a conflict between the spiritual core of German society and technologically driven materialism, generating a division between the *Kultur und Technik*, one of the core concerns of this dissertation.

Originating in the 19th-century tradition of humanist scientific investigation (Helmholtz, König and others), audio technology evolved through this dichotomous *Kultur und Technik* discourse and in doing so, gained unique characteristics that defined the direction of development of German audio technology. These characteristics were further tempered by the spiritual, political and economic concepts that emerged during the crises of military defeat in 1918. Electronic musical instruments in particular were often proposed as both a practical response to save German *Kultur* from economic crises and a demonstration of German technological prowess and national pride – and as such, unlike

²⁰ Compared to, for instance: the American idea of 'liberty' and western expansion, the myth of Napoleon's civilising secular empire in France, Italy's national myth of classical Rome and the British myth of military power and Imperial destiny.

²¹ For the development of the idea of German Music see: Potter, *Most German of the Arts*

their counterparts in France, America and the U.S.S.R., they became connected to the bourgeois tradition of German Music rather than the avant-garde.

As a consequence of Versailles treaty-era technical prohibitions and economic crises, the new Weimar state became somewhat isolated from the mainstream of global technology. This isolation was a significant factor in determining the onward development and character of indigenous audio technologies and ultimately inhibited their commercial viability. Yet, despite these restrictions, German innovators were to some extent aware of parallel international developments in audio technology.²² Busoni's 1907 description of Thaddeus Cahill's *Telharmonium* (1896-1917) in New York both ignited interest in electronic musical instruments and, through establishment endorsement, gave them a stamp of credibility. Likewise, the Russian Lev Termen's (Leon Theremin) slick promotional tour of his *Theremin* in Germany during 1926 brought electronic instruments into the public realm, launching numerous copycat instruments and established *Aetherwellenmusik* as a fixture on German radio for the following decade.²³ Economic pressures and nationalist pride powered innovation in new audio technologies. For instance, the groundbreaking new sound film formats (*Tri-ergon* and *Tobis* of 1926) were developed to give Germany's indigenous film industry the competitive edge over Hollywood, and the appearance of the French Coupleaux brothers' *Orges des Ondes* (a polyphonic electronic organ of 1929) launched a search for a German response – the *KdF Grosstonorgel* (1935). In conclusion, the complex and unique social, political and philosophical discourses of the Weimar period resulted in a distinctive approach to audio technology that placed it in the centre of the debate about *Kultur und Technik* and thus a significant factor in the cultural and societal developments of the period.

²² For example, Siemens AG commissioned an investigation into international electronic musical instruments in 1930 entitled 'Zusammenstellung von Literatur Patenten und Patentanmeldungen auf dem Gebiete der elektrischen Musikinstrumente'

²³ *Aetherwellenmusik* : 'Ether-wave music' – an early term for electronic music that connected it with spiritualist ideas of the ether and mysticism. See chapter 2.

The Research Context

Two publications that overlap with my study in some aspects are Peter Donhauser's *Elektrische Klangmaschinen die Pionierzeit in Deutschland und Österreich* (2007) and Thomas Patteson's *Instruments for new music, Sound, Technology, and Modernism* (2016). Donhauser's *Elektrische Klangmaschinen* is a thoroughly researched and documented linear history (German language only) of the development of electronic instruments in Germany and Austria from around 1920 until around 1940. Donhauser's work is the standard text on the subject of the history of German (and Austrian) electronic musical instruments of the 1930s and has been referenced in my dissertation, particularly with regard to the later work of Vierling and Trautwein on mass-rally amplification. However, the principal focus of *Elektrische Klangmaschinen* is a museological study of the technical development of the instruments during the period, rather than the socio-political effect of technology. Citing patents and technical diagrams, Donhauser goes into great technical and chronological detail, lists each instrument's public performances, recordings and repertoire and as such is an invaluable resource for research. Because of this, *Elektrische Klangmaschinen* is primarily a reference guide to the technical history of the period and rarely strays into the cultural or political discussions of the music and technology of the era. Perhaps due to the political and cultural complexity of the period, Donhauser prioritised technical clarity over social and cultural context. Inversely, my study sacrifices technical and biographical detail and focuses instead on the socio-political currents that surrounded the technological artefacts.

While Thomas Patteson's publication follows a comparable historical trajectory and covers a similar set of individuals as my dissertation (Busoni, Mager, Trautwein etc.), its central concern is primarily the musicology of instrumentation rather than music and sound in a political and sociological context. Though placed in a wider cultural, philosophical and social environment than Donhauser, Patteson traces a similar developmental chronology,

discussing the personalities, forces and ideas that brought about the explosion of new electronic musical instruments in Germany during the 1920s and 30s – and contributed to their eventual demise. Patteson concludes his exploration of the history of German electronic instruments by coining the phrase ‘technovertigo’, a state of instability which, he argues, resulted from the twentieth-century musical-technological pursuit of control and perfection. Contradicting the early twentieth century belief that music technology would inevitably converge into a single perfect instrument, music technology instead exploded into a disorientating ‘almost incomprehensible multiplicity of sounds, techniques, politics, and practises’.²⁴ Patteson’s focus therefore is distinctly musicological: the creative impact of musical technology whether it is by design or as a side effect of the development trajectory. In contrast, in this study I am interested less in the ideas of individual thinkers and their musicological ambitions and more on understanding the wider currents of technology, economics, demographics and German philosophy i.e. the forces that brought about technological and cultural change rather than an individual actor's ideas. To these ends, I will be spending a considerable amount of time in this study exploring conceptual developments that emerged in reaction to the ever increasing technologisation of early twentieth century German society – concepts that, I argue, went on to inform German cultural and political attitudes in the first half of the century.

A number of studies that analyse the wider use of audio technology during the period include Corey Ross’ *Media and the Making of Modern Germany* Caroline Birdsall’s *Nazi Soundscapes* and Adelheid Von Saldern’s *Volk and Heimat Culture in Radio Broadcasting*. These studies explore the non-musical aspects of audio technology – predominantly radio as propaganda and as a media device. Saldern’s work explores the early Weimar broadcast policies of *Volkisch* radio programming and its relationship to Nationalist ideology. All of these studies are on the whole interested only in how the medium or device was used – as a fully formed isolated device. In contrast my study aims to show

²⁴ Patteson, *Instruments for New Music*, 167.

how the 'soundscape' of the Nazi period in particular was a construction that combined multiple audio technologies – radio, gramophone, electronic musical instruments, microphone, loudspeaker and soundfilm – into a 'total synthetic' vehicle of Nazi mythic ideology.

Detlev Peukert's *The Weimar Republic: The Crisis of Classical Modernity* (1991) was one of the first studies to use detailed demographic data to understand the complexities of the political events of the Weimar period and has been my main reference for historical information. Peukert insists that the Weimar period has to be understood as more than just a prelude to the Nazi era and eschews the *Sonderweg* (special path) version of German history as an explanation to the 'German question'. Instead, Peukert argues that the central source of the Weimar Republic's instability was not down to the uniqueness of the German nation and its place in history, but due to its failed attempts to transition from a semi-feudal state to a modern republic i.e. an unsuccessful resolution with modernity. Peukert's innovation as a historian was to introduce the idea of modernity and particularly technological modernity as a primary factor in the social and political development of the era and by doing so he exposed the centrality of *Kultur und Technik* schism at the heart of the German discourse. For Peukert however, *Kultur und Technik* was primarily a political and sociological distinction and one where *Technik*, or the 'spirit of science' – represented by technological and social rationalisation – dominated the Weimar republic. This study broadly aligns with Peukert's historical analysis of the Weimar crisis, my work however, emphasises the role of technology – and audio technology in particular – as a critical factor in the failure of classical modernity and positions *Kultur und Technik* as an active current of thought in science and culture of the period (with German Music being the most prominent manifestation of the debate) and that the struggle between *Kultur und Technik* remained unresolved and a significant source of tension during the period.

The literature mentioned above, on the whole, positioned audio technology as a response to the events of the period and because of this the role of audio technology as a factor in the formation of ideas (and in the use and development of technology itself) is overlooked. This view of technology as a manifestation of its time, although not inherently incorrect, omits technology's place in the current of conceptual development, for example, the persistent mystical connection that was made between 'ether' (the spirit world) and the emergence of the radio. This historical conceptual connection allows us to understand radio as a product of nineteenth century irrationalism as much as it was a product of twentieth century materialism – a multi-faceted aspect of radio that goes some way to explain, for instance, its later use in the 'irrational' modernism (Herf's 'reactionary modernism') of the NSDAP. By examining the interconnected, socio-cultural concepts that surrounded audio technology I intend to illustrate how audio technology was a critical agent in the social transformations of the Weimar and Nazi periods rather than solely the product or expression of it.

This dissertation can be differentiated from others in the field of sound studies and media archaeology due to its central argument that audio technology has an inherently symbiotic relationship with society; that it was, and is, a product as much as a 'producer' of the discourse of its time. Technology, I will argue, was not simply the linear end-point of a confluence of material and economic conditions but also a catalyst of the socio-political discourses of the time. Audio technologies, therefore, were not just the creation of, in the case of 20th-century Germany, a population shift to industrial cities, but also a factor in the definition of urbanism and the catalyst of urban communities. By allowing society to be reimagined, audio technology constructed a new paradigm that made urban life possible. This understanding is related to the connections between technology and society implied by Sterne when he asked 'Why these technologies, now? What social forms, what social relations, do they encapsulate?'.²⁵ In this dissertation I will

²⁵ Sterne, *The Audible Past*, 337

build on Sterne's proposal for the social investigation of sonic phenomena, and the connection between theories of sound and theories of society.²⁶ In particular, building on Sterne's ideas, I will investigate the challenge posed by audio technology to a societal tradition defined by the history of human-scale, unmediated listening and communication, and the resultant conflicts between ideas of democracy and totalitarianism. These debates are, I will argue, not just of historical and musicological interest but have a distinct relevance to today's debates about the role of technology in human society.

New audio technologies I will argue, follow a Kittlerian model in that they are media processors or, in Kittler's language, a 'network' (*Aufschreibesysteme*) that transforms an input ('data stream') to a new form of mediated output – an output (e.g. music) that is not external to the media but inextricably linked to it. Where I diverge from Kittler is in his view of technology being autonomous from the current of history, society and ultimately the human: 'They [technologies] follow the logic of escalation that leaves us and written history behind it'.²⁷ Where Kittler believed that all human behaviour was in response to technology, I see, however unintentional, an interdependent relationship between the machine and the human. By 'escalations' Kittler meant the processes that catalyse technological development – war, capitalism and so-on – to which I would add the semi-autonomous 'escalations' caused by the effect of unintended aspects of the machine's intended function – what I will call in this dissertation 'meta qualities' such as the spatial distortion of radio, the physical and sonic limitations of audio recording, and the sound synthesis capabilities of sound film described in this dissertation. In terms of the social impact of audio technologies I have built on R. Murray Schafer's idea of 'soundscape', Brian Currid's concept of the 'sonic icon' and particularly Carolyn Birdsall's use of these concepts in her book *Nazi Soundscapes*. For Birdsall, the Nazi Soundscape was a unique but often unintentional accumulation of sounds that, when analysed, can

²⁶ Sterne, *The Audible Past*, 338.

²⁷ Kittler, *Geschichte der Kommunikationsmedien*, 79.

reveal the hidden characteristics of the period – technology for Birdsall was a means in delivering this soundscape. Where I depart from Birdsall's work is that I lay emphasis upon the concept of a symbiotic connection between the mediatised soundscape and the media itself which evolved to form new forms of media such as symbolic forms of media messaging, political persuasion and the 'myth image' aesthetics of Nazism (described in Chapter 5).

In conclusion, this dissertation argues that audio technologies had a profound impact on the discourse of the period by challenging historical traditions of human interaction and society and by destabilising established social and economic hierarchies. I will argue that ultimately, audio technologies were an instrument of division and a significant contributory factor in the transition to the totalitarianism of the Nazi state. This thesis is supported by primary sources and secondary literature: contemporary journals, literature, archival research and audio recordings. Translations from German primary sources are my own.

Chapter 1 'Technology and *Kultur* in early Twentieth-Century Germany' sets out a general historical background relating to the development of audio technology and introduces the main socio-political and esthetic debates of the period that form the basis of this dissertation.

In Chapter 2 'The Human and the Machine' I will argue that the conceptual framework that came to define the perception of technology in Germany originated from a romantic backlash against what was seen as excessive and foreign enlightenment materialism during the first industrial revolution – a reaction that resulted in concepts that first defined a schism between the organic human and the man made machine. This human/machine dichotomy or the struggle between *Kultur und Technik*, I will argue,

went on to play a critical role in German thought, specifically in relation to the perception and use of audio technology in music.

In Chapter 3 'Weimar Audio Utopias' I will argue that a growing antipathy towards established political processes after the crises of 1918 led to a surge in utopian thinking. In this chapter I will describe how utopianism polarised and hardened earlier man-machine concepts to form a particular Weimar period view of technological modernity. I will argue that the tendency to utopian thinking resulted in the re-emergence of nineteenth century beliefs and the development of new concepts of rationalisation and *Neue Sachlichkeit* that repositioned music as a medium for social change. This new concept of socialised music combined with the utopian possibilities offered by technology, produced new technological genres of music – *Gebrauchsmusik*, *Lehrstück* and nationalist forms of German Music.

Chapter 4 'Negotiating Commercial Modernity' analyses the growth of the commercial exploitation of audio technology and the formation of mass consumer led media which, I will argue, constituted a threat to both the modernist and reactionary factions. Both factions cited *Erlebnis* and *Kultur und Technik* concepts to argue against technological mass media and, in contrasting ways, adhered to the *Volksgemeinschaft* as a cultural ideal, a conceptual path that put them both in conflict with commercial mass cultures. From this conflict a dichotomous discourse emerged within the music establishment that either understood the need to engage with new mass audiences through a new 'universal music' or conversely adopted a defensive position around the tradition of German Music. However, both modernist and bourgeois attempts at creating both a 'universal music' and at reinforcing German Music *Kultur*, alienated mass audiences, exacerbated existing divisions and provided an opportunity for the NSDAP to exploit. Ultimately, during the polarised era of the 1930s, audio technology proved to be an instrument of division rather than cohesion

Chapter 5 'The Role of Audio Technology in the transition to Nazism' explores how the cumulative effects of neo-romantic thought (explored in Chapter 2), post-1918 utopianism and mass cultures born from the commercialisation of audio technologies became an important influence on the political policies and cultural character of the Third Reich. In this chapter I will argue that Nazi philosophy and cultural esthetic based on immediacy and *Erlebnis* evolved from types of technological media that offered new ways of communicating to a new audience habituated with interpreting mediated messaging.

The type of philosophy adopted by the NSDAP, I will argue, was formed from the unresolved debates of the Weimar period (highlighted in the previous chapters) and therefore the Nazi *Machtergreifung* (1933) was not a revolutionary break with the Weimar republic, but a continuation of the socio-political debates formed during the German industrial revolution. To maintain and consolidate power after the *Machtergreifung* the NSDAP utilised audio technology as both a control mechanism through radio 'aestheticised politics' (propaganda and the construction of a symbolic national image) and in the development of a Nazi musical esthetic again based around the *Lebensphilosophie* concepts of immediacy and *Erlebnis* and manifested in *Großkundgebungsmusik* – a musical ritual of mass rallies made possible only through audio technologies. Finally, I will argue that under the dual pressures of popular opinion and military pragmatism, the Nazi state adopted a policy of distraction by subsuming popular cultures of mass media as a precursor to total war.

Chapter 1: Technology and Kultur in early Twentieth-Century Germany

Section 1.1: The Rise of the Technological State and the Birth of German Audio Culture

Bismarck's newly unified German state (1871) was, by the end of the century, one of the world's leading financial and industrial powers. Germany had come late to the race for industrialisation – 100 years later than the U.K. – a delay, however, that gave Germany a 'second mover' advantage. By circumventing the cycle of technical innovation, Germany was able to industrialise much more rapidly than other developed world powers.²⁸ High speed industrialisation resulted in a massive migration from the countryside to industrial urban settlements, again, occurring over a much shorter period of time compared to other Industrialised nations (40% of Germans lived in rural areas by 1910, a drop from 67% in 1900).²⁹ This sudden mass migration was the cause of a cultural dislocation greater than that in other developed powers; Germany had grown from a mainly agricultural coalition of small states in 1871 to the world's second largest economy in 1900 – a development that caused internal anxieties and placed Germany at the centre of an increasingly belligerent world.

The societal trauma brought about by the rapid move from a mostly traditional rural way of life to an industrialised society exacerbated by the shocking humiliation of the First World War, reparations and economic chaos of the 1920s and 30s resulted in a tendency to polarised thought: modernity was either a malign mechanical force that separated the people (*Volk*) from their – mostly mythical – *Heimat* (homeland), or, a new, rational, scientific and superior way to finally rid Germany of its backward Wilhelmine shackles.

²⁸ Nipperdey, *Germany from Napoleon to Bismarck*, 96-7.

²⁹ Ross, *Media and the Making of Modern Germany*, 13-4.

German culture and music tended to divide along similar lines with modernist and reactionary factions occupying intractable and opposing positions. The response to these anxieties echoed the cultural and political conflicts of post-1918 Germany; a conflict between conservative traditionalism tending towards xenophobia and nationalism, and a popular left uprising aligned to an international revolutionary movement. Each of these tendencies used, controlled or suppressed these technologies to achieve their ultimate objectives.

The early twentieth century was also the height of a technologically driven shift from visual culture to a predominantly audio culture in what Sterne described as the 'Ensoniment'.³⁰ This shift began, in Germany, with the acoustic explorations of Helmholtz, Koenig and others who, as enthusiastic supporters of materialism, sought scientific explanations for acoustic phenomena and music. 'On Sensations of tone' (1863) Hermann von Helmholtz's (1821-1894) groundbreaking and highly influential study of tonal perception uniquely aimed to 'connect the boundaries of two sciences—the boundaries of physical and physiological acoustics on one side, and of musical science and aesthetics on the other'³¹ and in so doing, founded a new science of acoustics. The physical science of acoustics put Germany at the centre of audio research, a specialism that resulted 50 years later in the establishment of audio research institutions (*Heinrich Hertz Institut für Schwingungsforschung* and the *Rundfunkversuchsstelle*) and advances in electronic musical instrument design: the work of Jörg Mager, Friedrich Trautwein, Oskar Vierling (explored in this study) and many others. Heinrich Hertz's (1857-1894) work on Electromagnetic waves and spark transmission and Rudolph Koenig's (1832-1901) further work on Helmholtz's theories and investigations into acoustic phenomena paved the way for Germany to become one of the world leaders in the mechanical reproduction of sound and radio transmissions.³² This expertise was

³⁰ Sterne, *The Audible Past*, 2.

³¹ Helmholtz, *Die Lehre von den Tonempfindungen*, 1.

³² Wittje, *The Age of Electroacoustics*, 40-3.

accelerated by Germany's well established pre-war electro-industrial commercial sector supported by a well developed industrial ecosystem: Siemens & Halske (founded in 1847 as a wire telegraphy specialist) and AEG (*Allgemeine Elektrizitäts-Gesellschaft*, founded in 1883 in Berlin as a manufacturer of light bulbs, motors, generators and electric transmission systems) were two large electronics companies that moved quickly to exploit new audio technology.

The overall development of audio technologies in the early part of the twentieth century and their metamorphosis from industrial machinery to domestic consumer devices was precipitated by military competition and particularly by the technological demands of the First World War. Britain in the early twentieth century had a virtual monopoly in the field of radio communication (using Wireless Telegraphy technology licensed from the Italian inventor, Guglielmo Marconi). In defiance of an international agreement (1903 1st International Radiotelegraph Conference), Britain refused to share their technology outside of its empire – especially with Germany which it now perceived as a growing military and economic threat.³³ In 1903 the British navy began equipping its ships with Marconi spark transmitter wireless equipment and in response, Germany created a research organisation – named the *Gesellschaft für drahtlose Telegraphie System* (renamed 'Telefunken' in 1923) – dedicated to the development of indigenous radio technologies.³⁴ In 1903 the new company also fitted out the German navy with spark-gap radio technology similar to Marconi's and *Gesellschaft für drahtlose Telegraphie System* soon became the dominant global competitor to Marconi outside of the British Empire. The military importance of this type of new technology was dramatically underlined when the much smaller Japanese navy, newly equipped with radio equipment, defeated the Russian Imperial Fleet at the battle of Tsushima in 1905.

³³ Friedewald, 'The Beginnings of Radio Communication in Germany, 1897–1918', 441–63.

³⁴ A joint venture between Siemens & Halske and AEG – the two main players in electronics and acoustic research in pre-war Germany.

Up to this point radio transmitters, based on Hertz's spark-gap technology, were large, static machines that consumed huge amounts of power to achieve any useful range and were therefore only viable either as static land-based transmitters or installed in ships. This 'marine' period of radio technology ended with the invention of the grid-triode valve and the Audion valve (Lee De Forest U.S.A. 1907, Robert von Lieben, Germany 1906). This simple enhancement of the existing diode valve suddenly made wireless telegraphic communication practicable, portable and affordable – and, also made possible the rapid organisation of millions of troops across multiple countries during the 1914-18 conflict. It was this pioneering period of valve technology that saw the establishment of what were to become the dominant corporate global electronics giants of the 20th and 21st centuries – companies, born out of military necessity who retained in peacetime a close association with the military.³⁵

Wartime priorities catalysed the development of radio technologies. Huge human and material resources were deployed in the development of wireless communications. Legal restrictions were also lifted: in 1915, U.S.A. patent restrictions were removed allowing rapid development without the risk of legal complications – other countries soon followed suit.³⁶ Arthur Kennelly wrote: 'It has been estimated that ... the war advanced [radio communication] more in four years than perhaps might have been accomplished in twenty or thirty years of peace.'³⁷ This period of accelerated technical innovation resulted in the appearance of numerous related acoustic technologies; radio, audio recording (from field ranging and detection), loudspeakers, microphones, wireless communications, sound film and encryption all of which had commercial analogues after the cessation of hostilities.

³⁵ Siemens & Halske, Telefunken in Germany; Toshiba in Japan; N.V. Philips in the Netherlands; AT&T, GE, and Westinghouse in the USA; Vickers and Marconi in the UK; SRT in France.

³⁶ Barnouw, *A Tower in Babel*, 48.

³⁷ Kennelly, 'Advances in signalling contributed during the war', 221-46.

Section 1.2: Self, Community and Spirit in German Culture

The evolution of the German nation from an agrarian society to an industrial and military superpower took place within the constraints of a socio-philosophical landscape that originated in the pre-industrial nineteenth century debates. These debates emanated from the conflict between enlightenment era rationalism and a form of German romanticism that positioned spiritual self-cultivation above materialism and rationality. The tensions caused by rapid industrialisation polarised, distorted and amplified many of these concepts, elevating them to a dominant role in German thought. These concepts, that to modern ears come across perhaps as marginal, stylistic or arcane philosophical distinctions, had a profound impact on German thought and survived the 1918 collapse of the Wilhelmine empire to define the direction of German thought and culture for the first half of the twentieth century.

Of central importance to German society was the concept of *Bildung*. According to Myers, the 'cult of *Bildung*' originated from an early nineteenth century humanist combination of the rational, emancipatory ideals of the enlightenment and Protestant notions of hard work, duty and introspection.³⁸ *Bildung* was roughly, the institution of individualistic self cultivation, 'a state of refined cultivation, focused on the inner growth of the individual as fostered by the study of the classical texts of antiquity' and associated with a variety of practises; education, classical values and *Kultur* – particularly in literature and music.³⁹ Despite its enlightenment and humanist foundations, *Bildung* came to value a particular pietist spirituality above materialist rationality – a characteristic that was to have a decisive influence on the understanding of technology in relation to society and the individual. At the dawn of the twentieth century, influenced by Germany's increasing imperialist ambitions, *Bildung* developed a more strident nationalist character: The *Gebildet* German was considered more individualistic and authentically human, a state distinctly different to, for example, the capitalist American, the bourgeois conformist

³⁸ Myers, *The Double Edged Sword: the Cult of Bildung*, 13.

³⁹ McBride, McCormick and Zagar, *Legacies of Modernism*, 84.

French and the militaristic public-school-drilled Englishman.⁴⁰ Supposedly classless, *Bildung* was an aspirational objective for many and formed the background to much of German middle class thought in the early twentieth century. Despite regarding themselves as set apart from the mainstream of (pre-Bismarck) German society as a classless meritocracy, the 'cult' of *Bildung* grew in status and power in the Wilhelmine era becoming an identifiable type of middle class bourgeois or *Bildungsbürgertum*.

The preservation of *Bildung* was, of course, not solely a concern about the dominance of intangible, societal and spiritual principles but also a contest over hard power and influence. The spiritual foundations of *Bildung* came under increasing pressure when confronted by the upward social mobility of the new industrial class, a societal shift that emphasised material success rather than cultured refinement as a marker of social hierarchy. The role of the *Bildung* institution dramatically shifted to a more pragmatic approach that embraced 'capitalistic principles of self interest and utilitarian concepts'.⁴¹ This new materialism produced the middle class, urban mass consumers of the *Angestellte* and *Beamte* (White collar middle classes and bureaucrats), but also resulted in a counter-materialist response that aimed to provide an intellectually comprehensible spiritual version of contemporary *Bildung*. By attempting to balance spiritualism with enlightenment humanism, this tendency introduced spiritualism and 'occult science' into the German discourse: Steiner's Anthroposophical movement, Theosophy, Biocentrism and Monism as examples.⁴² Through these contrasting models, *Bildung*, although by the 1920s somewhat anachronistic, retained an (often unrecognised) influence over society and art throughout post-1918 Germany.

An essential component of the practice of *Bildung* was the cultivation of *Kultur*. With a definition distinctly different to the English and French concept of 'Culture', *Kultur*, as

⁴⁰ Myers, *The Double Edged Sword: the Cult of Bildung*, 13.

⁴¹ *Ibid*, 71.

⁴² *Ibid*, 91-96.

understood in the early twentieth century, is a particularly complex quality to translate into English. Elias describes *Kultur* as 'The word through which Germans interpret themselves, which more than any other expresses their pride in their own achievements and their own being' and for Michel it was a set of values that served '... to develop the inner core of human nature organically, with an emphasis on personal perfection (thereby contributing to the growth of a social 'soul')'.⁴³ *Kultur* in its nineteenth century form was associated with the care and preservation of the past – particularly Greek classical art and philosophy – or as Kant saw it, the enduring three forms of 'absolute mind': art, religion, and philosophy in contrast to the material aspects of life i.e. the technical, scientific and political.⁴⁴ Established in pre-industrial Germany, this dichotomy introduced a tendency in German philosophy that recognised a polar distinction between *Kultur* and *Zivilisation* – *Kultur* and its idealised spiritual and individualistic values was placed above the mundane, pragmatic and materialist aspects of *Zivilisation* – a distinction that was to have a profound effect on German society and culture as it attempted to resolve the complexities of twentieth century modernity with nineteenth century concepts.

The music and politics of the Weimar and Nazi periods were underpinned by the struggle between *Kultur* and *Zivilisation*: the (apparently) irresolvable conflict between technological modernity and traditional German spiritual values. The antithesis of *Kultur* was *Zivilisation*, a term that was imbued with negative values: it 'represented little more than the surface allure of material gains made possible by commercial and technological innovations'.⁴⁵ Elias argues that *Zivilisation* denoted 'something which is indeed useful, but nevertheless only a value of the second rank, comprising only the outer appearance of human beings, the surface of human existence'.⁴⁶ *Zivilisation* was closely aligned in

⁴³ Elias, *Sociogenesis of the Antithesis between 'Kultur' and 'Zivilisation'*, 6; Michel, 'Reactionary Engineers?', 82.

⁴⁴ Krois, 'Kulturphilosophie in Weimar Modernism', 103.

⁴⁵ Michel, 'Reactionary Engineers?', 86.

⁴⁶ Elias, *Sociogenesis of the Antithesis Between 'Kultur' and 'Zivilisation'*, 6.

the Weimar mind with the superficiality of *Amerikanisierung* ('Americanisation') and rationalisation: a ruthless and expanding form of capitalist rationalism that was diametrically opposed to the core values of German *Kultur* and *Bildung*. The adoption of American 'machine' values is described here by the conservative writer Adolf Halfeld as the nemesis of the classical aspirations of *Bildung* and the spiritual '*Geist*' of the German people:

If we Germans adopt American thinking, the Greeks will have lived in vain, German mysticism has been a false path, and the German Faustian soul will become a private opinion of the blessed Goethe. America kills Eros for the sake of the machine-man.⁴⁷

As industry and technology developed rapidly in the early German state (1890 onwards) tensions arose between the demands (and benefits) of a modern technological state and the preservation of German *Kultur* which had for centuries provided the identity and stability of the German Reich. In the conservative and bourgeois mind, the maintenance of the purity and dominant position of *Kultur* in German society would ensure the continuity of 'German-ness'. The 1914-1918 war was framed as a conflict between just this; German *Kultur* under siege from the encroachment of depraved, materialist Western *Zivilisation*.

The shift from a mainly agrarian economy to an urban, industrial economy gave further emphasis to the *Kultur* versus *Zivilisation* debate, which was increasingly expressed as *Kultur* versus *Technik* as the century progressed. *Technik* in its basic usage translates as 'technology'. However, there is a significant difference between the German word *Technik*, which covers the senses of technique and technical (relations of production) as

⁴⁷ Halfeld, *Amerika und der Amerikanismus, Kritische Betrachtungen eines Deutschen und Europäers*, 49.

well as technological, and the English usage of 'technology'.⁴⁸ Irrespective of political position, *Technik* was commonly positioned as the irresolvable antithesis of nature, a materialist threat to German *Kultur*. A rare example of dissent from the *Kultur/Technik* dichotomy was provided by Walter Benjamin, who argued that *Technik* was not the opposite of nature but 'a truly new configuration of nature, so human nature can be augmented by an appropriate alignment with technology' – suggesting that although technology remained a threat, there was the possibility of human-*Technik* reconciliation.⁴⁹ This idea of reconciliation was pursued by both modernists and some elements of the nationalist right – the engineers of *Technik & Kultur* (1925-1941) journal and the Nazi *Deutsche Technik* group of the 1930s for example. But perhaps the most prominent early examples of a rightwing group that espoused a resolution with *Kultur* and *Technik* was the *Konservative Revolution* movement, a loose group of intellectuals, writers and philosophers that formed during the era of post-1918 *Kulturpessimismus*.⁵⁰ *Konservative Revolution* pursued a wide and often contradictory agenda from anti-democratic nationalist conservatism to the technological utopianism of Ernst Jünger – a figure who will feature prominently in this study – but is probably best represented by the authoritarian 'Prussian socialism' (a precursor of National Bolshevism) of Oswald Spengler author of the best selling 1918 book *Der Untergang des Abendlandes* (The Decline of the West): Spengler argued for a new type of spiritualised technology decoupled from bourgeois big-finance that allowed Germany to be both 'technologically advanced and true to its soul'.⁵¹

Much more so than in any other nation in the early twentieth century, music played a critical role in the concept of the German national identity and its cultural psyche – and

⁴⁸ Simons, 'Benjamin's Communist Idea', 48.

⁴⁹ Benjamin went on to say that Communism was a society that will be 'mature enough to make technology its organ'. Benjamin in: Hansen, 'Benjamin's Aura', 364.

⁵⁰ A group that included Oswald Spengler, Carl Schmitt, Thomas Mann, Ernst Jünger, Stefan George, Ernst Niekisch, Martin Niemöller, Ludwig Klages, Werner Sombart, Julius Evola, Martin Heidegger, Gottfried Benn and others.

⁵¹ Herf, *Reactionary Modernism*, 3.

because of this, music became the principal battlefield between *Kultur* and *Zivilisation* (or *Kultur und Technik*) during the first 50 years of the twentieth century. Music, or more specifically, what I will call 'German Music', became the primary representative and guarantor of the survival of *Kultur* and with it, the German soul. German Music was a very specific curated genre, chosen from a highly contextualised version of German history (often represented by the 'three Bs' Bach, Beethoven, Brahms). German Music had evolved, it was believed, through the centuries to reach a highpoint at the time of Beethoven's death (1827) in the form of symphonic 'absolute' music. The only way to truly understand the spiritual and *Volkisch* values found uniquely in German Music was to take part in the collective experience of the concert hall performance in what became an almost religious ritual. German Music, it was argued, had to be experienced first hand: it was irreducible, unreproducible and because of its divine inspiration, unknowable.

Prior to 1918, the concept of 'Germanness' in music had preoccupied musicologists for two centuries. However, it was the deepening crisis of German identity after the failure and national humiliation of the 1918 military defeat, that had highlighted the cultural differences between it and its enemies that initiated a corresponding intensification in the search for the 'German' in music.⁵² The Germans, it was argued, were the 'People of Music' who uniquely expressed their *Kultur* through a venerable history of classical music rooted in a bedrock of liturgical and ritual music. This centrality and uniqueness of German Music was considered an undeniable truth, yet despite significant post-1918 effort, musicologists struggled to agree on a uniting definition of 'Germanness' in their musical tradition. Potter identifies a typical paradox in this search – a frequently explored theme was that the underlying and unique strength of German music was its ability to adapt to and improve on foreign models, yet this very 'Germanness' had to be protected from the 'destructive influences brought on by modern society' – 'modern' in this context implying 'foreign'.⁵³ This anti-modernist discourse was at odds with Germany's complex

⁵² Potter, *Most German of the Arts*, 200.

⁵³ *Ibid*, 200.

cultural history: due to its geographic location and amalgamation of multiple states and traditions, Germany in the nineteenth century was a cultural melting pot which gave rise to one of the most cosmopolitan musical landscapes in Europe – a reality that presented significant problems for anyone trying to fit this diverse tradition into a synthetic cultural ideology. Despite this, the existence of ‘German music’ and the myth of its musical superiority was accepted and transversed political and social boundaries, for example, the Weimar era modernist and member of the revolutionary *Novembergruppe*, Max Butting wrote in *Melos* of the unique importance of German Music ‘It [Music] is noticed and respected everywhere, but I dare to doubt whether it is felt to the same extent as a necessary factor in our lives [as it is in Germany].’⁵⁴ A perhaps surprising adherent of German Music, Arnold Schönberg, wrote in 1919 that the most important aspect of music education was to ‘secure the ascendancy rooted in the people’s endowments (*Volksgedung*), that the German nation has held in the realm of music’. Defending the superiority of German music, he stated in 1921 that his decidedly modernist twelve tone system would ‘secure for German music an ascendancy for the next hundred years’.⁵⁵

In the spirit of *Bildung*, German music, it was argued, was in constant need of protection or what became known as musical ‘care’ (*Musikflege*). This obligation for ‘care’ went beyond concerns for simple musical ability and purity: particularly after the defeat of the First World War music was ‘a kind of guarantor that despite travail and tribulation, something essentially German survived’.⁵⁶ If defended against the rapacious influence of modernism and other new forms of musical influence, German Music, it was argued, would evolve organically through its own tradition. ‘Care’ of music in postwar Weimar Germany became an almost patriotic duty with the musical ability and ‘culturedness’ of the people being a barometer of the ‘musical health of the *Volk* totality’.⁵⁷ The outcome of

⁵⁴ Butting, ‘Die Musik und Die Menschen’, 58.

⁵⁵ Reimer, *Nationalbewusstsein und Musikgeschichtsschreibung in Deutschland 1800-1850*, 17.

⁵⁶ Applegate, *The Necessity of Music: Variations on a German Theme*, 298.

⁵⁷ Potter, *Most German of the Arts*, 206.

this national/social/musical conflation was the tendency of Germans to invest their musical tradition with an almost supernatural transformational power to heal social and national divisions: a belief that was encapsulated in the phrase '*Gemeinschaftsbildende kraft der Musik*' – the power of music to bring the community together and implement the utopian dream of the *Volksgemeinschaft* (see Chapter 3). German Music itself, therefore, became an allegory for an idealised state, a flexible concept that accommodated conflicting political ideologies.

The most recognised form of ideal state in early twentieth century Germany, and one that was intertwined with social role German Music, was the *Volksgemeinschaft* – the concept of a utopian society which promised that all social problems; class conflict, poverty, crime and the venal effects of modernity would be erased when the disparate German peoples were united as a single, national, homogenous community, working together for the common good of the *Volk*. The term was first defined as a politically 'neutral' distinction between 'society' and 'community' by the theorist and philosopher Ferdinand Tönnies in 1887 (in *Gemeinschaft und Gesellschaft*). The concept gained particular popular prominence at the beginning of the First World War but remained a significant influence in German thought after 1918, providing a radical alternative to capitalism and modernity.⁵⁸ After the shock of the 1918 defeat, the *Volksgemeinschaft* took on a much harder, reactionary and nationalistic, anti-semitic resonance; a utopia denied and postponed. *Volksgemeinschaft* became a common root concept for delineating German culturedness and German's innate ability to overcome crises through national (racial) unity. This reading led to a number of later secondary concepts such as the idea of *Kulturstaat* (sometimes; *Kulturnation* or *Kulturvolk* – the image of Germany as *the* cultured and civilised nation in contrast to the *Zivilisation* of the other 'Western' nations, primarily U.S.A., France and the U.K.) and the *Werkgemeinschaft*, a technocratic national community formed around labour. These *Volks* concepts were generally the

⁵⁸ Ferdinand Tönnies, *Gemeinschaft und Gesellschaft*.

territory of the Nationalist factions but were by then, so profoundly part of the bedrock German cultural identity that they would have had a sometimes subliminal influence on the avant garde and modernism – examples in this study include: Ferruccio Busoni, Leon Kestenberg, Jörg Mager, Paul Hindemith, Walter Gropius, and early Brecht. The political use of the *Volksgemeinschaft*, had pronounced authoritarian implications: it proclaimed the existence of social harmony without addressing actual social conflicts and as Herf points out it 'established a moral and ethical basis for individual sacrifice and surrender to existing political powers'.⁵⁹

Section 1.3: The Early Weimar Republic: Technology and Culture 1918-1925

The traumatic collapse of the German state following military defeat in 1918 emphasised the importance of these nineteenth century concepts. Reluctant to betray and abandon the conceptual foundations of the German national *casus belli* for which so many had died, these concepts remained at the centre of German thought. Despite the manifest collapse of the German state and the failure of the Wilhelmine imperial project, many chose to retain these core concepts in defiance of what was still perceived as the barbaric *Un-Kultur* of Western *Zivilisation*.

The 1918 defeat war was followed by a period of intense social upheaval: Kaiser Wilhelm II abdicated and the Socialist and *Räte* (workers councils) embarked on revolutionary uprisings across Germany (1918-19) – revolutionary activity that was quickly and violently suppressed by an alliance of Social Democrats (SPD) and conservative nationalist factions backed by *Freikorps*.⁶⁰ In 1919, the new Social Democrat alliance, now based in Weimar to avoid revolutionary violence (but also to lay claim to the history

⁵⁹ Herf, *Reactionary Modernism*, 36.

⁶⁰ The anti-communist, pro-nationalist remnants of the army loyal to the military leadership and hostile to the republic.

of German classical *Kultur* associated with the city) declared Germany a constitutional republic which became known later, usually pejoratively by the nationalist right, as the 'Weimar Republic'. The new republic was nominally democratic with Nationalist (DNVP and others), Social Democratic (SPD, MSPD), Centrist (BVP, DZP) and Communist (KPD) parties; however, the *Reichswehr* (National Army) and their *Freikorps* allies declared that the army was not loyal to the democratic republic, and would only defend it if it was in their interests. Almost immediately after the declaration of the republic, the *Freikorps* and *Reichswehr* were instrumental in independently suppressing popular left revolts in Bavaria and the Ruhr as well as occupying Berlin in an attempt to install their own Chancellor in the 1920 Kapp Putsch. Underlying this political turmoil was a period (1919-1923) of extreme economic chaos and hyperinflation – blamed by nationalist factions on reparation payments stipulated by the Versailles treaty. When the Weimar government refused to pay further reparations in 1923, French troops (mostly black-African colonial troops) occupied the industrial heartland of the Ruhr, further exacerbating economic chaos and providing a popular target for nationalist agitation. Being unable to satisfy the political ambitions of either the left or the right, the republic remained an unsatisfactory compromise solution for most Germans. This political hostility, combined with rapid technological and social change, the perceived injustice of the Versailles settlement and repeated economic crises, drove many to abandon liberal democracy in favour of the 'simple solutions to complex problems' promise of utopian movements.

By the time the 1918 *Krieg der Ingenieure* had ended, military-industrial priorities had not just accelerated the technological development of radio systems (as well as a proliferation of related technologies: sound film, microphones, amplification, loudspeakers and electronic instruments) but also changed the *perception* of technology – a war dominated by machines and invention had created a generation with an involuntary literacy in technology and sparked in their minds the possibility and potential

of a utopian electro-mechanical future. Axel Volmar argues that in addition to this technology exposure, the war increased the processes of 'ensoniment': the dangers of trench warfare determined that the battlefields of the First World War I were a mainly audible experience (soldiers remaining out of sight from long distance weapons) – a condition that led to a heightened perception of audio phenomena in post-war Germany.⁶¹

After the armistice of 1918, technology increasingly encroached into everyday life in the form of mechanised labour, urban living and – the subject of this study – technologised entertainment, culture and mediatised politics. The abrupt arrival of radio broadcasting, phonograph recording and sound film during the early decades of the twentieth century period began to alter the way music was composed, controlled, owned, produced, performed, consumed and sold – indeed, the mass-commodification of music equated to the technologisation of music in a way that separated it from the pre-gramophone and radio world. In this new technological-musical reality, musicians and composers had to, often grudgingly, re-appraise previous certainties: what was the role of the composer and musician? How should music be composed and played? Who owned and controlled music? Who was the audience for music? And, what was the role of music in this new technological society?

The arrival of audio technologies brought the possibility of 'mass culture': music and sound *was* modernity. Out of these developments, radio was the prime mover in triggering the emergence of audio as a truly dominant medium. As well as creating the potential for global networked communication, radio sparked the development of a host of associated radio-dependent technologies: microphones, loudspeakers, amplification and electronic musical instruments which, having outgrown their military origins, now occupied the domestic security of the urban living room. The interdependent technologies

⁶¹ Volmar, 'Storms of Steel', 228.

of sound film, gramophone records and radio combined to form a sub industry of literature, magazines, sheet music and music press which in turn, evolved into a commercially driven, interconnected mass consumer media industry of (national and international) film stars, pop idols and jazz bands.⁶²

Section 1.4: Berlin as a Cultural Centre

Irrespective of the ongoing political and financial turmoil, the city of Berlin grew rapidly in size and population – from 1.8 million in 1900 to 4.0 million in 1925 to become one of the leading cultural, political and technical capitals in Europe.⁶³ Berlin, once seen as a provincial, cultural backwater was now being actively promoted by the Weimar government to be a new European cultural capital fit for a new democracy – an enlightened, modern state rising from the chaos of the First World War. Artists and musicians from across the world were encouraged to migrate to Berlin and help develop new cultural and social policies that were intended to create this new *Kulturstaat* or – a key policy instigated by the SPD of the new Weimar government and typical in their belief in *Kulturpolitik*. With German Music occupying a position of such fundamental importance in German society, *Kulturpolitik* became *Musikpolitik*: a re-emergence of the nineteenth century concept that the collective experience of German Music assured the continuity and cohesion of the German *Volk*. In a twentieth century reading, music as *Musikpolitik* became, for all political factions, a vehicle for radical social transformation.

Amongst the cultural immigrants lured to Berlin was the Italian-German composer and influential theorist, Ferruccio Busoni who returned to Berlin in 1920 to teach a composition master class at the *Akademie der Kunste*.⁶⁴ Busoni, who was at the time

⁶² Ross, *Mass Media, Culture and Society in Twentieth-Century Germany*, 11.

⁶³ Berlin State Statistical Office; <https://www.statistik-berlin-brandenburg.de/> (retrieved 14-09-2021)

⁶⁴ Amongst his pupils were Kurt Weill, Wladimir Vogel, Philip Jarnach, Edgard Varèse and informally Stefan Wolpe, Dimitri Mitropoulos, Ernst Krenek, and Alois Hába: Knyt, *Ferruccio Busoni and his Legacy*, 2.

regarded as the flag bearer for musical modernism, became the centre of an international circle of young composers interested in microtonal composition and the design of quarter tone instruments including Ivan Wyschnegradsky, Alois Hába, Willi Möllendorf, Richard Stein and Jörg Mager. As the self proclaimed 'Father of German Electronic Music' and inventor of the *Sphäraphon* family of electronic instruments and newly arrived penniless in Berlin having escaped the collapse of the Bavarian Soviet (where it was rumoured he was briefly the education minister), Mager played a central role in the development of electronic musical instruments in Germany.⁶⁵

Included in Busoni's circle was his ex pupil, the composer, socialist and educational pioneer, Leo Kestenberg, a major figure in the music and culture of the Weimar period. Kestenberg was responsible for placing a generation of modernist composers, conductors and musicians such as Schreker, Pfitzner and Busoni, Hindemith and Schönberg to prominent teaching positions at Berlin music institutions. In his role as advisor and lecturer at the Prussian Ministry of Science, Art & Education, Kestenberg was able to make sweeping reforms in the field of music education throughout Germany – the so-called 'Kestenberg reforms' – where he applied radical Socialist pedagogical and dialectical theories to music education. His aim, described in his book *Musikerziehung und Musikpflege* (The Teaching and Fostering of Music –1921), was to 'to introduce the people as a whole to productive participation in the development of music'– a radical statement in a period when the participation in German Music was overseen by the conservative *Bildungsbürgertum*.⁶⁶ In 1927 Kestenberg together with Georg Schünemann, director of the *Music Hochschule Berlin* and an employee of Kestenberg, founded the *Rundfunkversuchsstelle* ('Radio Experimental Research Office' or *RVS*) based on the top floor of the Berlin *Musik Hochschule*. The *RVS*' founding objective was, through the 'unity of art and technology' to create an expert-centre of technological

⁶⁵ Schenk, *Jörg Mager – dem Deutschen Pionier der Elektro Musikforschung*, 8.

⁶⁶ Internationale Leo-Kestenberg-Gesellschaft.
www.leo-kestenberg.com/home-english/leo-kestenberg/ (retrieved :29-03-21)

music and radio production training.⁶⁷ The *RVS* ran a series of courses where technical experts and well known musicians and performers taught students from around the world how to work with radio, microphones, gramophone recordings, sound film and electronic musical instruments. Schünemann saw the 'school' (the *RVS* did not have or want an accredited syllabus and avoided the term 'school') as combining the craft of musicianship with that of technology; 'After a century of mutual alienation, music and technology can come together to work together'.⁶⁸

Alongside the socio-cultural applications of audio technology, the new research institutions in Berlin (particularly the *HHI* and *RVS*) were also charged with the commercial exploitation of acoustic technologies that were pioneered during the First World War. This commercial focus, it was hoped, would deliver increasingly better equipment, higher quality gramophone recordings and radio broadcasts for the emerging civilian markets, defending German *Kultur* and industry from foreign competition. A generation of war trained acoustic scientists returned to academic seats and took positions in commercial organisations, for instance, Karl Willy Wagner who went on to found the highly influential acoustic research organisation the *Heinrich-Hertz-Institut für Schwingungsforschung (HHI)* in 1928, during the war had worked on aviation wireless stations, submarine communication and telephony encryption while employed at Telefunken.⁶⁹ The physicist Hugo Lichte, moved from the *Torpedo-Versuchs-Kommando* to the AEG research laboratories where he played a major role in the development of post-war German sound film systems.⁷⁰ Similarly, the physicist Gustav Leithäuser, later of the *HHI*, worked on radio reconnaissance before joining the *Telegraphentechnische Reichsamt Berlin* in 1921 and the *HHI* in 1928.⁷¹

⁶⁷ Georg Schünemann in: Schenk, *Die Hochschule für Musik zu Berlin*, 257.

⁶⁸ Schenk, *Die Hochschule für Musik zu Berlin*, 260.

⁶⁹ '25 years Telefunken', Festschrift (1928)

⁷⁰ Mielert, 'Lichte, Hugo', 448.

⁷¹ The *HHI* became re-involved in military applications of its research: high-frequency communications, detection, and ranging and encryption – covertly during the 1930 and overtly after the outbreak of the Second World War.

National radio broadcasting in Germany was established with the foundation of the *Telegraphentechnische Reichsamts* (later the *Reichspostministerium* or *RPM*) in 1920, with the first state radio broadcast in Germany on October 29, 1923 from Vox House, Potsdamer Platz. The *RPM's* remit also included authority over the development of television engineering, high-frequency technology, cable transmission, metrology, and acoustics – including electronic musical instruments. Amongst the alumni of the *RPM* were Friedrich Trautwein future inventor of the *Trautonium*, Jörg Mager who borrowed a small laboratory in the building to develop his first *Sphäraphon* instrument and Karl Willy Wagner future director of the *HFI* who completed his groundbreaking work on audio filters at the *RPM*.

Through its radical application of technology and pedagogical approach, the RVS became known as one of the leading centres of Weimar cultural theory, and as such, a *bête noire* to the more politically and culturally reactionary factions. The RVS was often under fire from conservative music establishment and politicians as a prominent example of Weimar 'excess'. This criticism was further inflamed by the RVS festival *Neue Musik Berlin 1930*.⁷² *Neue Musik* was a showcase of radical modernist and experimental music and featured a diverse range of works including Ernst Toch's *Gesprochene Musik* – a three movement suite made using pre-recorded gramophone discs, Hindemith's *Zwei Trickaufnahmen* again using manipulated pre-recorded discs, *Gebrauchsmusik* – music especially composed for radio and several *Lehrstücke* didactic pieces for amateur and children's choirs.⁷³ Also unveiled at the festival was the *Trautonium*, the first commercially available German electronic instrument, designed at the RVS by Friedrich Trautwein, lecturer at the RVS. To launch the new instrument Hindemith composed 'Seven Pieces for Three Trautoniums' designed to show off the instrument's versatility which was performed by

⁷² July 18th/21st 1930. Curated by Paul Hindemith (composition tutor at the *Musikhochschule* and electronic music techniques at the RVS), Georg Schüneman, Heinrich Burkard, and Joseph Haas.

⁷³ Raz, 'The Lost Movements of Ernst Toch's *Gesprochene Musik*', 40.

Hindemith alongside Oskar Sala and Hochschule piano professor Rudolph Schmitt. Oskar Sala later became the official 'Trautonium virtuoso' and led the ongoing development of the instrument. Sala spent the 1940s touring Europe with the trautonium and orchestra, entertaining troops and after the war concentrated on film soundtrack music and effects – most famously synthesised bird screeches on Hitchcock's 1963 film 'The Birds'.

The RVS became the world's first 'new-media' training organisation and its legacy in music and audio production via its heuristic experimental approach is as important as that of the Bauhaus's legacy in art and design teaching. This legacy has historically been overlooked due to the fact that the output of the RVS – radio broadcasts, musical events, sound film and gramophone recordings were ephemeral, mostly undocumented, and, ultimately destroyed by the Nazi regime or during the war (see Fig. 1.1).

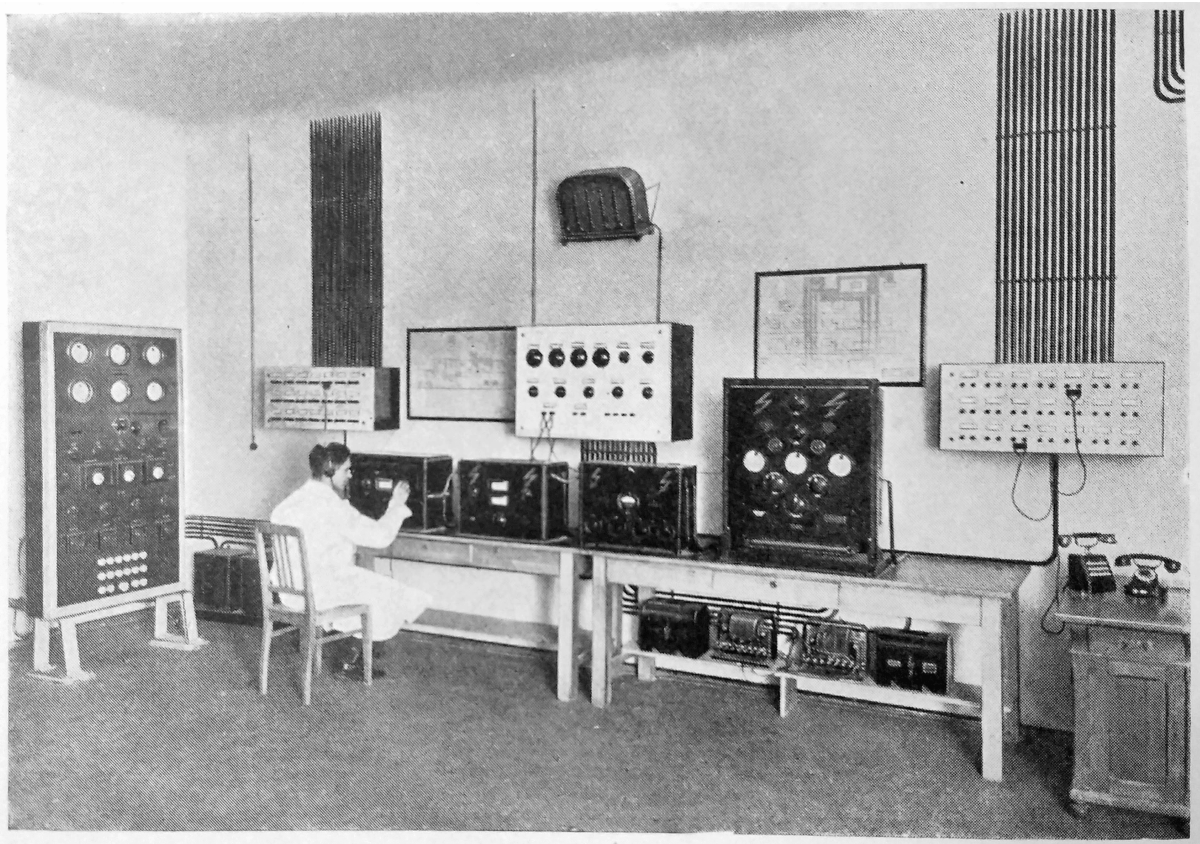


Fig. 1.1. Audio control room of the Rundfunkversuchsstelle installed by Siemens & Halske. Image: Hochschule für Musik Yearbook 1928.

In 1928 a sister organisation to the *RVS*, the *Heinrich-Hertz-Institut für Schwingungsforschung (HHI)* opened. Led by two physicists from the *Telegraphentechnische Reichsamt*, Karl Willy Wagner and Professor Gustav Leithäuser, the *HHI* had a remit to research *Schwingungsforschung* or 'vibrational phenomena of all types, but with a focus on acoustics, urban noise, telegraphy and broadcast. The state of the art laboratories were fitted out by Siemens & Halske and paid for by contributions from the electronics industry, the *Deutsches Reichsbahn* and annual grants from the ministry of culture, Reichspost- and Broadcasting ministry.⁷⁴ Alongside its industrial research activities, the *HHI* became the world leading institution for electronic musical instrument design with Nerst's *Neo-Bechstein Flügel* and Vierling's *Elektrochord* (both 1933) and *KdF Grosstönorgel* (1936) amongst others.

At the same time as this broadly progressive exploration of resolution of art and technology were examples of uses of technology that pursued more reactionary goals. Most prominent amongst these were the Weimar state's broadcast policy for the *Reichs-Rundfunk-Gesellschaft* – the newly established centralised state broadcast authority that used radio to reinforce the *Bildungs* status-quo. The establishment of state national radio and a specific form of broadcast content was in response to two pressures: one, the suppression of the autonomous workers *Funkerspuk* movement who had developed radio as a political tool:

It was precisely the very real prospect of radio developing into a potentially anarchic but influential form of communication that encouraged the nervous authorities to import the idea of entertainment radio from America—for which there was very little public demand at the time—and set it within a tightly regulated framework.⁷⁵

⁷⁴ Donhauser, *Elektrische Klangmaschinen*, 44.

⁷⁵ Lacey, 'The Invention of a Listening Public: Radio and its Audiences', 69.

Secondly, it was the promulgation of a homogeneous form of German national identity in an attempt to bolster national unity and stability in the face of post-1918 revolutionary factionalism.

The radio network in Weimar Germany was a hybrid private/state-run monopoly financed by licence fees raised by the *RPM* from a network of nine regional private radio companies and one national company; *Deutsche Welle* based in Berlin. These regional companies were part of a supposedly independent national network organisation called the RRG (*Reichs-Rundfunk-Gesellschaft*), but in reality the RRG was owned by the *RPM* and therefore the state maintained a disproportionate control over the national radio network – a fact that was to have later repercussions with the Weimar era broadcast policy and the later takeover of the broadcasting network by the NS state. The state's attitudes towards radio in the Weimar period was distinctly different from, for example, the US free-market model, which was perceived in Germany as being infected by a crude, unregulated capitalistic approach. The German authorities defined radio as an instrument of the *Volksgemeinschaft*, an 'apolitical' national resource that reflected and defined the nation's people – a nation defined by geographical proximity but also by the airwaves.⁷⁶ To these ends, a centralised 'benevolent' control policy was established that had the effect of allowing individual actors much greater influence on programming. This policy was designed to support a reactionary *Bildungsbürgertum* defined broadcast policy of self-improving culture and *Heimat* and *Volks* programming. However, It occasionally resulted in instances of radical avant garde audio experimentation (Hans Flesch's *Hörspiel* for example), but was predominantly aimed at defending German *Kultur* from the very technological modernity that the radio medium itself embodied. This paradoxical approach was symptomatic of the unresolved polar-arguments within the Weimar government which ensured that many aspects of Weimar cultural policy – music, education, radio – became battlefields for competing political interests, with music often

⁷⁶ Birdsall, *Nazi Soundscapes*, 109.

being at the centre of these conflicts. This period of technological–cultural development and conflict resulted in the practice of ‘defensive modernism’ – the use of modernist ideas to defend a reactionary position –in this case, the use of modern radio techniques to defend reactionary anti–modernist values. This ability to simultaneously maintain contradictory and opposing values is investigated at length later in this study.

Section 1.5: The Growth of the Mass Media Industry

The ‘Goldene Zwanziger’ period between 1924 until the global crash of 1929 was a time of fragile but sustained financial stability brought about by the American Dawes financial plan. This period of stability allowed for the rapid growth of a mass media industry turning previously unaffordable devices and products (radio receivers, gramophone players and gramophone disks for example) into aspirational mass market consumer goods and triggering new markets formed from the interlinking of media – film magazines, jazz literature, science fiction magazines, music journals and so-on. The period was also known for its experiments with aspects of ‘rationalisation’ – originally the ‘scientific management’ practises of Ford and Taylor that had expanded beyond industry into ideas of social organisation: the instability caused by the struggles between left and right that characterised the 1920s could be eradicated, it was believed, by the application of science and technology, as Peukert put it:

Scientific management and the integration of workers into the *Werksgemeinschaft* would dissolve class conflict; pragmatic supervision by social engineers would reconcile competing special interests. This utilitarian faith in the power of science to solve social problems was evident in all areas of society.⁷⁷

One of the most important of the innovations to arrive during this period was sound film (a technique evolved from military technology to record transoceanic wireless telegraphy

⁷⁷ Peukert, *The Weimar Republic*, 115.

signals⁷⁸). The German film company Universum-Film AG (*Ufa*) sponsored one of the earliest optical soundtrack formats named *Tri-Ergon* in 1922 which became the default for German film sound production. The optical soundtrack technique worked by printing a photographic image of a soundwave onto a reserved strip at the edge of 35mm filmstock. When the film was projected, light was shone through the soundstrip onto a selenium photocell generating a variable voltage charge and a corresponding audible output. In a quest for ever greater audio fidelity the arrival of sound film further accelerated the development of peripheral audio technologies; microphones and loudspeakers. But perhaps the most significant (and overlooked) aspect of sound film was its use in sound recording: sound film was the only audio medium that could be used to edit sound – to rearrange sound outside of its ‘original time’ and recompile to create a new composition as well as the possibility to ‘mix’ to repeatedly overlay and merge into new compositions. The optical sound strip was also creatively repurposed to synthesise sound and compose music: by drawing sound wave images on the small sound-strip, complex timbres and musical pitches could be generated. The possibilities of this photo-electric technique quickly became apparent to a number of avant garde German filmmakers such as Walter Ruttmann, Oskar Fischinger and Rudolph Pfenninger (see Chapter 5.3) A new generation of ‘light synthesis’ commercial instruments were also created (Emerich Spielmann, Edwin Welte and others) where looped optical recordings of sounds were printed onto glass disks which when spun in a light beam generated continuous ‘sampled’ pitched reproductions of the original sound.

The increasing availability and affordability (for some) of domestic audio equipment provided the conditions for the development of mass media and technologically driven consumer culture. Nine years after the launch of the radio network in 1923, ownership of licensed radio sets had grown from zero to 4.2 million, meaning that around 11 million Germans were able to listen to national and regional radio broadcasts (out of a total

⁷⁸ Mielert, ‘Lichte, Hugo’ , 448.

population of 60 million) – radio had rapidly become the dominant medium for music, news and entertainment in general and were installed not just in homes but also, cafes, bars, hotels, railway stations and in public spaces (see Fig. 1.2).



Fig. 1.2. Seaside radio speakers; an example of the proliferation of radio during the Weimar Republic. Image; Siemens product brochure 1926. Siemens Historical Foundation, Berlin.

Alongside radio broadcasts, a peripheral culture of popular radio magazines and journals grew throughout Germany and this was complemented by a series of public radio-exhibitions, the largest being the annual *Berlin Funkausstellung*, showcasing the latest in radio technology, phonographs, music and radio related literature.⁷⁹ Causing a great sensation at the 1932 *Funkausstellung* was the *Elektrische Orchester* (see Fig. 1.3), the world's first orchestra assembled entirely from electronic instruments, mostly created at the *HHI*. The compere for the event, *HHI* Professor Gustav Leithäuser, introduced the benefits of electronic instruments as being cheap and simple domestic

⁷⁹ For instance, McMurray notes the public debut of the *Magnetophon* tape recorder at the 1935 *Funkausstellung* as 'the 'hit' of the show; see McMurray, 'Once upon a time', 32-3.

instruments (for *Hausmusik*) that could achieve any tone or timbre and pointed out that they could be amplified to any volume for outside use – a capability that was later exploited by the NSDAP.⁸⁰



Fig. 1.3. The electric orchestra at the Funkausstellung 1932. L to R: Bruno Hellberger and his Hellertion, Dr Reinhold on the Electric Cello, Oskar Sala playing the Volkstrautonium, Max Naranth at the Neo Bechstein Flugel, Oskar Vierling and his Elektrochord, Martin Taubman and the Electric Violin, Tscharikoff and a Theremin, unknown playing a second Volkstrautonium. Foto archiv Gerhard Steinke.

Alongside the growth in receivers and transmitters was a host of associated technology: demands in improved audio recording quality driven by both radio and sound-film industry produced the Reisz m109 carbon-granule microphone (Georg Neumann in 1923) and in 1928, the world's first commercial condenser microphone the Model M1, (later the *Kondensator Mikrofon Verstärker 3a*) produced by Georg Neumann AG Berlin (Marketed by Telefunken as the Ela M301) which became the standard microphone for music and broadcast until the 1950s. The audio quality of radio listening increased significantly in the late 1920s with the advent of affordable electronic loudspeakers. Until this point most people listened to the radio 'alone' using headphones; now, with improved affordable

⁸⁰ Donhauser, *Elektrische Klangmaschinen*, 116.

amplifiers and loudspeakers, radio listening was elevated to a social and communal activity. Telefunken marketed a new range of styled loudspeakers directly to the domestic market as well as amplification and loudspeaker designs for municipal and political uses. For the first time radio broadcasts had a much higher fidelity than gramophone recordings.

The recovering economy also gave a commercial boost to technical developments and it also increased sponsorship opportunities for the more modern and avant-garde fringes of Weimar culture. A regular fixture during this era of experimentation was the annual Donaueschingen Chamber Music Festival (1921–27) sponsored by the aristocratic Fürstenberg family. The festival was a showcase of new music ideas and instrumentation curated by a surprisingly diverse mix of modernists and traditionalist composers, amongst others Busoni, Pfitzner, Hindemith and Richard Strauss. Perhaps the most important year was the much discussed 1926 'Mechanical Music' themed festival featuring Paul Hindemith's mechanical music for Oskar Schlemmer's 'Triadic Ballet' (composed for the Welte-Philharmonie player-organ) , Ernst Toch, Gerhart Münch's work for the Welte Mignon player piano.

However, despite this flowering of modernist technological experimentation, it would be a mistake to see the Weimar period as having developed a consistent and stable cultural consensus: for every *Neue Musik Berlin* there were numerous festivals and concerts of German Music and numerous influential focal points of reactionary culture. For example, after a ten year wartime hiatus, the annual Bayreuth Wagner festival reopened in 1924. Bayreuth was to become one of the central events for reactionary opposition to liberal Weimar modernism and a sanctuary from the perceived cultural outrages of the Weimar state.⁸¹ The historical reputation of the Weimar period as a period of radical, liberal socio-cultural experimentation is often to a large extent overstated: the colourful

⁸¹ Levi, *Music In The Third Reich*, 6.

explosion of radical and avant garde art, music and design, modern culture remained an overwhelmingly middle class and urban affair, Weimar art remained overwhelmingly conservative and traditional:

Weimar's modernity was far from homogeneous. It did not consist merely of the formalist avant-garde, as writers in the 1950s argued, nor of the agitprop culture of the left, as was sometimes claimed in the 1960s. [...] Besides the avant-garde movements, traditional styles remained current in all branches of the arts and retained their pre-eminence among a wider public: avant-garde art, of whatever stripe, was a minority taste even during its own classical phase. At the representative Allgemeine Kunstausstellung in Munich in 1930, for example, modernist artists accounted for only 2% of nearly 1,000 artists showing their work, and modernist works for only 5% of the 2,700 exhibits.⁸²

In the German music press, the modernist cause was represented by *Melos* which enthusiastically championed the avant-garde and modernist works of Schönberg, Hindemith, Weill and others. However, the nationalist faction was equally passionately represented by the *Neue Zeitschrift für Musik (NZfM)* a major monthly music journal. Originally founded by Robert Schumann in 1834 with the aim of preventing the perceived decline in German Music, the *NZfM* came under the editorship of the right wing musicologist Alfred Heuss in 1921 who intensified the existing conservative position with a much more strident nationalist and racist agenda, positioning the *NZfM* as a 'journal for the spiritual renewal of German music'. The *NZfM*, which became one of the most widely read by musicians in Germany, frequently hosted anti-semitic and anti modernist articles and was seen by its readership as a nationalist bulwark against avant-garde and 'un-German' music. At the extremes of the nationalist camp and closely aligned to the *NZfM* during the late Weimar period was the *Nationalsozialistische Gesellschaft für*

⁸² Peukert, *The Weimar Republic*, 116 and 164.

deutsche Kultur (later the *Kampfbund für deutsche Kultur* or *KfdK*) formed in 1928 by the *NSDAP* member and editor of the Nazi newspaper the *Völkischer Beobachter*, Alfred Rosenberg . The *KfdK* pursued an aggressive, nationalistic and anti-Semitic policy of defending German Culture against modernist, foreign, bolshevic and Jewish influence and cited almost all of the leading modernist writers, artists and composers as legitimate targets and enemies of German Culture. The cultural policy developed by Rosenberg and the *KfdK* became the official policy of the *NSDAP* in 1924.

The rise of technology in music during the period also caused anxieties amongst professional musicians. During an already difficult period of mass unemployment, musicians and composers blamed mechanical and electronic instruments, recorded media and distributed performance media (radio and gramophone) for further threatening their livelihood. Although this was perhaps true in the case of concert hall live performances, audio technology had in fact created new and expanding markets and employment opportunities for musicians through radio and gramophone performance. More importantly, these technologies became the mechanism for the success of new genres of popular music such as jazz and schlager which opened up huge new commercial markets for musicians and composers. Radio alone was big business; it is estimated that in 1930, audiences paid 75 million RM in fees (*Radiogebühren* costing 2RM per month) and the German radio industry as a whole turned over 200 million RM worth of business. With 1,500 employees and 40,000 freelancers, the radio industry was the biggest employer by far in the field of cultural production.⁸³

Section 1.6: Conclusion

German music at the beginning of the twentieth century held a unique and prominent position in German society, a position reinforced by the institutions of *Bildung* and the

⁸³ Führer, 'A Medium of Modernity? Broadcasting in Weimar Germany', 722-53.

enduring popularity of *Lebensphilosophie*: currents of thought that both emphasised the role of *Kultur* in German life. *Kultur* to a great extent defined the 'German condition' reflecting the spiritual values and unity of the German people: Germany was the *Kulturnation*, a people united by their distinct (and superior) art, philosophy, and, primarily their music. The belief in the exceptionalism of German *Kultur* however, placed Germany in heroic conflict with what was perceived as the materialist capitalism of the competing Western nations – particularly the U.K., France and the U.S.A. – indeed the First World War was viewed by many to be a war in defence of *Kultur* from destruction by soulless Western *Zivilisation*. German Music was positioned as the primary manifestation of German *Kultur*, and as such, superior to other national musics, a conceit that was deep rooted in German thought and a critical, if sometimes unconscious influence on all Weimar era German composers – regardless of political persuasion.⁸⁴

By the end of the First World War, German Music had become an unchallengeable, elite tradition but it was also an institution that was defenceless against the current of modernity: due to the growth of commercial cultures and the 'foreign' musics associated with them, German Music became increasingly distanced from its natural audience – the German People. This dichotomous dynamic resulted in a scenario where German Music, increasingly on the defensive, represented nationalist aspirations of a *Kulturnation* while the forces of technologically mediated music were associated with *Technik* and materialism – in short, a *Kultur und Technik* dichotomy that was analogous to the Weimar republic's wider struggle in resolving the competing tensions of reactionary nationalism and modernity.

The Weimar republic itself was ill equipped to resolve this struggle: spanning a thirty years period when the global economic system was in a state of continual structural crisis, the Weimar republic was as Peukert described 'conducted under the least propitious

⁸⁴ For a detailed description of nationalism in German Music see: Potter, *Most German of the Arts*.

circumstances'.⁸⁵ The formation of the new Weimar state coincided with a global political crisis where the apparently infallible systems of capitalism, liberalism and democracy promoted by the western nations (USA, U.K. and France) were themselves on the brink of collapse. In Germany this manifest fragility, when viewed through the lens of the post-1918 national crisis of defeat, proved fertile ground for all manner of utopian dreams. Prominent amongst these were the anti-Wilhelmine *Kulturpessimismus* of the *Konservative Revolution* group espousing a reactionary nationalist revolution based on Prussian stoicism and *Bildung* ideals, the enduring influence of mystical *Lebensphilosophie* (spiritualism, Steiner's 'spiritual science' or anthroposophy, Vitalism and so-on) and the technocratic application of social rationalisation espoused by both the SPD government and the radical rightwing 'reactionary modernists' of the *Deutsche Technik* group – utopian tendencies that will be explored in Chapter 3 'Weimar Audio Utopias'. As the primary cultural expression of German thought, music became infused with the spirit of utopianism reclaiming its nineteenth century role as the spiritual vehicle for social transformation.

Despite the disruption of military defeat, post-1918 Germany remained a major, advanced industrial power. In particular, the pioneering work of Helmholtz and Koenig in the nineteenth century established Berlin as a global leader in acoustic research, a specialisation that meant consequent audio research (radio and electronic musical instruments and sound film) occurred rapidly and within a technical and academic environment – despite the limitations imposed by the *Kultur und Technik* schism, audio research was taken seriously as a scientific venture. However, the technical and economic restrictions imposed by the Versailles treaty meant that much post-war research was conducted in isolation from the rest of the world: shielded from the moderating influence of outside influence, audio research in particular developed a peculiarly German character, one that was transformed by the arguments of the day. The

⁸⁵ Peukert, *The Weimar Republic*, 276.

contrasting but interconnected concepts that determined this character – utopianism, nationalism, conservatism, mysticism and modernism and so-on – were concepts that evolved during, or were shaped by, the social tensions generated by nineteenth century industrialisation, a subject that forms the basis of the subsequent chapter: 'The Human and the Machine'.

Chapter 2: The Human and the Machine

Section 2.0: Introduction

The German people first encountered technology en-masse during the period of rapid industrialisation in the late nineteenth century – an encounter that disrupted the structure, beliefs and traditions of many people, resulting in new currents of thought that reimagined the human, individually and collectively, in relation to technology. Within a space of 30 years – roughly 1880-1910, Germany moved from a primarily agrarian society organised around traditional hierarchies into a predominantly urban industrial economy organised around industrial labour.⁸⁶ The speed and magnitude of this societal change resulted in a heightened awareness of technological modernity and established technology as one of the most significant factors in German cultural and political debates. This chapter explores these numerous 'human versus machine' philosophical, cultural and political ideas that emerged in reaction to this encounter and their influence on the music of the period. For many Germans, the rapid post-1918 rise of urban industrialised society was a cause for profound anxiety and concern: in the popular imagination large metropolitan cities, particularly Berlin, the 'locus of German modernity', were conceived of as centres of exploitation, moral, mental and physical decay, dissociated from the traditions and values of 'normal' life – anxieties that surfaced repeatedly in the art and music of the Weimar period.⁸⁷ To many in German society, modern urban life was an unnatural type of existence, a state that contrasted sharply with their concept of an ideal environment: the timeless, archetypal, mythologised agrarian life – man at one with nature in spiritual and physical harmony. Capitalist, industrialised society, it was argued, was destroying an irreplaceable Germanic way of life represented by the popular concept of the *Volksgemeinschaft*.

⁸⁶ For a discussion on the subject of German industrialisation see: Peukert, *The Weimar Republic*.

⁸⁷ Heynen, *Degeneration and Revolution*, 30.

The arrival of audio technologies – following some time after the first wave of industrialisation – were framed within the same *Kultur und Technik* dichotomy devised during the late nineteenth century. In contrast to industrial technology, audio technologies extended beyond the world of work into the world of *Kultur* and due to this expansion came to encapsulate and symbolise the contrasting fears and promises of technology as a whole. Audio technologies challenged societal norms that had been constructed historically around what Schafer called the 'human scale', which implied that the ideal society was organically defined by the range of the acoustic voice.⁸⁸ The new technologies of the radio, gramophone and amplification, Schafer argued, distorted this human scale and, by elevating one voice above the many, tended towards authoritarianism. The sudden appearance of this invasive media had a profound catalytic effect on the socio-political debates that shaped German culture and turned German Music into a prominent battleground for competing political/cultural factions. Furthermore, the emergence of audio technologies during a period of intense political instability and cultural debate, amplified their disruptive effect on German society: audio technologies questioned the ownership, management and control of 'culture', the very form of German Music, polarised the divergent positions in the *Kultur und Technik* debate and ultimately challenged the concept of 'German-ness'.

The *Kultur und Technik* schism – essentially an attempt to make sense of the new machine age – produced a range of ideological responses to technology: outright rejection, cautious acceptance and, somewhat rarely, optimistic enthusiasm. This broad range of conflicting attitudes meant that technological modernity became one of the primary defining characteristics of Weimar politics. German opinion diverged in numerous

⁸⁸ The ideal community, Schafer argues, was limited to 5,040 members, the number that can be conveniently addressed by a single orator. Schafer, *The Soundscape*, 215-16.

socio-political directions which, despite their mutual political antipathy, generally contained both technologically positive or pessimistic tendencies⁸⁹. Roughly speaking, these two strands of thought can be defined as follows: the techno-pessimists who rejected modernity as inherently and irreconcilably anti-human, and advanced a return to a pre-modern condition, and, the techno-optimists who proposed that the pathological human response to modernity was the result of the current form of exploitative modernity which could be resolved by a rational re-appraisal of technology. These two tendencies further diverged across the political divide: techno-pessimists were to be found on the right, in *Bildung*, *Vitalism* and *Lebensphilosophie*, and on the left, in the form of the left *Kulturkritiker* such as Adorno, Kracauer and Benjamin. Techno-optimists on the right were represented by the capitalist-rationalists, the anti-capitalist 'reactionary modernists' and the new urban consumer middle classes, and, on the left by the modernists and elements of the social democrats.

In this chapter I will examine how these conflicting but often overlapping human-technological concepts formed the background to the perception and understanding of technology, and in particular how they determined the trajectory of technological development and the use of audio technology in music. I will argue that the conflict between the human and the machine was critical in the development of new ideas concerning technologically enabled individualism, anxieties about human agency and society and the human as a collective mass – ideas that had a fundamental impact on the culture and politics of the Weimar era and the subsequent transition to the Nazi state.

This chapter is structured around the examination of five prominent concepts generated by the human-technological collision: Section 1, 'Decay', examines the theme of

⁸⁹ Ash, 'Weimar Psychology: Holistic Visions and Trained Intuition', 35.

degeneration, a concept that lay at the centre of German social and musical thought. Section 2, 'The Nervous State', explores the evolution of psychological theories in reaction to technology and modernity and how concepts of experience (*Erlebnis*) and machine influence evolved. Section 3, 'Geist', describes the irrational/rationalist conflict precipitated by industrialisation and, in this study, by audio technology that resulted in opposing spiritualist/materialist tendencies. Section 4, 'The Enhanced Body', explores techno-positivist ideas of the human in alliance with the machine and particularly its impact on German Music. Finally, section 5, 'The Self', examines the changes in the perception of the self in relation to the technological – specifically audio-technological – world.

Section 2.1: Decay

During the first decades of the twentieth century the idea of cultural and social degeneration and 'decay' emerged as a central concept in the socio-cultural debates of the period. The 'decay' theory argued that the German nation had reached a cultural apogee sometime in the early nineteenth century and was now in a state of moral, physical and cultural decline. This degeneration, it was argued, could be witnessed in the physical health of the German people, in the social and political chaos that followed the First World War, but also in the 'degenerate' state of German Culture and specifically German Music. Blame for this societal decay was attributed to the pernicious effects of technological modernity, a belief that was maintained across the political divide: the right seeing technology as a cause of spiritual corruption and the left as the mechanised exploitation of the working classes.

Around this time the concept of the *Volkskörper* emerged – literally the 'people's body' which sought to standardise and measure the effect of decay. This concept re-imagined

the German nation as a biological unit and allowed the health of the nation to be visualised and assessed in the same way as an organic body. Once positioned as an idealised biological entity, the metaphor was extended to include other semi-scientific concepts of hygiene, disease and race. The *Volkskörper* was strongly linked to the idea of the ' *Volksgemeinschaft*' and the ' *Volk*',⁹⁰ both concepts that began as metaphysical ideas in the late nineteenth century but by the twentieth century had assumed a much more concrete and political role in German thought.

One of the earliest (1892) commentaries that attempted to define and categorise the causes of decay was, ironically, given by the Jewish Zionist writer Max Nordau in his book 'Degeneration' (*Entartung*) which delineated social-degeneration ideas common in the late nineteenth century. Nordau, through 'scientific criticism', was able to 'prove' that modernity had a damaging effect on the human body.⁹¹ The growth of irrationality and amorality – exemplified by the growth of practices such as spiritualism and 'degenerate' culture' (Nordau lists Wagner, Nietzsche, Schiele, Wilde, Ibsen and many other late Nineteenth Century artists as examples of cultural degeneracy) – Nordau argued, was the result of an exposure to 'excessive' technological modernity which ultimately threatened to return Europe to a state of pre-enlightenment irrationality: 'Minds overtaxed by the complexity of civilization and the hurry of modern life are tending to lose the faculty of clear sober thought'.⁹² Nordau's critique of modernity was, in contrast to later critics of 'decadent' modernism, a defence of enlightenment rationalism – a rationalism endangered by the seductive distractions of superficial modernity. Despite this, his definition of 'decay' provided material and inspiration for anti-rational, anti-enlightenment tendencies typified by the Neo-Vitalists and Biocentrists of the early

⁹⁰ The word ' *Volk*' in early twentieth century usage is loaded with meaning, describing not just a 'people' but a mythical, racial community see: Heynen, *Degeneration and Revolution*, 4.

⁹¹ Nordau, *Degeneration*, viii.

⁹² J. A. , *Max Nordau's Degeneration*, 504.

twentieth century (see 2.3 'Geist'). Nordau's innovation was the idea that a healthy nation could be maintained through active social intervention: a healthy and pure *Volkskörper* was only possible if it was biologically purged of 'decay' through civic action.⁹³ Föllmer argues that this interventionism led to a 'widespread belief in the possibility of eliminating society's problems through intervention, for instance through science and social work'.⁹⁴ This tendency emerged during the 1920s where Nordau's ideas combined with new concepts of scientific management and rationalisation to define social welfare policy, cultural policy, labour relations, urban planning, and a host of other social policy practises.⁹⁵

After the shocking defeat of the First World War, the concept of decay was reanimated by writers such as the left-wing philosopher Ernst Bloch and the right wing theorist Oswald Spengler, whose highly influential best selling work *Der Untergang des Abendlandes* ('The Decline of the West' 1918) built on Nordau's theories of degeneration within the context of German defeat. Western culture, Spengler suggested, was at a natural end and would be superseded by a new age of mechanised *Zivilisation*.⁹⁶ Spengler's book inspired new attempts to defer and mitigate the effects of this inevitable collapse.⁹⁷ The apparent weakness of the German *Volkskörper* provoked demands for a complete reassessment of German society and the German body itself. The first decades of the twentieth century was a period defined by a tendency to medicalise and biologise social issues: The concept of the *Volkskörper* was extended to encompass concepts of hygiene such as *Volkshygiene* ('people's hygiene') , *Sozialhygiene* ('social hygiene') , or *Rassenhygiene* ('racial hygiene'). Social intervention was required, it was argued, to maintain Germany's

⁹³ Heynen, *Degeneration and Revolution*, 5.

⁹⁴ Föllmer, 'Which Crisis? Which Modernity?', 21.

⁹⁵ Heynen, *Degeneration and Revolution*, 4.

⁹⁶ Spengler, *The Decline of the West*.

⁹⁷ An example of anti Spengler literature is Montanus, *Die Rettung des Abendlandes: eine Nibelungen Geschichte aus der Gegenwart* (1921).

biological and racial purity.⁹⁸ This shift in definition led directly to the antisemitism and eugenicism that originated during the Weimar period but was enacted during the Third Reich. With the idea that the post-war weakness in the pure German *Volkskörper* derived from non-German sources, attention focussed primarily on the German Jewish population as the primary source of this impurity. Antisemitism had of course existed in Germany for many centuries; however, Jewishness in the early twentieth century became specifically associated, in conservative and nationalist circles at least, with industrial modernity, capitalist exploitation and the dilution of German *Kultur* through importation of foreign cultural modes, and therefore to decay provoked by modernity.

The biological health of the *Volkskörper*, it was argued, could be measured through a nation's culture. German Music, so central to the German psyche, was used as a barometer for the state of the spiritual and cultural racial-physical health of the nation. A prominent example of this biological-cultural conflation is provided by the nationalist composer and critic Hans Pfitzner who in 1920 wrote that:

The national art is the noblest part in the organism of the national body. Tell me what kind of art flourishes in the people and I will tell you what the health of the people is like. All the good diagnosticians of the giant organism of a nation or religion have taken art issues seriously.⁹⁹

In this way, German Music and culture in general became subsumed into the biological definition of the German nation: in the same way that the national-biological *Volkskörper* had been racialised, the *Volkskörper* as a cultural phenomenon had now also become

⁹⁸ Heynen, *Degeneration and Revolution*, 4.

⁹⁹ Pfitzner, *Die Neue Ästhetik der Musikalischen Impotenz; ein Verwesungssymptom?*, 125.

racialised and the arguments for cultural decay followed a similar trajectory. According to this cultural-musical barometer the quality of German Music had peaked sometime after the death of Beethoven in 1827 and since then was in terminal decline. This musical decay, it was believed, was due to physical and moral decline – for instance, the fact that a new Beethoven had not emerged to revitalise German Music, as was hoped by many in the early twentieth century, was put down to an impurity in the *Volkskörper* i.e. a physical weaknesses and weakness of spirit in the German people themselves.¹⁰⁰ Once again the attention shifted to Jewish German musicians and composers who were blamed for importing non-German, decadent musical viral strains into the German *Volkskörper*. In a similar way that the Jewish population had become associated with 'unhealthy' modernity, Jewish musicians became associated with musical modernism i.e. musical intellectualism, atonality and jazz amongst others. Jews, it was argued, could make accurate imitations, but were unable to create original German music and art and therefore they were ultimately incompatible with German *Kultur* – and by extension, the German nation itself.¹⁰¹

An example of this racist discourse is provided again by Pfitzner in 1930 who, after Wagner, became one of the most prominent musical commentators to advance and theorise the racial antisemitic aspects of decay in the twentieth century. Searching for an explanation for the national catastrophe of Germany's defeat in 1918, Pfitzner equated artistic decay with national disintegration. In *Die Neue Ästhetik der Musikalischen Impotenz. Ein Verwesungssymptom?* ('The New Aesthetic of Musical Impotence - A Symptom of decay?'), Pfitzner argued that German Music was under siege from a conspiracy of international Jewry allied with modernist atonality and musical Bolshevism.¹⁰² Pfitzner's concepts of racially driven cultural decay were absorbed into the

¹⁰⁰ Potter, *Most German of the Arts*, 203.

¹⁰¹ For instance, Karl Storck's treatment of Mahler in 'Die Musik der Gegenwart' (1922), *Die Musik*. Cited in: Levi, *Music in the Third Reich*, 5.

¹⁰² Levi, *Music in the Third Reich*, 4.

mainstream of conservative/Nationalist cultural theory.¹⁰³ Despite his attempts at drawing a distinction between pernicious international jewry and patriotic German Jews, Pfitzner's work became, according to Levi, one of the major theoretical works to influence Nazi musical aesthetics.¹⁰⁴

The proponents of the cultural decay theory negatively positioned audio technologies as one of the leading vectors of degeneration – and with good reason: the unpredictable and uncontrollable forces unleashed by audio technologies challenged the *Bildungsbürgertum* hegemony over German Music. Left with no practical response to combat this overwhelming technological challenge, the conservative establishment positioned audio technology within the familiar negative narrative of cultural and racial decadence. Audio technologies introduced the foreign and corrupting elements – the 'soulless American machinism' of Pfitzner¹⁰⁵ – that the conservative proponents of 'decay' had warned about i.e. the primitive, sexualised and seductive beats of jazz, the vulgar saccharine populism of schlager and the intellectual anti-art of 'jewish' and 'bolshevik' musical modernism.

Attempts were made to reverse the incursion of technology into the sacred centre of German *Kultur*. Initially this was achieved by simply ignoring the existence of the radio and gramophone industry and through an informal boycott of recordings and live broadcasts.¹⁰⁶ Soon, however, the economic benefits of technology overcame these initial objections and the *Bildungs*-establishment began, where they could, to use technologies in a defensive manner in what could be termed 'defensive modernism'. A prime example

¹⁰³ Notably through the writings of Reinhold Zimmermann ('Der Geist des Internationalismus' in *der Musik* 1920), Karl Storck ('Die Musik der Gegenwart in Geschichte der Musik' 1922), Hans Joachim Moser ('Geschichte der deutschen Musik 1922-4'), and Heuss' *Neue Zeitschrift für Musik*.

¹⁰⁴ Levi, *Music in the Third Reich*, 4.

¹⁰⁵ Pfitzner, *Gesammelte Schriften*, vol. II, 117.

¹⁰⁶ Waltershausen, 'Allgemeine Musikalische Probleme des Rundfunks', 302.

of this was the reactionary policies of the newly established German radio network (1923) to both quash the growth of radical free radio networks and also to consolidate the social and cultural hegemony of *Bildungsbürgertum*.¹⁰⁷

From a conservative and nationalist perspective modernism was living proof of the corruption of national culture; and conversely from a progressive viewpoint, modernism was a natural evolution superseding an ossified, decayed, traditional culture. Decay and degeneration remained within the German discourse until the end of the Second World War – with the most infamous use of the term was in the Nazi exhibition of *Entartete Kunst* (1937) and *Entartete Musik* (1938) where racialised versions of Nordau's theories were used to isolate, ridicule and ultimately, legislate against 'degenerate' movements in German art and music. 'Decay' however also remained at the core of the thinking of left *Kulturkritiker* who argued that the cultures of commercial modernity were the cause of the degeneration of German art – for instance, Adorno, who argued that mass produced music and some modernist music 'decomposed' German Music. The perception of the fragility of German art and music and its tendency towards degeneration if left unprotected, was therefore, central to the thinking of both the left and the right and a primary inspiration of the *Kulturpolitik* of the period.

Section 2.2: The Nervous State

The growth of the technological world began to challenge established ideas of human agency and of human perception – both from a formal philosophical standpoint and more widely in informal ideas that were engendered by technological anxiety. Technology allowed the human to be redefined in relation to a machine; as such, it was similarly vulnerable to manipulation and breakdown – a comparison that gave rise to a new

¹⁰⁷ Saldern, *Volk and Heimat Culture in Radio Broadcasting during the Period of Transition from Weimar to Nazi Germany*, 320-322.

understanding of the human as an organism that operated in response to external influences and 'nervous suggestion', rather than a being motivated only by its soul and an ingrained sense of morality. In this section I will analyse the concepts current during the early 20th century that warned against the erosion of human agency caused by 'nervous' modernity. I will also explore similar ideas about technological manipulation and the attempts made by some to engage with political and commercial communication based on mediatised suggestion, ideas that led, I will argue in chapter 5, to the 'myth-image' politics of the Nazi era.

For a period starting in the 1880s being 'modern' was synonymous with being 'nervous'.¹⁰⁸ Friedrich Nietzsche described the condition in 1880: 'The whole burden of culture has become so great that there is a general danger of over-stimulation of the nervous and thinking capacity.'¹⁰⁹ This nervous bodily reaction to modernity threatened to destabilise the very industrial growth that precipitated the condition. In response, from around 1900, the Wilhelmine state initiated a process of reforms designed to ameliorate the impact of the transition to modernity. This state intervention manifested in the creation of a number of social security and medical support schemes for the newly mechanised workforce, a precursor to the 'rationalisation' of the 1920s which, according to Killen, attempted to 're-make German society along more rational lines'.¹¹⁰ An outcome of this social-medical project was the realisation that the workforce was suffering from a previously unknown, mass-nervous condition termed 'neurasthenia'. First identified by the American physician George Miller Beard in 1869, 'Neurasthenia' was a catch-all diagnosis directly linked to the experience of modernity and particularly to workers' interaction with technology during the period of rapid industrialisation.¹¹¹ Neurasthenia experts pointed to the overwhelming acceleration, amplification and proliferation of

¹⁰⁸ Killen, *Berlin Electropolis*, 1.

¹⁰⁹ Nietzsche, *Human, All Too Human*, 116.

¹¹⁰ Killen, *Berlin Electropolis*, 2.

¹¹¹ *Ibid*, 4.

media information provided by telegraph, radio and press as a key example of the 'stress of modernity'.¹¹² Neurasthenia became a diagnosis, not just for people, but for their time: the first decades of the twentieth century in Germany became known as the 'Nervous Age'.¹¹³ The human in conflict with the machine was itself re-imagined in technological terms: individuals and society at large took on the attributes of mechanical failure, of breakdown and malfunction – Beard himself stating that 'Men, like batteries, need a reserve force, and men, like batteries, need to be measured by the amount of this reserve, and not by what they are compelled to expend in ordinary daily life'.¹¹⁴ This new image of the human led both to machine-centric diagnoses and cures (electro-convulsive therapies, electric baths etc.¹¹⁵) and ultimately, to macro-sociological 'cures' that saw technology as the solution for biological imperfection such as the scientific-management concepts of a technologically re-organised society.

The theoretical basis for these biological failings was based on the belief of the individual's finite reserve of 'nervous energy' which, it was believed, could be expended, reinvested or wasted:

Work and procreation were seen as examples of the expenditure of nervous energy. Masturbation and illicit forms of sex were seen as an expenditure of nervous energy without any parallel reinvestment. The fear of dissipation was based on the possibility of dispersal of nervous energy and irreplaceable expenditure, capable of leading to decadence, deterioration of the nerve centres of the individual and, in a worst case scenario, the decrepitude of civilization ¹¹⁶

¹¹² Sconce, *The Technical Delusion*, 16.

¹¹³ Schmiedebach, *The Public's View of Neurasthenia in Germany*, 219.

¹¹⁴ Beard, *American Nervousness*, 11.

¹¹⁵ Killen, *Berlin Electropolis*, 51.

¹¹⁶ Zorzanelli, 'Fatigue and its Disturbances', 608.

The concept of 'nervous energy', a mysterious force that could be saved, expended or lost, was closely modelled on the mysterious force of electricity – batteries, generators and the telegraph – as an analogue of the nervous system, while the decline of the individual was linked to the decline of civilisation and to the *Volkskörper*.¹¹⁷

The Great War or *Materialschlacht* ('technological war') where the vulnerable human body first came up against new technological weaponry and techno-logical organisation (radio, telegraph, acoustic ranging systems etc) was followed by an epidemic of neurosis, an accelerated equivalent to the disturbance caused by the initial industrial encounter with technological modernity. This shock encounter resulted in anxieties about the unconscious influence of unseen powers: the dislocated voice of radio was linked to the imagined voices heard by the neurotic patient who complained that the radio was silently communicating instructions or monitoring their thoughts.¹¹⁸ Similarly, the journalist A.K. Fiala described the common belief that the radio has the potential to transmit thought (see Fig. 2.1):

[...] due to the dramatic improvements of radio technology, the realisation of the following idea now appears quite possible: i.e. to generate and transmit ether waves of particular frequency and specific character which enter into human brains and into centres of consciousness to such a degree that they impose upon the activities of an average human brain and paralyse any intentions.¹¹⁹

¹¹⁷ Ibid, 608-9.

¹¹⁸ Sconce, *The technical delusion*, 53.

¹¹⁹ Fiala, 'Elektrophysiologische Zukunftsprobleme', 206.

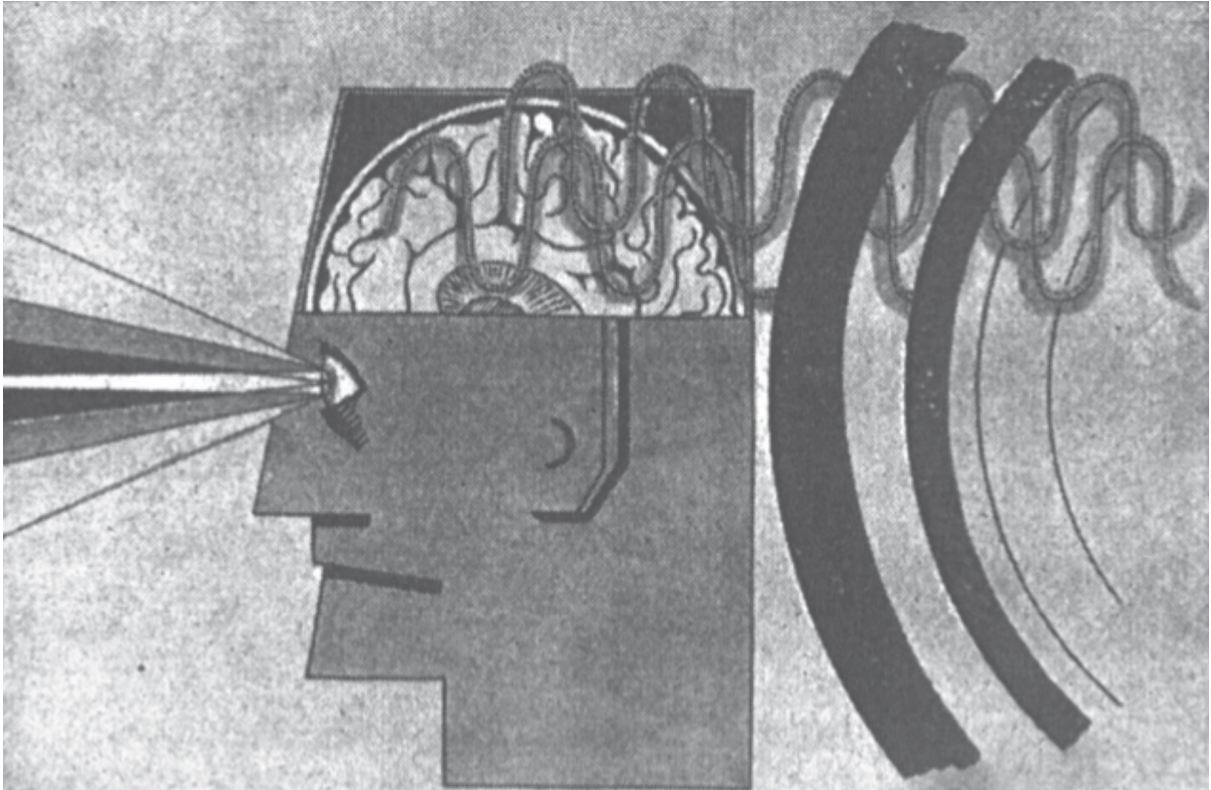


Fig. 2.1. Remote control of human beings through radio waves. A.K. Fiala, 'Elektrophysiologische Zukunftsprobleme', 206.

The subconscious influence of thought through technology began to interest political commentators and artists working in the new field of advertising. Restoring the *Lebensphilosophie* idea of *Erlebnis* or the 'lived experience' (i.e. a fundamental truth revealed through an experience unmediated by rational examination), a message transmitted through a combination of image and sound, it was argued, could bypass the critical facilities to appeal to the corporeal 'nervous' system leading to an efficient and practical means of creating a 'better person' or of selling a product, or in the case of Jörg Mager and Kurt Weill, the belief in societal change through the exposure to technologicised music – see chapter 3.



Fig. 12

Fig. 2.2. Fritz Pauli's 1926 Persil advertisement storyboard explaining his ideas of repetition and 'resonance'. Pauli, *Rhythmus und Resonanz*, 27.

This concept of nervous influence was the central element in the works of Guido Seeber and Julius Pinschewer's 1925 Kipho advertisement Films (Portmanteau of *Kino und Photo*). The Kipho advertising films became orchestrated sequences of repetitive movements that aimed to have a psychological hypnotic effect on the viewer by exploiting the connection between editing and the abstract qualities of musical rhythm (see Fig. 2.2) – a new type of work that refashioned film into a 'rhythmical art analogous to music'.¹²⁰ Seeber and Pinschewer based their ideas on the work of the advertising

¹²⁰ Cowan, 'Advertising, Rhythm, and the Filmic Avant-Garde in Weimar', 31.

psychologist Fritz Pauli who argued that the functions of the human body corresponded to a mechanical gearing mechanism: '[We] must imagine the sensory organs of the eye and the ear as continuously rotating and precisely measured cogwheels' and that a sympathetic sequence of repetitive images would be the most effective means of influencing consumer attention– an efficient and exploitable sympathetic resonance Pauli called *Resonanzzwang*.¹²¹ This combination of mediatised rationalisation-style efficiency and *Erlebnis* aimed at an audience habituated to the immediate absorption of image and sound was exploited by the visually and musically rhythmic and repetitive advertising of the period but it also complemented the needs of the NSDAP who's philosophy, built on mythic concepts and imagery, required a method of symbolic communication that bypassed rational interrogation – the 'aesthetic politics' of the NSDAP explored in Chapter 5.

Section 2.3: Geist

The ideas that formed around electricity and technology during the early twentieth century were derived from an amalgamation of diverse and often opposing sources; novelty, scientific enthusiasm and industrial ambition combined with romantic mysticism rooted in the supernatural. The growth of spiritualism and similar mystical genres (Spiritualism, Monism, Mesmerism, Theosophy, Anthroposophy, Mazdaznam, Biocentricism and Neo-Vitalism amongst many others that became popular in post-war Germany) was an 'irrational' movement that occurred simultaneously with a period of 'materialist' technological and scientific innovation. In this section I will explore how mystical ideas and ideas of the human 'spirit' evolved from the early 'biological' encounter with technology, how they affected the perception of audio technology and, ultimately, how they contributed to the pivotal debate about *Kultur und Technik* which defined cultural and political thought of the period.

¹²¹ Pauli, *Rhythmus und Resonanz*, 37.

Recent studies show that the 19th-century rise of the occult was closely connected to the rise of technology. Distinct connections were made between electrical power, telegraph networks, and the human body as a physical as well as a spiritual object: spiritualism, for instance, has been shown to have developed in reaction to the appearance of the telegraph.¹²² Kittler suggested that 'the invention of the Morse alphabet...was promptly followed by the tapping spectres of spiritistic séances sending their messages from the realm of the dead.'¹²³ In 'Haunted Media' Sconce argues that spiritualism was a logical extension of the telegraph's spiritual characteristics:

Talking with the dead through raps and knocks, after all, was only slightly more miraculous than talking with the living yet absent through dots and dashes; both involved subjects reconstituted through technology as an entity at once interstitial and uncanny. Spiritualism attracted the belief of many converts because it provided a technically plausible system of explanation for these seemingly occult occurrences.¹²⁴

The 'spiritual telegraph' became a term commonly used within spiritualist circles to describe the system of spiritual telecommunications in the afterlife based on a telegraphy of disembodied electrical charge: 'We are negative to our guardian spirits; they are positive to us. The whole mystery is illustrated by the workings of the common magnetic telegraph. The principles involved are identical.'¹²⁵ Indeed, many patented devices were constructed with the intention of connecting the 'earthly' telegraph with the spiritual

¹²² Enns, 'Spiritualist Writing Machines', 1-27.

¹²³ Kittler, *Gramophone Film Typewriter*, 12.

¹²⁴ Sconce, *Haunted Media*, 28.

¹²⁵ Sconce, *Haunted media*, 30.

telegraph: Pease's *Spiritual telegraph dial* (1860), Wheatstone's 'Alphabetical' or *ABC telegraph* (1840) and Hare's *Spiritoscope* (1855).¹²⁶

The enigmatic energy that was said to flow through this organic telegraphic system was the neurasthenic power of 'nervous energy': a neuro-organic medium that controlled the wellbeing of the individual and a direct analogue of the mysterious electrical forces of volts, watts and amperes which flowed through the mechanical telegraphic system. Attempts were made during the mid nineteenth century to explain this invisible 'nervous' energy and by doing so, to provide a general theory of organic life and reproduction. The new interest in the occult and the spiritual triggered by the rise of electromechanical technology provided one model for this undertaking and resulted in the emergence of theories such as Vitalism. Vitalism proposed that a type of life-energy permeated and influenced all living, organic things – in essence a 'scientific' equivalent of the soul. Although many Vitalists argued that processes of life were essentially unknowable and could not be reduced to a mechanistic process, technology could be used to prove their beliefs and provide a prosthetic link to the spirit world.

In Germany during the 1880s, supporters of Vitalism aligned themselves with a neo-romantic worldview, a position that favoured emotional response and '*Geist*' over the apparent rationality of the enlightenment. In Germany in the early 1900s, Vitalism – through the works of Dilthey, Klages and Uexküll – evolved into a distinctly political and racialised form known as *Lebensphilosophie*, a broad biopolitical critique of rationalism that had an immense impact on German cultural and political thought during the first half of the twentieth century.¹²⁷ A full definition of *Lebensphilosophie* is beyond the remit of this study, but, in brief, it can be considered as a distinctively German cluster of concepts

¹²⁶ Enns, 'Spiritualist Writing Machines', 10-13.

¹²⁷ Lebovic, *The Philosophy of Life and Death*, 69.

united around a common opposition to rationalism, intellectualism, scientism, moralism and a materialistic world view. Instead, *Lebensphilosophie* offered an alternative philosophy that promoted the primacy of direct experience: intuition, instinct, drive and will, rather than Kantian abstraction or positivist reductionism. The concept of the 'lived experience' or *Erlebnis*, defined by the philosophers Simmel and Dilthey in the 1870s, was to have a particular impact on musical aesthetic theory during the Weimar and Nazi periods.¹²⁸ Music, and specifically German 'absolute' Music, as the least tangible, most abstract of the arts was thought to be the perfect vehicle for *Erlebnis*. The shared, communal 'lived experience' unmediated by rational analysis (and by technological processes) was, in the neo-romantic worldview, the ultimate musical experience, one that connected the audience with the sublime spirit of nature and revealed a universal truth – in the nationalist imagination – the universal truth of Germanic *Volks* consciousness. The truth communicated through the immediacy of *Erlebnis* could not be understood except through direct experience: it was untranslatable, irreducible and unrecordable and therefore in conflict with the type of materialist investigation of Helmholtz and others (see Chapters 4 and 5).

The celebrated physicist and acoustician Hermann Von Helmholtz was one of the most tenacious late nineteenth century opponents of the Vitalist and neo-romantic worldview. Helmholtz argued in support of his positivist position by drawing direct parallels between the outer technological world and the inner biological body: as Lenoir writes, 'Helmholtz conceived of the nervous system as a telegraph— and not just for purposes of popular presentation. He viewed its appendages—sensory organs—as media apparatus'.¹²⁹ The organic living body was not, he argued, controlled by an unseen vital force but the product of measurable, rational, electro-mechanical processes and the human condition therefore a collection of knowable processes rather than the Vitalist's metaphysical

¹²⁸ Dilthey, *Das Erlebnis und die Dichtung*, (1922).

¹²⁹ Lenoir, 'Helmholtz and the Materialities of Communication', 185-86.

primacy of the individual's lived experience (*Erlebnis*). Helmholtz's pioneering research into the measurement of perception laid the foundations for the new science of psychology, and importantly for this study, the science of acoustics, with the hugely influential publication of '*Die Lehre von den Tonempfindungen als physiologische Grundlage für die Theorie der Musik*' ('On the Sensations of Tone as a Physiological Basis for the Theory of Music' 1863) which laid out the fundamentals of acoustics, but also suggested the possibility of the electro-acoustic synthesis of musical sound. Helmholtz's work on the perception of musical sound radically challenged the Vitalist notion that the music was an irreducible, spiritual phenomenon, a direct inspiration from God rather than the stuff of mere human, material creation. Instead music was simply a collection of predictable, measurable tones, overtones and timbres organised by the human hand and mind.

Despite these advances in the material explanation of physical phenomena in Weimar Germany, mysticism and the supernatural continued to provide for many, a way to rationalise their relationship with the complex, unfamiliar and sometimes oppressive nature of the new technological world. This 'mystical' discourse, combined with Vitalist and *Volkisch* ideas, led to a divergent set of beliefs. Represented by the contrasting characters of the writer Ernst Jünger (1920 onwards), the *Deutsch Technik* group (1930s) and Goebbels' *Stählerne Romantik*, the techno-positivist factions tried to reach a compromise with technology within the limitations of neo-romantic thought. The other techno-pessimistic tendency, represented by conservative nationalists and the *Volksisch* Nazi factions, pursued a direction that rejected technological modernism and sought instead to bring about a return to a pre-industrial idyll based on the concepts of the *Volksgemeinschaft*.

A prominent exponent of *Volkisch* techno-pessimism was the philosopher Ludwig Klages who, writing in 1929, clarified what he saw as an irreconcilable dichotomy between spirit and rationalism in his '*Geist als Widersacher der Seele*' ('The Mind as the Opponent of the Soul'). Klages argued, in brief, that these polar concepts are mutually incompatible and that the only hope for human redemption lies in a return to a pre-modern rural idyll where humans could reconnect with the soil and the *Volk*. Klages provided the intellectual superstructure for reactionary ecological 'back-to-nature' movements such as the *Wandervögel*.¹³⁰ But also, through his indictment of reason and *Volkisch* promotion of nature, as Mosse asserts, Klages arguably became 'an intellectual pacemaker for the Third Reich' who 'paved the way for fascist philosophy' – a legacy that can be seen in the 'Blood and Soil' mystical Nazism espoused by Richard Darré and the cultural racism of Alfred Rosenberg's *KfDK*.¹³¹ Despite Klages' post-Second World War reputation, he had a wide influence on the Weimar generation – particularly on Walter Benjamin, who admired and absorbed many of Klages' ideas and language, most conspicuously Klages' concept of image and symbol that provided the foundation of Benjamin's concept of 'aestheticised politics'.¹³² (see Chapter 5).

The techno-positive factions represented most prominently by the *Deutsche Technik* group were led by Fritz Todt and Gottfried Feder during the 1930s into Nazi era, who pursued a distinctive strand of *Volkisch* technocratism that attempted to resolve the 'spiritual' antipathy to technology. This could be achieved, they argued, by synthesising a new *Kultur*: a combination of technology, art and nature into a collective whole.¹³³ Todt proposed that the soul-less, capitalist materialism of the Weimar state and the western nations could be avoided by emphasising the role of the artist rather than capital. This new *Kultur* would reflect 'the deeper and spiritual movement of the National Socialist

¹³⁰ For example *Man and Earth* – an essay written by Klages for the Meissner gathering of the *Wandervögel* in 1913: Klages, *Sämtliche Werke*, 614-630.

¹³¹ Mosse, *The Crisis of German Ideology*, 211.

¹³² Lebovic, *The philosophy of life and death*, 10.

¹³³ Guse, 'Nazi Ideology and Engineers at War', 152.

revolution...a psychic and cultural renovation of the German citizen¹³⁴ – in other words, integrating technology into the myth of the *Volksgemeinschaft*. Todt's vision was essentially a neo-romantic reinterpretation of the principles of rationalisation which allowed for a paradoxical alliance between modernity and Nazi mythic anti-modernism. The same trajectory of 'irrational rationalisation' was espoused by Ernst Jünger, a member of the *Konservative Revolution* group during the Weimar period, who envisioned a near-future where the biological human developed with technology into a totalitarian society of man-machine hybrids (see 'The Enhanced Body' below). The techno-positivists on the political left also pursued a type of alliance between the spiritual and the material through technology: amongst a number of examples explored later in this study (see Chapter 3) was the Weimar minister of education and radical socialist Leo Kestenberg. Kestenberg believed deeply in the intrinsic ability of the power of music to be able to not just unite people but to also remodel society through a spiritual shift in the individual. The vector for this social transformation was musical technology, a medium that would reconnect German Music to its rightful owners: 'the people'. From his position at the Prussian cultural ministry in 1926, Kestenberg established educational reforms and new institutions (such as the *Rundfunkversuchsstelle*) that aimed to bring about this cultural revolution.

Audio technology arrived in a world largely defined by these conflicting mystical ideas derived from nineteenth century romanticism and could be viewed as a supernatural device that connected the human to the occult, or, conversely as a soul-less, soul-destroying machine that blunted the human to the natural world of the spirit. A mystical explanation for radio connected it with the ether, a mysterious medium of classical myth. Radio carried a disembodied, invisible voice through the 'ether' allowing sound to penetrate through stone walls into the previously private sanctity of the family

¹³⁴Todt quoted in: Guse, 'Nazi Ideology and Engineers at War', 153.

home. Amplifying this almost supernatural ability was the fact that the inner and outer workings of radio were in themselves mysterious, unknowable and unseen. The sense that audio technology was linked to the spirit world was exacerbated by what could be described as the 'anxiety of reproduction'. The reproductive sound recording process itself was charged with an occult legacy: Edison's original intention for his device was not to reproduce music, but to record voices of the living at the end of their lives for posterity – a kind of audio graveyard. 'Speech has become, as it were, immortal' Edison said – an idea repeated in 'His Master's Voice' logo where a grieving dog is pictured being comforted by the faithful reproduction of his dead master's voice.¹³⁵

Radio, gramophones, cinema and photographs are instruments of extension, reproduction and duplication, changing and extending human experience from an organic temporal state into something dislocated and analogous, or what François Bayle coined as the 'Acousmatic' – the sound one hears without seeing its originating cause.¹³⁶ In this way, the recorded voice can be seen as a type of technological doppelgänger, a 'psychic simulacrum of the self that moves through the world on its own eerie accord.'¹³⁷ The reproduction process, itself mystical and beyond common understanding, removes a part of the subject and sets it loose on the world, out of time and place and beyond control. Reproducing and distributing recorded copies also seemed to diminish the original subject through a process of dilution and iterative reduction – a concept that resulted in concerns that mechanical reproduction of music reduced the value of the original and a concept famously developed later by Walter Benjamin in *The Work of Art in the Age of Mechanical Reproduction*.

¹³⁵Albera, 'Thomas Edison, le Royaume de l'au-delà', 186-7.

¹³⁶Collins, *Uncanny Modernity*, 97.

¹³⁷Davis, *Techgnosis*, 90.

When electronic musical instruments were first witnessed they were likewise linked to the 'ether world' – the strange electronic sounds seemingly conjured from nowhere via the performer as a medium, suggesting to many the supernatural origins of the music (pythagoras and the music of the spheres, for instance). The original term for electronic musical instruments was 'ether-wave instruments' and the music they produced was called 'Aetherwellen-Musik' or 'ether-wave music' (the term 'electronic music' only came into common usage in the 1950s with WDR and 'elektronische musik'). Likewise, the figure of the electronic performer was commonly compared to that of a magician. For instance, a contemporary description of the electronic instrument pioneer Jörg Mager stated:

He's called Jörg Mager, but today they just call him the "magician" and they quite hit the nail on the head...we really thought we had a modern wizard in front of us, however, he does not work with alchemical formulas, but rather deals with music like an artist with wires, apparatuses and rotary knobs.¹³⁸

The press at the Darmstadt launch of Mager's new *Partiturophon* in 1930 wrote that the 'magic organ' (*Zauberorgel*) brought the listener into a new, unexpected, almost unearthly musical realm'.¹³⁹ Mager himself suggested that the creation of the feeling of the supernatural was down to a biological connection between electronic sound waves and human emotion, proposing a connection between radio-electricity and the electrical impulses of the nervous system. Mager dreamed of the establishment of a new society inspired by music, but only this new type of 'nerve' sound, he insisted, was able to bring about the new utopia:

¹³⁸ N.A, 'Ein Magier der Töne', 6.

¹³⁹ Schenk, *Jörg Mager, dem Deutschen Pionier der Elektro-Musikforschung*, 16.

Could any other technology bring about this new era other than radio-electricity? Only through radio-electricity is the nerve of music, the fluidity of sound waves, exposed like no other technique, reacting sensitively (*'mimosenhaft'*) to the subtlest vibrations of feelings.¹⁴⁰

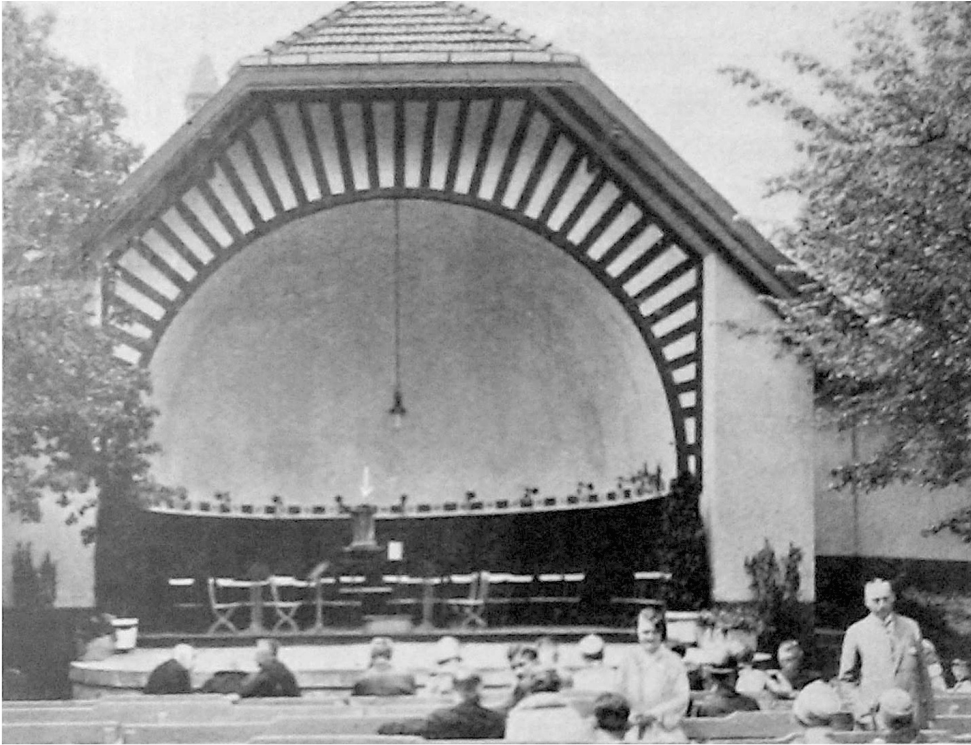


Bild 11. Das Orchester „ohne Orchester“ (der Lautsprecher erspart es).

Fig. 2.3. An example of the supernatural in everyday life – invisible radio orchestra ('the orchestra without orchestra'). Image: Siemens promotional brochure 1926. Siemens Historical Archive, Berlin.

The 'Aetherophone' – later christened the 'Theremin' after its Russian inventor Leon Theremin patented in Germany in 1926 – was, in the public mind, the electronic instrument most closely connected to the spirit world due to its theatrical method of playing: rather than using a conventional keyboard, the performer 'magically' conjured sounds from the instrument by moving their hands near an antennae in an exaggerated manner suggestive of mediums and spiritualists. *Die Musik* magazine wrote in 1928:

¹⁴⁰ Mager, *Eine Neue Epoche Der Musik Durch radio*, 14.

To the non-technician, the musician and the layman the sound produced [by the Theremin] seems like a miracle. You hear the strangest views on the emergence of these sounds, but of course, there is no miracle or something supernatural despite what countless people actually believe here, only an ingenious use of technology for musical purposes.¹⁴¹

In direct contrast to the perception of electronic instruments as devices for spiritual interaction was the growing criticism in the late 1920s that audio technologies were 'soul-less'. Objects from the materialist mechanical world, it was argued, were incapable of reproducing and connecting with human emotion. Despite the popular connection of technologies with 'spirit' it was now argued that the human and the machine were irreconcilable and that the use of technology within art and music would lead to the 'blunting' of human emotion and feeling:

Man and machine. So far, two extremes have always been taken in the evaluation of the technology; man, and the most sophisticated design of the technology, namely the machine. Some see in technology the fundamental evil of all mankind and claim that technology has led man to materialism that has gradually killed off man's soul and blunted it to deeper and higher feelings.¹⁴²

The criticism of 'soul-lessness' was in part a justifiable reaction to the deficiencies of the new electronic instruments but also driven by deeper *Lebensphilosophie* ideas of

¹⁴¹ Lion, 'The Theremin', 357.

¹⁴² Weihe, 'Kultur', 2.

immediacy: electronic instruments, they argued, mediated the almost sacred connection between the spirituality of German Music and the listener, in other words they disrupted the fundamental important quality of *Erlebnis* and with it, all of the spiritual, national and societal values peculiar to German Music.

Media coverage of modernist experiments with electronic and mechanical sound in the 1930s positioned electronic instruments firmly in the *Neue Musik* camp and therefore anathema to the conservative proponents of German Music traditionalism. The 'soul-less' argument became the default defence deployed in support of German Music, a stance that remained in place until Goebbels *Stählerne Romantik* reappraisal of electronic instruments in 1936 which proposed a synthesis of romanticism and *Technik* as the new Nazi aesthetic (see Chapter 5).

Section 2.4: The Enhanced Body

Once the body had been defined in micro-mechanical terms – as discussed in the previous section – the human en-masse could also be re-imagined as part of a larger social-mechanical system. The perception of the human as a macro-mechanism led to the application of 'scientific' machine-inspired 'rationalisation' methods of improving bodily efficiency in the workplace and ultimately, in society in general. Prone to utopian thinking and enjoying a period of relative economic and political stability, post-Dawes-plan Germany during the 1920s proved a perfect environment for Ford and Taylor's theories of rationalisation. Both trade unions, government and corporations invested a considerable amount of faith in technology as a means of achieving their contrasting (and sometimes opposing) aims. The trade unions and the governing SPD saw technological progress as a vehicle for social reform through better working conditions and pay. The corporations saw the opportunities presented by technology as a

means of maximising efficiency, profit and enhancing competition in global markets – while at the same time placating the unions. American ‘scientific management’ ideas were an amalgamation of Fordian industrial production-line processes and ‘process management’ practises promoted by the American business theorist F.W.Taylor (‘Taylorism’). Taylor’s theories, the predecessor of time and motion studies, suggested that production could be radically improved by incrementally optimising working practises. Movements of workers could be measured, analysed and replaced with more efficient routines and workers would be rewarded for their production efficiency – effectively undermining collectivism by tying in wages to increased individual production. As McCormick and Gordon note, ‘scientists and engineers applied the idea of energy conservation to human labor in order to create a science of work intended to make the human motor run more efficiently’.¹⁴³ Rationalisation was also responsible for the rapid shift from manual labour to machine enhanced labour. The introduction of technology not only drove production efficiency but radically changed working practises and workplace culture, with a shift from group productivity to measureable and rewardable individual efficiencies. As well as the production benefits of technology, corporations saw the opportunity to regain control of labour lost during the 1918-19 communist *Räte* movement by breaking the workplace culture of solidarity, placing production control in the hands of the machine owners rather than the worker, and by the promotion of individualism against the power of the mass.

After the failure of the 1919 revolution, the political left and the Dada movement had become increasingly disillusioned by and sceptical of the promised social impact of technology and rationalisation. The potential liberating effects and revolutionary power of technology had failed to materialise. Instead, they argued, technology had been

¹⁴³ Gordon, *Weimar Thought: A Contested Legacy*, 46.

appropriated and used to further consolidate the power of the industrial-capitalist class, the Dada artist Richard Huelsenbeck:

Dada was the beginning of the revolution of the suppressed personality against technology, mass media, and the feeling of being lost in an ocean of business cleverness.¹⁴⁴

The Dadaist grotesque representation of the *Volkskörper* was intended to depict the 'hideous nakedness' (Rosa Luxemburg) of capitalism, exposed by the experience of war. This disillusionment can be seen in the repeated use of the cyborg subject in the Berlin dada art of Raoul Hausmann, Hannah Hoch, Georg Gross, Hertzfeld and others: the augmented human-machines used to represent the dehumanising effect of the new technological state as well as questioning the autonomy of the individual in the face of mechanical media and propaganda.

¹⁴⁴ Huelsenbeck, *Memoirs of a Dada Drummer*, 188.

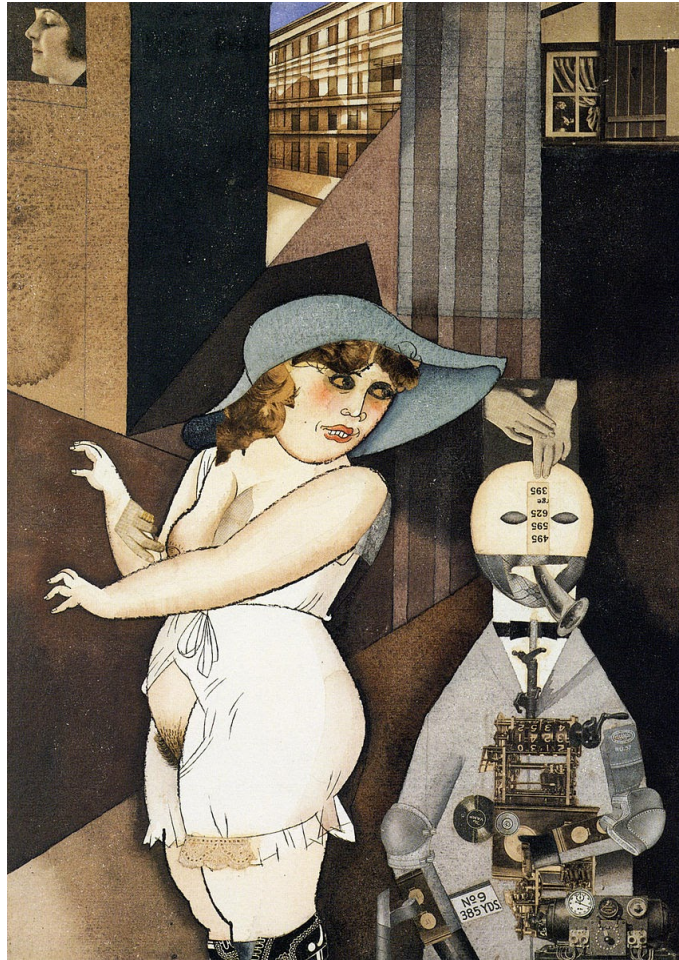


Fig. 2.4. George Grosz, 'Daum marries her pedantic automaton George in May 1920, John Heartfield is very glad of it', (1920) Berlinische Galerie, Berlin.

In Grosz's collage "Daum" marries her pedantic automaton "George" in May 1920' (see Fig. 2.4) the hapless groom is portrayed as a routine-fixated automaton driven solely by external impulses. Biro suggests that the work hints at:

the transformation of the mind and the body as a result of modern technologies. In particular, the ribbon of numbers fed into his head by disembodied female hands suggests that Grosz's cyborgian augmentations have made him highly

susceptible to outside suggestion and, furthermore, that his thinking has become standardised and programmed.¹⁴⁵

Hausmann repurposed the photomontage method and applied it to sound via his abstract sound poetry:

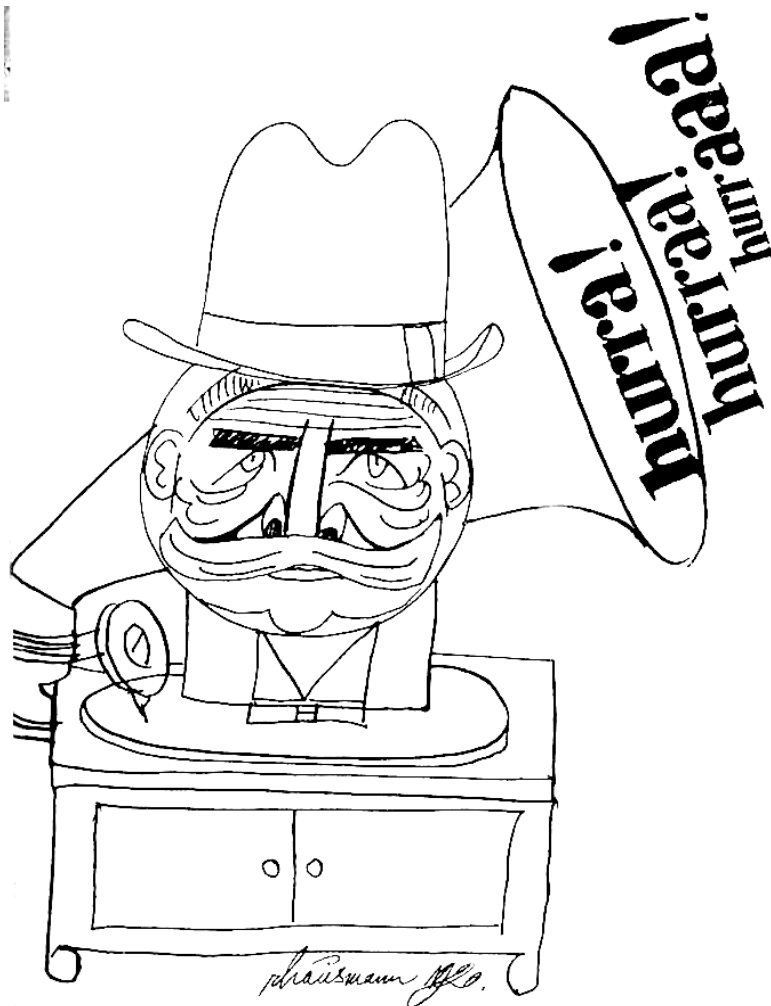
He [Hausmann] is surrounded by text and advertising imagery, including tires, toothbrushes, irons, and bicycles. Hausmann's monocle, along with the mechanised and mass-produced commodities that encircle his head, combine with the other appropriated elements to suggest a vision of human identity as an assemblage of organic and technological parts .¹⁴⁶

Repetitive words and fragmented phrases evoke the rhythm of machines, the accidental repetition of skipped records and recorded media, all of which seem to both emphasise the erosion of meaning and the power of repetition engendered by mechanical reproduction (a theme developed by Benjamin and again by Adorno and Horkheimer). In Hausmann's '*Heimatklänge*' ('Homeland Sounds') the central figure is reduced to a human headed phonogram player repeatedly shouting 'Hurrah!' suggesting the involuntary repetition of conditioned messages and perhaps a harbinger of the electro-acoustic and mechanised mass rallies to come.¹⁴⁷

¹⁴⁵ Biro, *Dada Cyborg*, 44.

¹⁴⁶ Ibid, 41.

¹⁴⁷ Der Dada 3 (Berlin: Malik Verlag, April 1920), 7.



RAOUL HAUSMANN **Heimatklänge!**
 AUS: „Hurra, Hurra!“ Grottesken. Der Malik-Verlag, Berlin-Halensee.

Fig. 2.5 Hausmann's 'Heimatklänge' of 1920

The removal of autonomous thought and the 'programming' of the individual were, it was argued, symptomatic of the incursion of technology into human life and of cultures of mass consumption – concerns that were reflected in the debates about the technologisation of German Music. *Kulturkritiker* from all sides of the political divide identified technological mass media as a malignant and manipulative force. These attributes were explored by Adorno and Horkheimer in *The Culture Industry: Enlightenment as Mass Deception* (1944): in an attempt to understand the failure of the German revolution and the rise of totalitarianism during this phase of the Weimar Republic – the human being, they argued, had become powerless in the face of an all

encompassing mass media 'culture industry' driven not by human needs but by its own internal mechanical and commercial logic, resulting in an invisible technologically driven dictatorship.

That art and music would adopt the de-individualised, repetitive and mechanistic forms of technological culture was a common belief of the period. Examples of this machine aesthetic – art that through a technological process maintained mechanical features – were already surfacing in music and film of the 1920s, typified by the mechanistic dominance of rhythm, repetition, precision, synchronisation, angularity and uniformity. According to the psychologist Fritz Giese, the strict rhythmical beat of jazz was 'technological-artificial' in opposition to the 'natural-biological' rhythms of nature and by association, German music.¹⁴⁸ To him, jazz was nothing less than a mimetic recreation of technological modernity: 'He [the Negro] imitates the acoustics of the metropolis and mimics in this way the people and their rhythm'.¹⁴⁹ He goes on to argue that this new music has taken on a monstrous mechanical life of its own: 'A rhythm that this new artificial world now develops and promotes on its own, as if detached from the human creator. The metropolis controls us, technology controls us, the economy controls us.'¹⁵⁰ Rhythm was modernity, a mindless, mechanical *un-Kultur* designed for machine reproduction – in marked contrast to the intellectual and spiritual conceits and complex thematic developments of German Music.

Set to this new jazz beat were the archetypal American dance troupe the 'Tiller girls'. Contrasting sharply with the typical Berlin cabaret dances of the period which were characterised by sexually suggestive individual, expressionistic performances. On the

¹⁴⁸ That the 'negro' and the 'jew' were skilled imitators but unable to create original music or art was a common trope during the period: Giese, *Vergleiche zwischen Amerikanischem und Europäischem Rhythmus und Lebensgefühl*, 25.

¹⁴⁹ Ibid, 33.

¹⁵⁰ Ibid, 27.

other hand, the thirty-five Tiller Girls were dressed uniformly and delivered a 'kickline' style choreography based on precise, repetitive military-like synchronised movements. During the late 1920s, the troupe's performances were seized on by cultural commentators (Benjamin, Kracauer, Giese) as an iconic representation of synthetic, technologically led mass consumption. Siegfried Kracauer in 'The Mass Ornament' suggests that through their mechanised repetitive, synchronised choreography the Tiller Girls – 'These products of American distraction factories'¹⁵¹ – represented 'the rationalisation of entertainment and society: 'The hands in the factory correspond to the legs of the Tiller Girls'.¹⁵² Kracauer's rationalisation being, in this case, the desexualised, sanitised commodification of mechanisation and Taylorist scientific management.

The German Jewish Illustrator Fritz Kahn did more than anyone else to popularise the idea of the body as a machine, a machine within the context of a version of corporal scientific modernism. Kahn's elaborate illustrations were the latest stage in the description of the human-machine process that began with the advent of the telegraph, then politicised by Berlin Dada and now formalised as industrial rationalisation. The detailed organic processes of the body follows the Bauhaus 'form follows function' dictum where the human shape is defined by its mechanical-organic function and stripped of any idea of the spiritual – this is the 'de-souled human', a consequence of the collision of man with technology that the protectors of German *Kultur* warned about. Kahn's work incorporates the Weimar vogue for Fordism and Taylorism: his dissected humans are populated with energetic and efficient workers, labouring at assembly lines and directed by flowcharts and diagrams, their only function to maintain the greater good of the body-state.

¹⁵¹ Kracauer & Levin, *The Mass Ornament*, 75.

¹⁵² *Ibid*, 79.

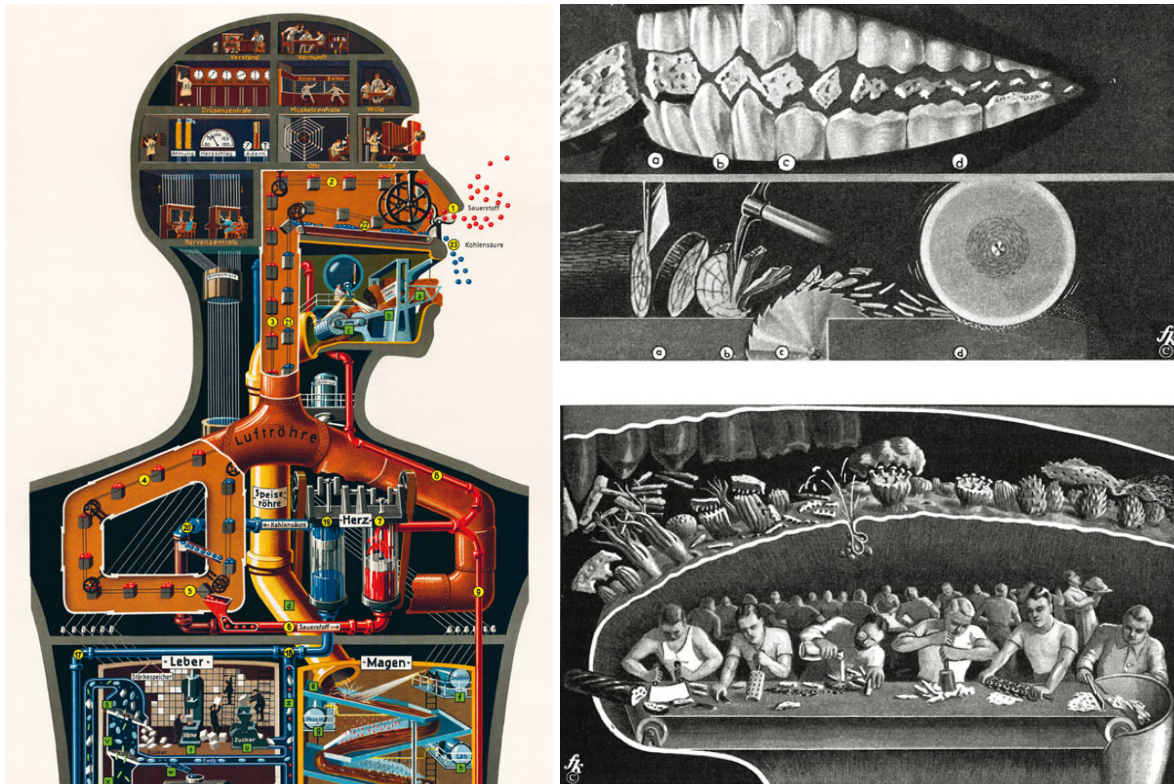


Fig. 2.6. Fritz Kahn. "Der Mensch als Industriepalast" (Man as an Industrial Palace). 1926, © Kosmos Verlag and 'A set of teeth is a tool chest containing various different implements.' 1939.

The type of scientific materialism popularised by writers such as Fritz Kahn precipitated new ways of thinking about the role of the human in society and societal hierarchies. Peasants were replaced with generic workers (the original 'robot') and the scientist and technocrat replaced priests and the aristocracy. Amongst the Weimar (and later, Nazi) panoply of new idealised human types was that of the hero engineer, 'the tireless benefactor of mankind, the brilliant inventor of technologies that would turn age old dreams into concrete and steel'.¹⁵³ This new hero often featured in film, press and popular proto-science fiction (or 'Technisch -wissenschaftlicher Zukunftsroman'), An example being the popular author Hans Dominik's 1922 bestseller *Die Macht der Drei*. This dystopian novel follows Dominik's regular formula; daring and ingenious German engineers thwart the evil intentions of world destroying foreigners (French, British,

¹⁵³ Peukert, *The Weimar Republic*, 243.

Soviet, American) and return the earth to its rightful equilibrium through the application of science and technology. In the case of *Die Macht der Drei* a trio of hero-engineers invent matter-transporting rays that allow them to intervene in a planet-destroying American-British world war. In doing so, Dominik managed to maintain the concept of German racial, technical and cultural superiority in a projected technological future. In a similar vein, a real-world hero-engineer example was provided by Charles Lindberg. Lindberg, the aviator symbolising the potential of technology overcoming the obstacles of nature became the subject of Brecht, Weill and Hindemith's *Der Lindberghflug* (1929).

The idea of the hero-engineer became prominent in the music culture of the Weimar period during the early 1920s – as a subject but also as a new technologically augmented role for the composer. A superior, technologically-enhanced 'music maker' who would supersede the traditional musician was probably originally proposed in Germany by Jörg Mager, the creator of the *Sphäraphon* family of electronic musical instruments. Mager maintained that a new type of musician, the 'musical engineer' (*Musikingenieuren*) and *Sphäraphonmusikern* armed with the new total-instrument - his *Sphäraphon* unsurprisingly - would become a composer-technician liberated by technology and the burden of working with musicians, orchestras and imposed antiquated tone systems. Around the same time (1925) A new generation of modernist composers developed ideas of mechanical composition and performance which in essence created new roles for the composer writing for a performer-less orchestra. Under the title *Mechanische Musik*, Paul Hindemith, Gerhart Münch and Ernst Toch presented their man-machine augmented experiments for the Welte-Mignon reproducing piano at the Donaueschingen New Music Festival in 1926. The electrically controlled piano was able to play pre-composed paper-roll scores at superhuman speed, beyond the manual reach, dexterity and complexity of a human keyboard player. Hindemith, Münch and Toch's pieces were short, high-speed compositions consisting of dense polyphonic clusters and

rapid arpeggiated trills exploiting the mechanical piano's speed and tonal range. The mechanical music experiments at Donaueschingen provoked outrage from the defenders of German Music, who accused the group, in what was to become an often repeated argument, of attempting to destroy German *Kultur* by replacing human musicians and composers with soulless and inferior machines. The young music journalist H.H. Stuckenschmidt poured gasoline on this particular fire, with his piece *Mechanische Musik* which appeared in a special 1926 *Maschinen Romantik* edition of the journal *Der Auftakt*. Stuckenschmidt argued that the complexity of modern music was already beyond the performability of human musicians and could now only be performed by mechanical instruments:

Even today in modern music there are "unworkable" works, i.e. works that, at least in places, can not be interpreted by human powers according to the intentions of the author. The instrumental music of the last hundred years undoubtedly points to the necessity of the musician, whose technical achievement is hindered by a thousand physical and psychological defects, to replace with a less limited force. ¹⁵⁴

Stuckenschmidt went on to insist that any technical concerns regarding the ability of machines to create music of the same quality as human beings has been rendered null and void by the invention of Cahill's 'Dynamophone' (or 'Telharmonium', New York 1897-1916):

[the Telharmonium] uses electric oscillations to create all imaginable sounds in any pitch, speed and arrangement. On this basis, now in America, perfect

¹⁵⁴ Stuckenschmidt, 'Mechanische Musik', 171.

machines are being constructed that not only totally replace the orchestra, the voice and each instrument, but exceed the richness of nuances in every respect.¹⁵⁵

Writing about the mechanical piano, he added:

Absolute artistic perfection has so far been brought only by a mechanical instrument [...] Anyone who has ever heard one of the Busoni rolls [paper roll compositions] on this instrument will no longer be able to speak of 'dead mechanics', 'soulless automatism' and similar follies.¹⁵⁶



Fig. 2.7 A publicity shot of Oskar Fischinger and his Tönende Ornamente' soundstrip drawings.

¹⁵⁵ Ibid, 171.

¹⁵⁶ Ibid, 172.

Bypassing the interference and inefficiencies of the organic human performer was also a concern of Oskar Fischinger who went one step further than Mager and Hindemith and completely removed not just the performer but also the need for musical instruments. Fischinger created a method of drawing (or photographically printing) acoustic handwriting he called *Tönende Ornamente* onto the sound strip of cinema film that optically synthesised an equivalent, finished audio piece. The technological aspect of the process was, to him, a way of liberating the artist from the drudgery and distorting collective process of composition, performance and production, resulting in a pure artistic creation, an almost exact replica of the artist's imagination:

The composer of tomorrow will no longer write mere notes, which the composer himself can never realise definitively, but which rather must languish, abandoned to various capricious reproducers. Now control of every fine gradation and nuance is granted to the music- painting artist, who bases everything exclusively on the primary fundamental of music: namely, the wave vibrations or oscillation in and of itself. ¹⁵⁷

A corollary to the concept of the 'total' composer – the hero engineer composer freed from the human restrictions of the performer (and with it the semi-sacred tradition of German music *Kultur*) was that of the 'total instrument' : The recurring utopian-musical dream of creating a new universal instrument – the 'Omnitum' (or 'Omnitonium') – the idea that through technology and scientific precision a new 'total' instrument could be built that would supersede and replace all other, now obsolete, conventional instruments. Jörg Mager proclaimed his *Sphäraphon* (1924) as the new 'Omnitonium', an instrument

¹⁵⁷ Moritz, *Optical Poetry*, 179-80.

capable of playing any pitch without intervals and any timbre. Recounting his discovery of electronic 'absolute music' Mager describes his instrument:

Absolute music, the completely unbroken tonal circle lay before me! The immense ocean of tone! The 'Omnitonium' , the ideal of musicians of all time! - But what to do with this abundance, with this golden profusion? [...] The happiest [with this instrument] will be our composers, our future Mozart and Beethoven. The new epoch harbours an opulence of new, tonal gold.¹⁵⁸

The total instrument resurfaced some years later (1930) with the commercial launch of the *Trautonium*, an electronic instrument designed to replace other acoustic instruments (and aimed at the domestic amateur *Hausmusik* market). Launched as it was during one of the worst global financial crises, the instrument was a commercial failure but its ability to mimic other instruments and be audible at mass gatherings impressed Goebbels enough for him to christen it 'the total instrument' and for it to be described as the 'instrument of *Stählerne Romantik*' (see Chapter 5).¹⁵⁹

Case study: Ernst Jünger's Machine Future

In contrast to the *Kulturkritik* concerns about the influence of technological mass media, an example of post-1918 conservative thought that embraced a technological future, is provided by Ernst Jünger, one of the most prominent writers of the post-war *Fronterlebnis* (front generation) writers. Jünger emerged from the *Kulturpessimismus* of the *Konservative Revolution* group who combined elements of neo romanticism, conservatism and – in the case of Spengler and Jünger – science and technology with

¹⁵⁸ Mager, *Eine Neue Epoche Der Musik Durch Radio*, 14.

¹⁵⁹ Donhauser, *Elektrische Klangmaschinen*, 189.

political and social engineering. Known for his bestselling account of trench warfare *Stahlgewittern* ('The Storm of Steel' 1920), Jünger in his later philosophical work *Der Arbeiter. Herrschaft und Gestalt* (1932), proposed a nihilistic machine-human future inspired by his experience of technological warfare as a response to the perceived bourgeois decay of post-war German society.¹⁶⁰

Jünger is of interest in relation to audio technology both for his concept of the transformation of the human through an iterative technological process of mass media consumption, and for his idea of a techno-centric culture that he proposed would replace previous cultural traditions. Jünger's work represents a rare, early, idiosyncratic example of a German machine-aesthetic, i.e. a type of technological Futurism that venerated the qualities of the machine.¹⁶¹ Similarly to Marinetti's Italian Futurism, it was born from the experience of mechanised warfare, but was also aligned to the current of 'irrational' modernism later championed by the 'reactionary modernists' Federer and Fritz Todt of the *Deutsche Technik* group and the aesthetic neo-romantic modernism of Goebbels *Stählerne Romantik* (see Chapter 5). Jünger, unusually for a right-wing writer, espoused a radical alignment of culture and technology which rejected both the traditional defensive cultural conservatism of the right and the dialectical engagements of the left.

¹⁶⁰ Roberts, 'Technology and Modernity', 20.

¹⁶¹ For example: Prampolini 'The Aesthetic of the Machine and Mechanical Introspection in Art' (1922), Dziga Vertov's film 'Man With a Moving Camera' (1929) and Marinetti's 'I manifesti del futurismo' (1909).

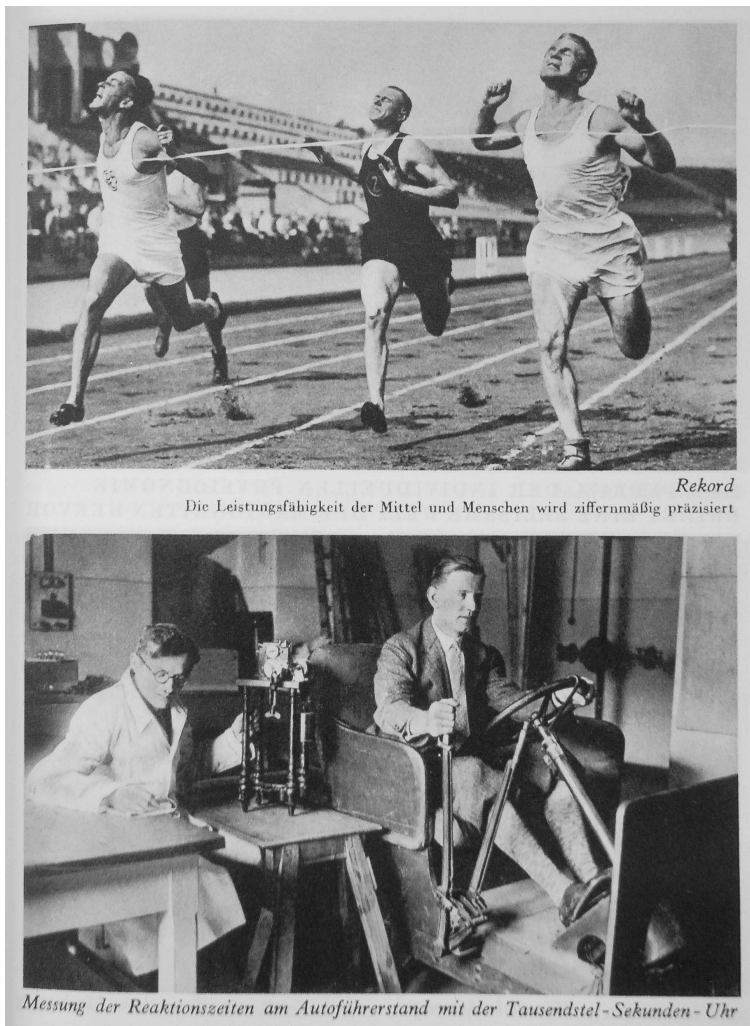


Fig. 2.8. Rationalisation in practice: 'Measurement of human ability to the thousandth of a second' – from Ernst Jünger's 'Die Veränderte Welt'. Image: Gil, The Visuality of Catastrophe in Ernst Jünger's Der Gefährliche Augenblick and Die Veränderte Welt, 62-84.

In *Die Arbeiter* (1932), Jünger lays out his ideas of a technological state: in this new world, the worker, a polar opposite to the socialist idea of a proletarian worker, is a Nietzschean 'titan' who has evolved through and with technology in an escalating process of 'total mobilisation'. According to Jünger, this mobilisation is a national revolt that will destroy bourgeois liberalism, the bourgeois 'anarchy' of the Weimar republic, class conflict and old enlightenment values, replacing them with a totalitarian future of purely technological, functional efficiency (see Fig. 2.8) – the 'total work world'. In Jünger's new world, the only way the worker/human can fulfil their human potential is through

technology. Ultimately, through a process of increasing technological exposure, familiarisation and adaptation, human becomes a combination of man and machine – the distinction between technology and nature is eliminated.

Along the same lines as the Italian Futurists, Jünger celebrated the irrationality of war, at one point suggesting that war itself was the ultimate form of art – parodying what he saw as the bourgeois concept of ‘art for art’s sake’, war was ‘action for action’s sake’ – a daring but illogical plunge into ‘pure existence’.¹⁶² The primacy of the irrational, the ‘unshakeable life force’ – an inherently illogical and untestable quality - places Jünger’s work within the romantic tradition of Vitalism.¹⁶³ Jünger’s imagined future was a world that had transcended the chaos of ideology: in common with the neo-Vitalists, Junger positioned what was essentially a political idea as an apolitical ‘natural’ human condition, an inevitable result of recurring epochal changes rather than of human intervention.¹⁶⁴

Jünger’s futurist techno-cult was both a revolt against all of the cultural values associated with the bourgeois tradition of *Bildung* but also a revolt against the Nationalists’ glorification and mythologisation of German cultural roots.¹⁶⁵

Bildungsburgertum-approved German Music had no place in Jünger’s world – German culture was to be annihilated and completely merged into an international (or ‘planetary’ as Jünger puts it) irrational, heroic machine aesthetic.¹⁶⁶ Again, in direct contrast to the anti-urban *Kulturkritik* and the back-to-nature *Lebensphilosophie*-inspired youth groups, Jünger revelled in the aesthetics of technology, and it is here perhaps that we can trace the beginnings of the idea of a German machine-aesthetic as a distinct entity. Jünger

¹⁶² Jünger, *Der Arbeiter*, 134.

¹⁶³ Nevin, *Ernst Jünger and Germany*, 89.

¹⁶⁴ Jünger, ‘Nationalismus und Nationalismus’, 1552-59.

¹⁶⁵ ‘However far back one wants to search, one will hardly encounter such an embarrassing mixture of banality and arrogance as has become the custom in the official state speeches with their inevitable appeal to ‘German *Kultur*’: Jünger, *Der Arbeiter*, 141.

¹⁶⁶ Werneburg and Phillips, *Ernst Jünger and the Transformed World*, 62.

insisted on the supremacy of the technological sublime and ridiculed the paradoxical revulsion the bourgeois had for the technological world that they themselves had created. For him, German *Kultur* was the outdated product of an era of bourgeois decadent individualism which would inevitably and naturally be replaced by mass machine culture, an artefact of the evolving technological anthropocene.¹⁶⁷

Jünger identified the same technological reproductive tendency towards uniformity that concerned Adorno, Benjamin and Kracauer, however, for Jünger, the common experience of increased uniformity – no longer characterised by some ‘unique personal experience’ but by a univocal experience – was a virtue.¹⁶⁸ Mass technological culture, Jünger argued, destroyed individualism and drove the rise of the ‘*Typus*’ (the uniform human) through a process of mechanical reproduction. For example, cinema, which no longer required individual theatre based performances, had instead created its own ‘*Typus*’ (in this case the human-mechanical object of the filmstar) which could be reconstructed, duplicated and repeated free of temporal or geographic restriction:

The cinema knows no unique performances and, in the proper sense, also no première; a film runs at the same time in all quarters of the city and lets itself be repeated at will with a mathematical precision down to the second and millimetre. [...] what is required from the actor is not the representation of the individual, but of the *typus*.¹⁶⁹

¹⁶⁷ ‘We are on the threshold of a new order of the great structures of life, in which more than culture, indeed the very premise of culture, is included. This new order requires the integration of all individual domains which an abstract spirit renders increasingly autonomous and which dissolves the general framework’. Jünger, *Der Arbeiter*, 144.

¹⁶⁸ Jünger, *Der Arbeiter*, 214.

¹⁶⁹ *Ibid*, 90.

Similarly, the technicity of radio was incompatible with bourgeois *Kultur*, it was the domain of the *Typus* who alone understood, and was formed by, the 'metaphysical language' of the technology:

Here only the *typus* is able to act, because he alone possesses a relationship to the metaphysics of these instruments. If an evaluation of pure technicity unfolds here to an increasing degree, it is because, fundamentally, what is meant is the degree to which the mastery of a different language has already succeeded.¹⁷⁰

At the same time as the left *Kulturkritiker*, Jünger understood the significance of the rise of mass consumer culture and recognised the transformative potential of technological media. However, unlike Adorno and others, Jünger had long abandoned his *Bildung* bourgeois roots and was free to imagine a future – however dystopian – which embraced the 'negative' effects of mass technological cultures. Jünger's vision was in essence a new form of utopian fascist-modernism forged through a military-technological evolutionary process and the trauma of war.¹⁷¹ Fundamentally, Jünger's work was a blueprint for the resolution of *Kultur und Technik* – one that would be later implemented in Goebbels' Nazi aesthetic of *Stählerne Romantik* (see Chapter 5).

Section 2.5: The Self

By distorting perception, audio technologies distorted the image of the individual and their place in society. Early inventors of audio media were struck by the contrast between human and mechanical ability. Edison, on first witnessing his own voice recorded on the phonograph, exclaimed, 'I was never so taken aback in my life.' Edison's shock was the

¹⁷⁰ Ibid, 191.

¹⁷¹ Ernst Jünger, *Der kampf als inneres erlebnis*, 107.

realisation of how distorted his humanity was compared to his pre-technological self. For the first time one could hear one's own voice outside of oneself and listen without seeing the source of the sound. The writer Ernst Hardt in *Kunst und Technik* (1930) suggests that the recorded voice, a voice stripped of visual clues, is the voice of honesty and therefore, the voice of the human soul:

The listener who only hears is no longer influenced, misled, prejudiced or bribed by anything that lives outside the voice; he does not see whether they are rich, poor, beautiful or ugly, he only truly takes in one thing: a resounding voice as an expression of a human being.¹⁷²

The sudden appearance of the telegraph, telephone, radio and the phonograph at the beginning of the twentieth century presented its audience with a bewildering paradox: the simultaneity of the technology enabled temporal immediacy, but at the same time, signified physical and spatial isolation. In other words, one could, for the first time, immediately speak or listen to someone while being at a physical distance, when in previous human history communication had been tied to physical and temporal proximity. This shift in the perception of space, body and time threatened a long-established stability and order where 'body and mind had been for the most part coterminous'¹⁷³ and where human society was to a great extent organically measured by the reach of the voice. This new form of the self was shaped by what Föllmer describes as the forces of urban technological modernity that were 'on the one hand, creating new spaces for self-realisation and, on the other, decreasing the difference people can make and forcing them to cope on their own'.¹⁷⁴ In other words, technological audio modernity of the 1920s challenged cultural norms and provided opportunities for new social and cultural

¹⁷² Hardt, 'Wort Und Rundfunk' 179.

¹⁷³ Sconce, *Haunted Media: Electronic Presence from Telegraphy to Television*, 63.

¹⁷⁴ Föllmer, *Individuality and Modernity in Berlin*, 4.

interactions especially for women. However, this came at the price of the removal of previously reliable familiar and social support networks. The new 'self' was less restricted but also less protected, these dual forces forging a new kind of precarious individualism.

Symbolising this precarity was the changing social role of music: once understood as the common birthright of the German community – one that defined the collective national 'soul', music was becoming increasingly separated from its stable, national, tradition origins. Through a process of commodification and expansion, music was evolving into new forms that instead of re-enforcing a collective communal identity, emphasised individualism, and instead of *Bildung* social hierarchy based on cultivation, a hierarchy defined by economic success. According to the *Kulturkritiker*, the cumulative effect of this process was an ever growing nation of individuals cut free from their natural traditional culture and instead reliant on a traditional-less, synthetic, fragile, ever changing culture delivered by the entertainment industry in response to the whims of consumer demand. Concerns about the erosion of human agency in the coming machine-age recurrently and obsessively surfaced in Weimar culture, most famously, perhaps, in Fritz Lang's Jünger-esque dystopia *Metropolis* (1927) but also in the automata-grotesques of Berlin Dada, advertising and literature of the period. Technological modernity was a paradoxical force that offered liberation from traditional societal constraints but at the same time had the potential to erode individuality and collective agency. Grossman argues that women in particular 'experienced the crisis of modernisation more intensely than did men': modernity – being ultimately a crisis of power – questioned and disrupted patriarchal authority and with it, the role of women in society.¹⁷⁵ Post-1918 women found for the first time, employment in the new *Angestellten* (white-collar worker) technological industries, – work that was deemed 'women's professions' such as telegraph employees, office workers, sales clerks and particularly telephone operators, giving them a degree of

¹⁷⁵ Grossmann, 'GirlKultur' or Thoroughly Rationalized Female', 62-80.

financial and social independence and the ability to challenge traditional gender stereotypes and power balance.¹⁷⁶ While, as Grossman points out, women, through experience of technological employment, were both better equipped than men to respond to technological modernity, modernity brought a greater change and precarity to their lives.¹⁷⁷



Fig. 2.9 The 'hyper-American' (but actually British) Tiller Girls, Berlin 1925. Fritz Giese, *Girlkultur*. (1925).

The 'new woman' embodied in the *Neue Sachlichkeit* 'Typus' of the 'liberated' *Bubikopf*, jazz dancing confident female was both a stereotype created through mass media and also, for the conservatives and nationalists, an iconic representation of the corrosive

¹⁷⁶ For data regarding women's labour in the new industries see: Peukert, *The Weimar Republic*, 95-101.

¹⁷⁷ Berghaus, 'Girlkultur: Feminism, Americanism, and Popular Entertainment in Weimar Germany', 193-219.

anti-Kultur effects of urban modernity. However, this image, embodied by the Tiller Girls (see Fig. 2.9) and driven by film and advertising was itself a form of idealised conservatism: replacing the images of the more salacious post-1918 'revue' shows and cabaret, the Tiller Girls (and their like) presented a uniform, synchronised and wholesome new ideal of behaviour and beauty symbolised by the 'Girl'. As Berghaus points out, the apparent freedom of urban modernity typified by *GirlKultur* was in reality a form of social conformity driven by social advancement via marriage prospects.¹⁷⁸ The libertarian, individualist veneer of *Neue Sachlichkeit* was in many ways a facade for a new type of social conformity that emphasised uniformity, hierarchy and submission to the ever increasing demands of rationalisation.

The new individual, detached from cultural and hierarchical traditions became connected – however precariously – via audio technological communities. The establishment of international audio networks, while reinforcing the global hegemony and logistics of capital, also questioned the social concept of physical and temporal space and with it, the same hegemonic control. Networks created uncontrolled spaces or 'new spaces for self-realisation' which subverted social mores and catalysed new visions of the self¹⁷⁹ – what Biro called 'modernism's first trajectory', a deconstruction of 'bourgeois concepts of subjectivity and ideal forms of selfhood through negating bourgeois myths'.¹⁸⁰ Carolyn Marvin writes about how the telephone, particularly for women, created unguarded spaces, facilitating the breaking of social and morally enforced class, gender and racial barriers:

¹⁷⁸ Young, graceful, the epitome of perfection, slender, animated, healthy, athletic, fresh, supple, lissom, sun-tanned, smooth-skinned, with strong muscles, youthful, sturdy form, etc.' Berghaus, 'GirlKultur', 203

¹⁷⁹ Föllmer, *Individuality and Modernity in Berlin*, 4.

¹⁸⁰ Biro, *Dada Cyborg*, 21.

The invention of new machinery, devices, and processes is continually bringing up new questions of law, puzzling judges, lawyers, and laymen...The doors may be barred and a rejected suitor kept out, but how is the telephone to be guarded?¹⁸¹

In Germany this deconstruction specifically focussed on the institution of *Bildung*, replacing an imagined community founded on aspirational bourgeois education with a new form of selfhood facilitated through technology and united by the experience of simultaneous technological recognition, connectivity and media consumption. Anderson argues that this 'mutual, simultaneous recognition' characterises modernity: the geographically atomised pre-modern world, he suggests, gave way to an era of the 'imagined nation state' formed from a growing self-recognition of social membership, facilitated first through print, press and then through the new technologies of the telegraph, phonograph and radio, where 'each person is but one subject nevertheless linked to the simultaneous invisible activities of their social others.'¹⁸²

These technologies which extended or 'outered' the human body, facilitated the informal distribution and development of socio-political ideas outside of the control of dynastic and religious rule. In terms of German Weimar musical cultures, these 'autonomous societies' created a musical culture beyond the *Bildungsbürgertum*-controlled concert hall. German Music – a carefully guarded repertoire of music selected from a *Bildungs* version of German history – was now able to evolve outside of institutional control and absorb influences beyond Germany's borders. This new musical landscape was dependent on, and powered by, a commercially-driven network of mechanical reproduction and distribution which resulted in popularisation of new musical and audio genres such as

¹⁸¹ Marvin, *When Old Technologies Were New*, 70.

¹⁸² Anderson, *Imagined Communities*, 32–36.

jazz, schlager and hit film music – or, were a direct response to the technicality of the medium itself (see Chapter 4).¹⁸³

As the 1920s progressed, the informal communities that grew up around 'unauthorised' cultures of jazz and schlager music, gradually developed into a fully developed commercial ecosystems consisting of record labels, import businesses, distribution networks, publishing houses, music press, photojournalism, tabloids and sound film and, into what became widely recognised as the defining characteristic of Weimar culture, the technological modernity of consumer mass media and *Neue Sachlichkeit*.

Case Study: The Angestellten

The most prominent example of these new communities was the *Angestellten* class of young, middle class urban Germans who flourished during the *Goldene Zwanziger* period (1924-1929). Born after 1900 this group was too young to fully understand the euphoria and trauma of the First World War; instead, they grew up surrounded by the new technology and became the first generation to embrace mass media consumption. In contrast to industrial labour, agriculture and self-employment – sectors hit hardest by rationalisation 'efficiencies' – the *Angestellten* were on the whole the beneficiaries of rationalisation and became associated with consumption-cultures of media, sport, music and travel.

The *Angestellten* were, on the whole, the first post-1918 demographic class to discard tradition and Wilhelmine moral and social mores and with it the certainties and support structures of their peers. According to Kracauer, the *Angestellten* were defined by this

¹⁸³ Such as Hindemith and Seitz's *Sabinchen* (1930) radio drama, Weill's *Berliner Requiem* (1928), Ruttman's sound film *Wochenende* (1930) and Flesch's *Magic on the Air* (1924) acoustic radio *Hörspiel*.

precarity, celebrating youth, class mobility and rationalisation-style productivity replacing *Kultur* with a new world of consumerism and media.¹⁸⁴ Their world was:

Not the world as it actually is, but the world as it is portrayed in hit songs. A world which has been gone over by a vacuum cleaner, so that not a single speck of the dust of everyday life remains.¹⁸⁵

While predominantly positively disposed towards the republican government they gradually 'retreated into non-political disenchantment' disregarding the ideologies and support structures (unions and community support schemes) of the traditional political parties.

¹⁸⁴ Kracauer, (1930), *Die Angestellten*, (1971).

¹⁸⁵ *Ibid*, 96.



Fig. 2.10. 'TEMPO: In rapid style, the most modern newspaper content in Germany's new advertising space' 1st edition of 'Tempo' 1928 which appeared in Berlin published by Ullstein in 3 daily editions. © Corporate Archives Axel Springer SE.

Berlin's new 'Tempo' tabloid newspaper (published by Ullstein between 1928 and 1933. (See Fig. 2.10) was aimed specifically at this new, youthful demographic and is uniquely suited for a study of the changing perceptions, self-definitions and aspirations of this audience. The 'ultra modern' *Tempo* revelled in the speed of Berlin's commercial urban

modernity – ‘A daily race with time! Every line a novelty!’ – and with it the new form of advertising-driven consumer capitalism:

We provide information and entertainment at the pace at which modern people live. To older people this only appears as breathless agitation: for the active, aspiring, young person, the pace is the momentum of his ambition, the urge to move forward. [...]We turn to the German generation, who no longer complain at the pace of life, but understand it as a life affirming expression. We will try to give [this generation] everything they can to use in their work and play, and with them, we hope to rapidly move forward. ¹⁸⁶

The newspaper’s editorial followed a direction that contrasted sharply to other newspapers of the time, favouring visually driven, gender neutral (targeted at: ‘younger businessmen, engineers, working women’), lifestyle content focussing on subjects such as relationships, sex, children, film, music, radio, body culture, modernity and particularly the ‘new woman’ and issues of femininity and masculinity.¹⁸⁷ The individualist and modern–urban aspirations of the *Angestellten* positioned them as the polar opposite of both the back-to-nature *Wandervögel* youth of the same age and the collective ideologies of the left and right: *Tempo* recognised this distinction and was one of the few newspapers to boldly support modern–liberal Weimar democracy and criticise both left and right political factions which they described as ‘over-radical or class-fighting hate press’.¹⁸⁸ A prominent and recurrent editorial was aspirational individualism, especially individualism facilitated by modern technology and consumption amplified by visual advertising (predominantly: music, film and the automobile). *Tempo*’s focus on this type of individualistic modernity contrasted sharply with the established type of cultivated

¹⁸⁶ ‘Eine neue Zeitung’, *Tempo*, 11. September 1928, 2.

¹⁸⁷ ‘Tempo - Die Zeitung der Zeit’, Ullstein reports, October 1928, 4.

¹⁸⁸ *Ibid*, 4.

'high' aspirations embodied in *Bildung*. The attitude of the '*Tempo* generation', through their precarious urbanism, evolving identities, class mobility, veneration of technological accelerationism and ambivalence of tradition, was constructed in reaction to many of the topics explored in this chapter: nervousness, machine aesthetics, media consumption and decay. They were, however, distinguished by their ability to absorb these conditions and synthesise them into the new culture of *Neue Sachlichkeit*, as Peukert put it, they were 'a tabula rasa on which the effects of the process of modernisation were being particularly vividly imprinted.'¹⁸⁹

However, without traditional support structures (family, church, community, unions etc.) the *Angestellten* were amongst the hardest hit by the global financial collapse of 1930.¹⁹⁰ With the sudden removal of their self-constructed image of social superiority – what Peukert called their 'fictive status of non-proletarian superiority' – and the collapse of rationalisation's promise of ever increasing affluence through efficiencies and productivity, many of the '*Tempo* generation' reverted to the apparent security of authoritarianism.¹⁹¹ The *Angestellten* receptiveness to Nazism was a result of their social and economic disenfranchisement but also stemmed from their willingness to adopt both the outwardly liberal individualism promoted by *Neue Sachlichkeit* – which enforced a new type of uniformity and conformity – the *Angestellten* became a 'tabula rasa' not just for modernism but particularly the new 'aestheticised politics' of Nazism – a theme developed in Chapter 5.

¹⁸⁹ Peukert, *The Weimar Republic*, 157

¹⁹⁰ *Ibid*, 253.

¹⁹¹ *Ibid*, 158.

Section 2.6: Conclusion

Although isolated for the purposes of analysis in this dissertation, the concepts explored in this chapter were all interrelated manifestations of a deep unease about technologically-led societal change. Previous certainties – the family, community, tradition, labour, gender roles, religion etc. – were being challenged and replaced with an untested, unfamiliar and uncertain technological future, an uncertainty amplified by the post-1918 crises following military defeat that pushed Germany further away from its imagined arcadian ideal and fully into a confrontation with technological modernity.

The concepts explored in this chapter – decay, spirituality, nervous modernity, and the concerns of the individual in relation to the machine – encapsulate aspects of the struggle to come to terms with the new technological world. Machines were initially positioned as agents of social and moral decay: they were instruments that carried the potential to erode the German *Geist* and, through human association and interaction, were the cause of a new plague of anxiety and neurosis. Now separated from its true organic environment, humanity had become detached from its natural, national-spiritual mission and instead lived a type of false existence as fodder for the machine-world. Nietzsche's bleak vision that : 'Mankind mercilessly employs every individual as material for heating its great machines'¹⁹² was overtly echoed in Lang and von Harbou's human-devouring machine in *Metropolis* (1927). However, as the century progressed, the positioning of technology became increasingly ambiguous. By crossing the barrier from utility to culture and from the factory to the home, audio technologies through familiarity eroded the negative connection between technology and the human and suggested the possibility of a mechanical-human resolution. Theories evolved that argued that the negative aspects of technology could be overcome by engaging with the liberating potential of machines. The limitations of human corporeal ability – as individuals or as a society – could be overcome, it was argued, by adopting efficient machine-like behaviour

¹⁹² Nietzsche, *Human, all too Human*, 188.

(rationalisation and augmentation for example). Technology was posited by some as the ultimate solution to Weimar's problems, a utopian cure-all for a society trapped in seemingly interminable and irresolvable conflict. These ideas of technology as a panacea became absorbed into music – see Chapter 3 – and new experiments were undertaken in human augmentation (such as programmable electro-mechanical and human-free instruments), giving rise to the idea of a liberating, democratising use of musical technology where the human could be transformed by the experience of mediated music (see the discussion of Kurt Weill's ideas about music and the radio in Chapter 4.3).

For some the machine-world offered an escape from the oppressive roles defined by traditional hierarchies. Migration to the cities in search of social liberation via economic independence resulted in new societies built around technological connectedness and consumption – represented by the *Angestellten* in this study – a group who celebrated, for a short period, a new version of the self: an apparently autonomous individual distanced from established ideas of national duty and of collective politics. These new individuals, en-masse, celebrated their freedom in the consumer-cultures of the day and through this, they became habituated to interpreting mediated, symbolic forms of communication created by the nascent media, music and advertising industries. As we shall see in Chapter 4, this consumer-led liberation came under attack from the contrasting factions of the *Kulturkritik* who obsessively portrayed it as both a new, pernicious and efficiently evolved form of capitalism and an aggressive foreign threat to German *Kultur*:

Traumatised by the social and cultural effects of capitalist domination, [Weimar's] academic intelligentsia reacted with such desperate intensity that the spectre of a 'soulless' modern age came to haunt everything they said and wrote, no matter what the subject.¹⁹³

¹⁹³ Löwy, *Georg Lukács – From Romanticism to Bolshevism*, 30.

The *Kulturkritik* argued that the new urban individual was uniquely vulnerable to mediated messaging and the corrosive effects of media consumption. The human body now reimagined in relation to the machine inherited both the frailties and capabilities of technology, leaving it open to manipulation and therefore, it was argued, not in full control of its destiny.¹⁹⁴

The mediation of music and communication in general called into question concepts of human perception, specifically the *Lebensphilosophie* concepts of *Unmittelbarkeit* and *Erlebnis* – ‘immediacy’ and the ‘lived experience’ – a model of perception that served to maintain a spiritualist, irrational position against the materialism of technical mediation.¹⁹⁵ *Erlebnis* and the related concept of *Unmittelbarkeit* determined that reality could only be perceived through a direct, lived experience unmediated by rational examination, in other words, a direct appeal to emotion bypassing intellectual analysis. Through the prioritisation of emotional response over factual evidence and analysis, *Erlebnis* became a primary vector of irrationalism during the Weimar period: reality was measured by how one felt rather than a reality determined by collective opinion.

Audio technology in the form of the radio and the gramophone, it was argued, by mediating the lived, and importantly, collective, communal experience, stripped music of its spiritual and cultural value. However, a counter argument proposed that by exploiting the human vulnerability to suggestion and familiarity with symbolic imagery, a connective ‘resonance’ between individual and the media (music, film image) could be established that bypassed the individual’s critical faculties. This new form of resonant media was exploited by the advertising industry – who sought to develop a more efficient form of

¹⁹⁴ See: Cowan, ‘Advertising, Rhythm, and the Filmic Avant-Garde in Weimar’, and ‘The Culture Industry: Enlightenment as Mass Deception’ in Adorno & Horkheimer, *Dialectic of Enlightenment*.

¹⁹⁵ Lebovic writes that the philosopher Wilhelm Dilthey coined the term ‘*Erlebnis*’ in the 1870s: Lebovic, *The Philosophy of Life and Death*, 17.

mediatised communication. It was also deployed by the 'new politics' of the NSDAP who, closed from established political channels, developed a form of symbolic messaging through technological media that found a mass audience accustomed to mediatised messaging (see Chapter 5).

These human-machine concepts became persistent and iconic motifs that went on to inform the direction of technological development in Germany well into the mid-20th century. Additionally, They also provided the conceptual basis for a particularly German conflict, the *Kultur und Technik* debate which became a dominant, destabilising and polarising force during the first half of the 20th century. The inability to resolve this schism resulted in a postponement of a resolution with technological modernity in favour of a reactionary and progressively extreme discourse. The *Kultur und Technik* debate ultimately, was a binary condition i.e. *Kultur* or *Technik* – a choice that had to be made: one, a return to a mythic, spiritual ideal, the other a Faustian pact with material modernity. In this way the *Kultur und Technik* debate, allied with romanticism and the German establishment's antipathy to democracy, became the philosophical basis for illiberalism in German thought, one that put *Kultur* in its dominant form, German Music, at centre stage.

Chapter 3: Weimar Audio Utopias

Section 3.0: Introduction

The social and political chaos that followed the shock defeat of 1918 served to further radicalise and polarise pre-war post-industrial attitudes of the type explored in Chapter 2. The intellectual climate of the new post-war Weimar Republic was, as Peukert describes it, a period characterised by 'Almost laboratory-like conditions in which every conceivable solution to the problem of modernity could be put to the test' – however ill suited or impractical they may have been – a crisis-driven process that resulted in 'all manner of weird and wonderful utopias'.¹⁹⁶

Reflecting the dizzying pace set by modernisation, the rapid growth of utopianism set a precedent for ongoing forms of political and cultural debate: the tendency to support simple, mystical solutions to complex problems, the belief in collective will over theoretical analysis and a pessimistic view of societal progress favouring instead a return to a mythical past. The historical consequence of the adherence to utopian belief systems that positioned belief and emotion above experience or theory, led to an ever growing polarity of opinion demarcating and entrenching positions during the 'culture-wars' of the Weimar period – with music being a particularly prominent battlefield.

German Music was, after 1918, commonly perceived as the only recoverable vestige of *Kultur* from the rubble of war, and as a result, it became associated with utopian attempts to resolve the national, social and moral crisis of post-war Germany. The nineteenth century belief that German Music was a unique embodiment of the German *Volk* and the sole guarantor of its unity and tradition was revived and deployed in varied

¹⁹⁶ Peukert, *The Weimar Republic*, 189.

and contrasting ways within a post-industrial setting. Through this process, German Music became for many composers and musicians a vehicle for utopian social change, whether it was the anti-machine utopianism of the *Volksgemeinschaft* or the technologised mass media-utopias of *Neue Musik*. This chapter explores the attempts to reposition music as a utopian social agent in the new technological age – a re-evaluation that required either a resolution or dismissal of the *Kultur/Technik* dichotomy. Overall, in this chapter I will argue against the opinion voiced by Neufeld and others that utopian thought ended with the advent of *Neue Sachlichkeit* rationalism (mid 1920s), an era that he regards as marking a 'rejection of utopian hopes, an emphasis on realism and cold analysis, and an acceptance of seemingly inexorable technological change'.¹⁹⁷ Instead, I will demonstrate that an alliance between utopianism and technological rationalism was not perceived to be paradoxical or incompatible during the period and that utopianism had a symbiotic, reciprocal relationship with audio technologies that had a lasting effect on the audio and political cultures of the time.

This chapter will follow the development of utopian ideas in German Music, which, in the pursuit of simple solutions and rejection of mainstream political and philosophical discourses, often aligned with mystical concepts resurrected from *Lebensphilosophie* – of particular importance to this study being the notions of perception and truth embodied in *Unmittelbarkeit* (immediacy) and *Erlebnis* (the lived experience). In contrast to the view that modernism was a movement founded on rationalism, I will show how these utopian-mystical ideas persisted throughout the Weimar and Nazi eras and had a fundamental influence on both modernist and conservative musical factions. To achieve this I will focus on the work and ideas of Ferruccio Busoni, Jörg Mager and Kurt Weill as exponents of a type of spiritualist modernism that, I will argue, through a spiritual/mechanical confluence attempted a form of *Kultur und Technik* resolution.

¹⁹⁷ Neufeld, *Weimar Culture and Futuristic Technology*, 747.

Section 3.1. is a brief overview of the historical development of utopian thought with a focus on music and technology. From this history I will attempt to form a working definition of utopianism. Section 3.2. outlines the dynamics and character of Weimar era utopian thought. Section 3.3. continues with a delineation of the types of Weimar audio utopianism into broad categories which establish the background to the development of music during the period. With an understanding of these utopian tendencies. Section 3.4 analyses the ideas of Ferruccio Busoni and Jörg Mager and their attitudes to spiritualism and technology. Section 3.5 examines the emergence of technologically-driven 'Absolute' musical ideas that emerged in the late 1920s, with a focus on Weill's '*Absolute Radiokunst*' and the *Hörspiel* radio art of Hans Flesch and others. Finally, Section 3.6 explores the reciprocal influence of utopian socio-political concepts and technological audio in the development of new 'modernist' musical genres and cultures of the period, *Gebrauchsmusik*, *Lehrstück* and *Grammophonmusik*.

Section 3.1: Definitions of Utopia

The post-1918 explosion of utopian ideas in Germany, consciously or not, drew on a lengthy radical tradition – from Plato's 'perfect' republic to the millenarian cults of the mediaeval period and the digger rebellions of the English Revolution amongst many others. Utopianism's multiple and often contradictory variants make it difficult to define; however, for the purposes of this study I will attempt at the end of this section to distil a working definition of utopianism that encompasses the main attributes and contradictions of utopian thinking.

Utopianism manifest in many forms: early mediaeval utopianism tended to be ambiguous and theoretical: an imagined future 'ideal' society constructed to obliquely criticise and satirise the political and social failings of the time, and as such it remained as a speculative and observational literary form. Later 19th-century attempts at practical

applications of utopianism emphasised the inspiration of the 'end point' over the mundanities of planning. It was more concerned with the betterment of human behaviour as a means of achieving an ideal, rather than through the application of economic or social theory – a tradition exemplified by the utopian socialists of the early nineteenth century (Henri de Saint-Simon, Charles Fourier, and Robert Owen amongst others). The utopian socialist pursuit of an ideal endpoint distinguished utopianism from other societal theories (politics, ideology, sociology etc.) in that it adhered to the vehicle of 'belief' in inspiring change rather than evidence through reason, and change through universal suffrage (or popular insurrection) – what Bloch termed 'the utopian impulse' – the desire to configure a better world rather than a concrete plan for a better future. In Germany from the mid-19th-century onwards, the power of an 'inspirational endpoint' provided the cultural aesthetic for much of the musical and cultural output of the period – the work of Wagner and the *Volksgemeinschaft* being a prominent example.

This emphasis on belief exposes contradictions at the core of utopianism. Utopias are typically the product of an individual, a singular imagined ideal, rather than one brought about through class or social currents; as Lenin wrote scathingly, they were 'a wish that is not based on social forces'¹⁹⁸ – in other words, utopias are an ideal imposed on a presumed compliant and uniform mass. Arguing that utopianism is important for human development but at the same time, essentially dangerous, Sargent argues that 'societies are not homogenous and have desires which conflict and therefore cannot simultaneously be satisfied'.¹⁹⁹ Sargent suggests that the quest of perfection leads 'inevitably to force, violence, and totalitarianism' where a 'perfect system' has to be imposed by force on imperfect and reluctant subjects – an obvious example being the German nationalists' pursuit of a cleaner and purer society at the expense of what the nationalists self-defined as 'non-German' and 'impure' elements of society.²⁰⁰ However, Tucker and Waddell

¹⁹⁸ Lenin, 'Two Utopias', 355-359.

¹⁹⁹ Sargent, *Utopianism: A very short introduction*, 21.

²⁰⁰ Sargent, 'The Three Faces of Utopianism Revisited', 26.

caution against a simplistic reduction of an equivalence between totalitarianism and utopianism, arguing that although bearing some similarities, utopianism is not defined by its shared aspects of totalitarianism.²⁰¹

Science and technology are often found at the centre of utopianism by virtue of the belief that advances in new technologies will provide better living standards and social harmony (technological democracy, longevity, immortality, freedom from labour etc). But at the same time, technology can be anathema to utopias, particularly the types of utopian thought that promoted a return to an imagined pure state, a state before humanity was corrupted by urban modernity and technology. This particular 'pure-state' utopianism had a powerful influence on the German nationalists, neo-Vitalists, *Lebensphilosophisten* and youth movements of the early twentieth century – and provided the core palingenetic myth of the neo-romantic utopianism of the Nazi state. The perceptions of technology in music in post-1918 Germany generally followed these same divisions: the nationalist factions positioned German Music as pure, natural and aligned to the anti-technological concept of a utopian *Volksgemeinschaft*, whereas the modernists, in general, pursued a belief in the benefits that technological progress would bestow on German Music.

The contradictions in utopianism - for instance, the pursuit of liberty and perfection against the tendency to violence and totalitarianism - defined much of Weimar culture and thought, a process that was often refined through the lens of technology; the liberating potential of technology and scientific intervention versus the oppressive, dehumanising and anti-spiritual effects of the machine were common themes that populated Weimar art and music, themes that materialised into discernable utopian typologies that I describe in Section 3.2.

²⁰¹ Reeve-Tucker & Waddell, *Utopianism, Modernism, and Literature in the Twentieth Century*, 3.

Taking into account the contrasting history and overlapping critiques, I have formed a definition which takes account of the totalitarian criticisms of Sargent but also accommodates Tucker and Waddell's caution of critical over-simplicity. Utopias are an imagined, ideal future society that are achieved through faith and witness instead of theory and ideology. Rather than universal suffrage, they are reliant on collective submission to this ideal. The realisation of this ideal society is an ultimate 'end point', the final step of human progress that brings about an end of history.

Section 3.2: Weimar Utopias

The shocking and catastrophic collapse of the German Imperial State in 1918 plunged Germany into a prolonged period of introspective cultural and political turmoil.²⁰² The years of instability after the First World War were burdened with a 'crisis mentality' where all forms of political and cultural activities were positioned in response to, or, as a solution to, the ongoing crisis. A distinctive characteristic of this period was a faith in philosophical, political, social, spiritual and cultural utopian ideas that claimed to provide a definitive solution to the ongoing chaos of the new German Weimar state.

During a period of bewildering change – war, nation, technology, tradition –the attraction of utopianism was its simplicity. Utopianism rejected the complexity of 'dirty' politics (especially the type of liberal democracy exemplified by the *Zivilisation*-tainted Weimar government) and promised a final and immediate better life through collective willpower. Adapting Freud's terminology, Fisher suggests that the type of utopianism that dominated the period was a 'primary process' i.e. an ideology based on immediate gratification rather than factual inquiry and one that provided – often mystical– easy answers to a crisis of intensive complexity.²⁰³ The 'primary process', he argues, was

²⁰² Gordon and McCormick, *Weimar Thought: A Contested Legacy*, 133.

²⁰³ The secondary process being based on a 'respect for reality involving a wider scope of mental involvement including planning, examination of alternatives and contemplation of consequences' Eric Klinger quoted in: Fisher, *Fantasy and politics*, 4.

predominantly – but not exclusively – the territory of the right, driven by the pursuit of the ‘supernatural’ *Geist* of the *Volksgemeinschaft*:

These mostly right-wing visionaries were either unable or unwilling to view history as the outcome of numerous intertwining factors that could be analysed and interpreted from a rational perspective. Instead, historical events were perceived as part of a state of flux ultimately determined by the supernatural.²⁰⁴

Fisher points to the nationalist utopian tendencies of the *Fronterlebnis* generation (ex 1918 German troops disillusioned by Weimar liberal democracy), tendencies driven less by a desire for political-social change and justice than by a return of ‘self esteem’ brought about by the simple reinstatement of Germany’s rightful place in history. This simple, putatively anti-ideological desire formed the various typologies of *Volkisch* nationalist utopianism echoed by Jünger (see Chapter 2), *Konservative Revolution*, the Youth Movements, Pan-Germanists and of course the National Socialists.²⁰⁵

This ‘crisis-culture’ was epitomised by several literary works produced during the period, but perhaps none more so than Oswald Spengler’s 1918 bestselling ‘*Der Untergang des Abendlandes*’ (The Decline of the West) which summed up the prevailing mood and had a profound impact on thinking – across the political divide – for the next two decades. Spengler’s work followed a pattern of nationalist pessimism common to a number of post-war writers²⁰⁶ who, in brief, proposed that German society, centred on the values of *Kultur*, was in terminal decline and would inevitably be superseded by the rational, technological materialism of *Zivilisation*.²⁰⁷ This crisis-culture precipitated by pessimism and polarised by the *Kultur und Technik* dichotomy was a fertile breeding ground for

²⁰⁴ Fisher, *Fantasy and politics*, 4.

²⁰⁵ *Ibid*, 36.

²⁰⁶ For instance: Sombart, Scheler, Mann, Jünger.

²⁰⁷ ‘Kultur as the spiritually authentic inner essence of a people that expressed its organic relation to time as the vital expression of its soul’ – McCormick & Gordon, *Weimar thought: A contested legacy*, 137.

utopianist thought. The tensions caused by the *Kultur und Technik* conflict were reflected in the music and art of the period where attitudes to technology determined a cultural or political position. The continuation of discourse resulted in the emergence of opposing types of utopianism aligned to, or aligned against, *Kultur und Technik* – types that can be broadly categorised into the typologies discussed in the following section.

Section 3.3: Typologies of Weimar Utopia

In this section I will attempt to isolate the distinct typologies of utopian thinking and their relation to music in the Weimar period based on the definitions laid out in the introduction. However, in doing so it will, in the service of clarity, be a necessary simplification. In reality the various utopian tendencies overlapped, mutated and influenced each other, especially, for example, the concept of the *Volksgemeinschaft* which, with its emphasis on the central, social role of German Music, became a core concept that motivated (consciously or not) many strands of Weimar musical and cultural thought.

Nationalist Utopias

A utopian concept that played a central role in early 20th-century German thought was the *Volksgemeinschaft*. Originating in the late nineteenth century (originally through Ferdinand Tönnie's 1887 *Gemeinschaft und Gesellschaft*) as an intellectual distinction between 'community' and 'society', the *Volksgemeinschaft* became increasingly politicised after 1918 by the political right who incorporated the term into their nationalist and increasingly xenophobic and racist ideology. Under the nationalists, the *Volksgemeinschaft* became a racist utopia that promised a harmonious future where all social, class and economic tensions would be erased by the final coming together of the

German *Volk* in a spiritual, natural order – an order, in their reading, reserved for the racially and culturally pure German peoples.²⁰⁸

Culture was an essential component of the concept. The *Volksgemeinschaft* could only be achieved through a national awakening driven, in part, by the collective experience of 'pure' German Music and art. The concept of the *Volksgemeinschaft* inspired the belief – fundamental in the Weimar and Nazi periods – that culture could be used as a vehicle for social change. Both sides of the political divide advocated social transformation through participation in music and art, that despite contrasting ideological objectives, applied remarkably similar programmes. A prominent example of musical nationalist utopianism was the work and writing of the self-described anti-modernist composer, Hans Pfitzner, who represented a particular strand of conservative utopianism. Pfitzner argued that the preservation of what he saw as mankind's crowning achievement ('the climax, the real golden age'), German Music of the nineteenth century, was the duty of the German composer. German Music represented Germanness and the spiritual unity of the *Volk* – any tinkering with it endangered not only the tradition of German Music but also the German 'soul' and nation as a whole. For Pfitzner it was inconceivable that the live, spiritual perfection of German Music could be improved using modern technology: German Music could only be composed and performed within the organic, acoustic traditions of the nineteenth century. In a 1917 article Pfitzner ridiculed Busoni's modernist call for the rejection of tradition and the adoption of new techniques and technology. For Pfitzner they were restrictive impositions on the soul and freedom of music: 'Thou shalt not write in existing forms! I am Mr. Thaddeus Cahill's Dynamophone: thou shalt have no other musical instruments but me!'²⁰⁹

²⁰⁸ Peukert, *The Weimar Republic*, 242.

²⁰⁹ Pfitzner ridiculing Busoni's valorisation of the Telharmonium (Dynamophone) electronic instrument: Pfitzner, *Futuristengefahr*, 45-6.

Neo Spiritualist Utopias

Concurrent with the development of the *Volksgemeinschaft* were a collection of neo-mystical utopian concepts that evolved from pre- and post-war neo-romantic spiritualist movements in Europe (theosophy, spiritualism, biocentrism, Vitalism etc., often grouped together as *Lebensphilosophie*). This form of 'modern' mysticism had a profound influence on the cultures of the period. A somewhat surprising example of this influence was the early Bauhaus, which, despite its later adoption of rational, modernist, functionalism, was founded on an eclectic combination of socialist utopianism and theosophical and biocentric teachings. The immediate post-war phase of the school (1919 – 1923) has been described by Otto as the 'irrational Bauhaus'.²¹⁰ Under Gropius, the Bauhaus adopted the utopian socialist St Simon's reinvention of the artist as a social and spiritual revolutionary: 'art would no longer be for the pleasure of a few, but for the happiness and life of the masses'.²¹¹ Students at the school were taught that the responsibility of the artist was now to bring about a new collective spiritual society, a quasi-religious objective described by Gropius in the Bauhaus' opening prospectus in 1919:

Together let us desire, conceive, and create the new structure of the future, which will embrace architecture and sculpture and painting in one unity and which will one day rise toward heaven from the hands of a million workers like the crystal symbol of a new faith.²¹²

²¹⁰ Otto, *Haunted Bauhaus*.

²¹¹ Gropius, 'Arbeitsrat für Kunst', 51-4.

²¹² Gropius, *Programm des Staatlichen Bauhauses in Weimar*, 1.

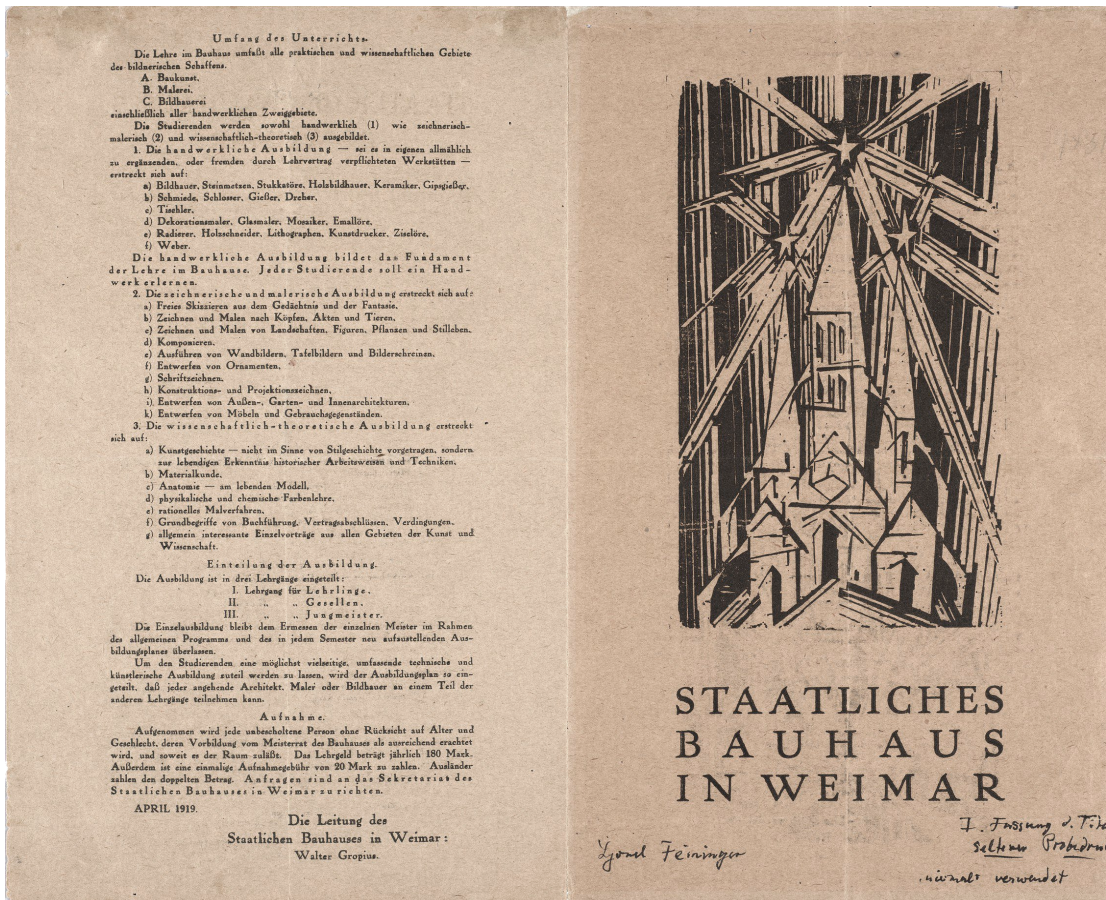


Fig.3.1. Lyonel Feininger's "Cathedral of the Future" on the cover of the first Bauhaus manifesto. April 1919.

In this quotation, Gropius was echoing both the utopian socialist belief in 'witness' and a belief in the social role of art: the 'crystal symbol' being a crystal 'Cathedral of the Future', a spectacular building representing the total work of art (*Gesamtkunstwerk*) in the physical form of a building designed to inspire the masses to unite and build a new harmonious, spiritual society (see fig. 3.1).

Elements of the post-1918 thought saw a 'total solution' and a complete re-imagining of society as the logical response to the chaos, humiliation and destruction that they had lived through²¹³ – a sentiment affirmed by Gropius in 1919: 'This is more than just a lost war, a world has come to an end. We must seek a radical solution to our problems'.²¹⁴

²¹³ Smith, *The Total Work of Art: From Bayreuth to Cyberspace*, 49.

²¹⁴ Gropius, *Scope of Total Architecture*, 19.

The vehicle for this solution was, to the Bauhaus, the medium of a 'total' work of art derived from Wagner's concept of *Gesamtkunstwerk* but repurposed, transforming it from the metaphysical to the physical, from a total theatrical concept to a total practise that would transform society into a spiritually united whole.

Although by 1918 the concept of the *Volksgemeinschaft* and Wagner's style of *Gesamtkunstwerk* was considered, amongst the modernists at least, somewhat antiquated, it held an ongoing subconscious influence over them and informed many of the modernist post-war concepts. For the Nazis it remained an overt and powerful motivational force, particularly for Hitler who used Wagner's heroic, spiritual drama and the legacy of *Lebensphilosophie* as a direct inspiration for what became the Nazi 'myth-image' (see Chapter 5). The *Volksgemeinschaft* concept of art and the artist as revolutionary force remained at the center of German thought and manifested in both the social-transformative art of the Weimar left – *Gebrauchsmusik*, *Lehrstück*, *Agitprop* and so-on – and the Nazi re-imagining art through *Kulturpolitik* which resulted in the vast spectacles of the *Thingstätte* and mass rallies (see Chapter 5).

Technological Utopianism

According to Theweleit, reactionary utopianism evolved from the post-war male *Fronterlebnis* nationalists who developed a defensive, pessimistic utopia inspired by the camaraderie of their war experience.²¹⁵ Immersed in 'cultural despair' this faction coalesced around a siege mentality culture which discarded the old ideals of the Wilhelmine era, capitalism, bolshevism and 'bourgeois' sentimentality in favour of a totalitarian, masculine, militaristic utopia.²¹⁶ This volatile mix of nationalism and Prussian tradition inspired both the 'high' philosophy of the *Konservative Revolution* group²¹⁷ – and

²¹⁵ See: Theweleit, *Male fantasies: Women, Floods, Bodies, History*.

²¹⁶ Stern, *The Politics of Cultural Despair*, xi.

²¹⁷ A diverse group of intellectuals that included Ernst Jünger, Thomas Mann, Oswald Spengler and Ludwig Klages.

a genre of popular nationalist 'pulp fiction' known as *Utopisch-Technischer Roman* (utopian technical novels – see Fig. 3.2).



Fig. 3.2. Selection of *Zukunftsroman* literature: L-R: Montanus' 'Die Rettung des Abendlandes' (1921) written to refute Spengler's pessimistic 'Der Untergang des Abendlandes', 'Revolution 1933' (1930) and Abel Musgrave's 'Der Bacillenkrieg' 1922.

The works of *Konservative Revolution* writers were written for and mainly read by members of the *Bildungsbürgertum* class – a powerful minority during the Weimar period.²¹⁸ This type of writing had an enduring influence on the nationalist oriented socio-political thought of the *Bildungs* class – and the subsequent historical image of the period formed by scholars. However, of equal importance to the 'high' literature of the *Konservative Revolution* was the under-researched genre of *Technisch-wissenschaftlicherroman* (sometimes *Utopisch-technischer Roman*), a genre of popular, blatantly nationalist, utopian proto-science fiction aimed at working class readers that emerged around 1919. Formed around the same machine aesthetic and inspired by the same anti-Versailles sources of national despair as Jünger, the typical *Zukunftsroman* were structured around fantastic utopian narratives and promised national salvation – a salvation that was dependent on strength of will, *Geist* and camaraderie – made possible by astounding technological interventions. These forms of popular literature, much more so than the 'high' literature of Spengler and others, were

²¹⁸ Woods, *The Conservative Revolution in the Weimar Republic*, 2.

fundamental in shaping the preconceptions, hopes and anxieties of a technological future in the minds of the German population of the 1920s.²¹⁹

In common with the 'simple solutions' of utopianism, technology was attractive to some because it provided straightforward simple solutions to complex problems: technology allowed the possibility to imagine a society where the mundane intricacies of social cohesion and economies were solved by the almost magical ability of machines. The simplicity of a technological-social solution appealed in particular to techno-positive capitalists who were searching for a way of combating the collective power of socialism and unionised labour. These capitalist utopians formed an ideology that encompassed both technocratic utopianism derived from scientific management studies of the period (Taylor and Ford) and a closely related type of techno-cultism or science-fiction utopianism. What distinguished these types of capitalist utopias from free market or libertarian capitalism of the day was their faith in the future power of technology *alone*, to deliver a new society (particularly the development of the human into an enhanced, efficient being through scientific practises - see Chapter 2) rather than theories of technological development, market forces or supply and demand.

A consequence of the relative financial stability after the American-led Dawes Plan (1924) was the emergence of the idea that the German economy could be comprehensively modernised or 'rationalised' along American lines (*Amerikanisierung*). Rationalisation became *the* buzzword of the mid 1920s, originating in the belief that methods of enhanced industrial efficiency could deliver an affluent society based on continual growth. Methods of scientific efficiency, it was suggested, could also be applied to social concerns: culture, politics, lifestyle, race and sexuality. Social rationalisation, planned to the minutest detail, would deliver a better, stable 'error free' society and as such rationalisation became a wider term for technological social transformation.²²⁰

²¹⁹ Schrader, *The "Golden" Twenties*, 28.

²²⁰ Peukert, *The Weimar Republic*, 102-3.

In November 1923, Henry Ford's book *My Life and Work* was published in Germany describing his theories of scientific management and production. The book, which quickly became a bestselling business 'bible', maintained that the dormant powers of capitalism had the ability to solve Germany's class conflict and, in opposition to Marxist theories of labour and class, that a 'harmony of capital and labour' would be possible without the destruction of capitalist production – what the German economist Friedrich Gottl-Ottlilienfeld termed 'white socialism' (to distinguish it from the dangerous 'red' variety).²²¹

Ford's techno-libertarian vision deemed the state 'parasitical' and 'superfluous' – the only guarantor of the 'common good', he argued, was the enlightened scientific hegemony of the industrial sector.²²² In Germany these ideas were reinterpreted through the lens of the *Volksgemeinschaft* into the utopian idea of the *Werksgemeinschaft* – a corporatist utopia formed from an amalgamation of nationalist, technological and industrial concepts constructed to directly oppose both Marxist theories of labour, class and production as well as the traditional nationalist concepts of the state. The *Werksgemeinschaft* was a 'national work community' defined by the nation-race and led by an enlightened technocratic class of social engineers – Peukert described their utopian aspirations:

Scientific management and the integration of workers into the *Werksgemeinschaft* would dissolve class conflict; pragmatic supervision by social engineers would reconcile competing special interests. This utilitarian faith in the power of science to solve social problems was evident in all areas of society.²²³

²²¹ McFarland, *Babbitt's Wives and Lovers: White Socialism, Gender, and the Poetry of the Machine*, 84.

²²² Lethen, 'Neue Sachlichkeit 1924–1932', 20.

²²³ Peukert, *The Weimar Republic*, 112-3.

The utopian technocrats argued that the ongoing conflict between *Kultur und Technik* could be resolved with careful management, suggesting that there were two types of technology - good: that which served the *Volk*, and bad: that which served only to enrich the capitalist. In a modern counterpart to Fourier's belief in 'witness' as inspiration, the proponents of the *Werksgemeinschaft* pointed to real world examples of corporatist utopias for living proof - the leading example at the time being Henry Ford's 1926 Brazilian planned community of Fordlândia.²²⁴ Following the dramatic collapse of the global stock market in 1929, hopes of the imminent arrival of the *Werksgemeinschaft* and an affluent consumer economy based on continual growth promised by rationalisation, were dashed - a crisis that, Peukert argued, resulted in an increased willingness to countenance forms of totalitarianism that would resolve the contradictions of society by force.²²⁵

The types of 'scientific management' ideas that aimed for efficiency through technology surfaced repeatedly in Weimar music both as a criticism and as an aspiration: the writer and composer Hans Heinz Stuckenschmidt and the filmmaker Oskar Fischinger both proposed that hyper-efficient technological instruments could be built that would supersede human performance abilities and deliver a rendering of the composer's imagination free from the flawed interpretation of musicians and conductors - see Chapter 3.6.2.²²⁶ The left *Kulturkritik* argued sceptically that the American, mechanical and repetitive rhythms of Jazz was a type of musical rationalisation - a music that was stylistically designed to be efficiently reproducible and cheaply available. In a similar vein, as discussed in Chapter 2, the writer Siegfried Kracauer compared the mechanical and military precision of the Tiller Girls dance shows - 'These products of American

²²⁴ Ford's jungle utopia was established to secure rubber production for Ford's US car plants and aimed to maximise corporate efficiency through the application of his management methods - enforced by a strict hierarchical class structure. A different interpretation of the Fordlândia project provided the inspiration for Aldous Huxley's novel 'Brave New World' (1932) and Brecht's 1930 'Aufstieg und Fall der Stadt Mahagonny': Lethen, *Die »kapitalistische Utopie« des Henry Ford*, 20-21.

²²⁵ Peukert, *The Weimar Republic*, 115.

²²⁶ Stuckenschmidt, 'Die Mechanisierung der Musik', 8.

distraction factories' – directly with Ford's scientific management practises.²²⁷ This assimilation of rationalisation into culture found its aesthetic expression in *Neue Sachlichkeit*, a stylistic synthesis of everyday life and urban modernity that was to dominate the Weimar era, and which will be discussed later in this chapter.

Modernist Utopias

The destruction and carnage of the First World War and the subsequent rise of a 'crisis culture' stimulated amongst many thinkers and artists a new movement, a 'new spirit', of reconstruction and renewal in Germany defined by a celebration of the 'new' and a complete rejection of the past – represented in Germany by the now discredited cultural and political institutions of the Wilhelmine state. The French architect, Le Corbusier described this movement as the dawning of a new, rational age:

There is a new spirit abroad. It is a spirit of construction and synthesis, moved by a clear conception of things. Whatever one thinks of it, it animates most human activity today. A GREAT ERA HAS BEGUN.²²⁸

This break with the past and quest for a new world lay at the core of the modernist movement and as such was inherently utopian in that it denied the existing reality of the time and planned to transform society with a preconceived superior vision – heaven, it proposed, could be constructed on earth.²²⁹ Modernism was a new type of utopianism: it dispensed with the temporal continuity typical of historical utopianist thought and instead insisted on a definitive break with the past, a new world that could only come, as Schaer writes 'from the destruction of the old, in a violent break that would separate the old world from the one that was clamouring to be born'.²³⁰ Ayers proposes that a defining

²²⁷ Kracauer and Levin, *The Mass Ornament*, 75.

²²⁸ Le Corbusier, *L'esprit Nouveau*, N° 1, Octobre 1920.

²²⁹ Ayers, *Utopia: The avant-garde, modernism and (im)possible life*, 3.

²³⁰ Schaer, 'Utopia and Twentieth-Century Avant-Gardes', 279.

aspect of modernism was this 'temporalised concept of utopia' where history was no longer seen to 'take place in time, but through time', opening up the possibilities of utopian experimentation.²³¹



Fig. 3.3 'Art & technology: A new unity' – Herbert Bayer's post 'irrational Bauhaus' design for a Bauhaus Exhibition poster, 1923 – the first instance of the new slogan encapsulating the new policy of technological modernism.

For the utopian modernists, the solution to the *Kultur und Technik* schism was the rejection of *Kultur* and the establishment of a new objective culture aligned with *Technik*. This reappraisal of technology's relationship with art established an alternative to the romanticism of expressionism and the first iteration of rationalised *Neue Sachlichkeit* – discussed in Chapter 4. The Weimar Bauhaus converted to this new ethos in 1923 with

²³¹ Ayers, *Utopia: The avant-garde, modernism and (im)possible life*, 3.

the adoption of the slogan *Kunst & Technik: Eine Neue Einheit* ('Art and technology: a new unity' – see Fig. 3.3) and the dismissal of Johannes Itten's previous faction of mystical spiritualism.

Likewise, the Berlin *Rundfunkversuchsstelle* (RVS, 1928) was a tangible musical example of this faith in technologically led societal progress. With its aim to unify art and technology, the RVS was heavily influenced by its utopian socialist co-founder, Leo Kestenberg, who saw in audio technology the promise of social progress by transcending class and elite institutions. Kestenberg's concepts were adopted by the *Neue Musik* modernists who believed that audio technology could deliver a form of cultural democracy, one that had the potential to free music from the hegemony of German cultural institutions and allow the creation of a new, *Allgemeinekunst* (universal art) accessible to all. This new art, it was proposed, would be a synthesis of *Kultur und Technik* that incorporated all previous genres into a modern *Gesamtkunstwerk* – a socially transformative form that was superior to both *Bildungs* oriented German *Kultur* and the popular capitalist cultures of mass consumption.

The utopian values at the core of modernism meant that it inevitably maintained many of utopianism's contradictory traditions: notably, the tendency towards totalitarianism i.e. the democratic conflict between individual consent and the inspired individual. This paradox, founded on science and inspiration, manifested in the pursuit of universality and a 'total' solution in the social application of architecture, music, art and design – probably the most revealing example being Bayer's 'universal alphabet' (1926) which aimed for the standardisation of all text of any content or function.²³² Bayer remarked that 'As soon as we have achieved new characters as a result of the reorganisation of typographical signs, then it will be necessary to reorganise language' – suggesting that the ultimate goal was the standardisation of thought itself.²³³

²³² Bauhaus 1919–1969, Paris: Musée national d'Art moderne, 109.

²³³ Ibid, 117.

The totalitarian tendencies in modernism can also perhaps be found in the values that it shared with consumer capitalism. Through an iterative process of constant technologically-led innovation and a wholesale rejection of tradition, modernism became synonymous with mass consumption, technology, efficiency, novelty, the accelerating tempo of modern urban life, mechanisation and uniformity. These 'rationalisation' values were encapsulated in the stylistic genre of *Neue Sachlichkeit*, a movement that valued objectivity and the mass above individual perception. These objectivity-inspired totalitarian tendencies were, famously, also fundamental to the philosophy of the NSDAP where the 'dictatorship of the fact' overruled democratic rights. The NSDAP pursued the ultimate form of standardisation in the cultural and racial homogeneity of the *Volksgemeinschaft* inspired by the 'will' of the Führer.

Section 3.4: Utopia and Music Technology

This section explores how new ideas about the social role of music, inspired by the post-war spirit of utopianism, provided the basis for new types of musical exploration. I will show how these utopian explorations turned toward audio technology to provide both the production of new sounds – electronic musical instruments – and new forms of musical distribution and media – the gramophone and the radio.

For this study I will focus on the work of the Italian/German composer Ferruccio Busoni and his mentee, the pioneer of electronic musical instruments, Jörg Mager, to demonstrate the utopian spiritualism at the roots of early musical modernism and the effects this had on later musical developments, including those of Weill, Toch, Hindemith, Brecht and others. I will explore the apparent contradiction in their ideas and work – for example, Busoni's occult and spiritualist beliefs and his reputation as one of the principal vectors of musical modernism, and the combined revolutionary socialist and spiritualist

beliefs of Jörg Mager. Both of these figures were inspired by the acoustic research of the crown-prince of materialism Hermann von Helmholtz and the vibrational occult theories of neo-spiritualism, a contradiction I will argue demonstrates the close association between technological-modernism and neo-spiritualism.

The search for an expanded musical palette in Germany had by 1900 become a heated topic of debate amongst composers such as Wagner, Mahler, Busoni and Richard Strauss: a debate that led to the development of a number of novel acoustic instruments such as the *saxophone*, *heckelphone* and, sometime later, a new family of electronic musical instruments including the *Sphäraphon*, *Theremin* and *Trautonium* (amongst many others). In this section I will focus on the utopian ideas that led to the development of electronic instruments, particularly Jörg Mager's *Sphäraphon* (1921) and their use in music during the Weimar period.

The motivation for this search was varied but was generally inspired by a utopian-spiritualist belief that the timbral and intonational range of the traditional orchestra was insufficient for the demands of a 'perfect music', be it Wagner's *Gesamtkunstwerk* or Busoni's *Ur-Musik*. This 'perfect music' it was argued, was founded in the primordial, spiritual-sonic qualities of nature and, simply put, once realised would elevate (or return) human society to an ideal state. Alongside this search for a new instrumentarium was the search for the single, perfect instrument – a search that motivated many electronic musical instrument designers of the 1920s. The proponents of these new electronic instruments often argued that, due to their superior sonic and intonational abilities, they would inevitably replace every instrument of the classical instrumentarium and become the standardised 'total' instrument of the future – a discourse that echoed the modernist practise of 'totalisation' and the utopian belief in the ability of technology to magically solve complex problems.

Amongst the many cultural immigrants who moved to Berlin during the early 1920s was the Italian/German pianist, composer and influential music theorist Ferruccio Busoni who returned to the city in 1920 to teach composition at the Academy of Fine Art. Busoni became one of the prime movers for the future development of modernist and avant garde music and also one of the earliest champions of the use of electronic musical instruments in 'serious' music – he was, as Patteson puts it 'the primary vector through which the technological enthusiasm of the early twentieth century entered into the bloodstream of European classical music'.²³⁴ Alongside his writings, his reputation was built through his teaching and patronage of young composers such as Kurt Weill, Wladimir Vogel, Percy Grainger, Leo Kestenberg, Jean Sibelius, Stefan Wolpe and Edgard Varèse, a legacy that persisted until at least the 1950s when his work was largely forgotten, overshadowed by serialism and *elektronische musik*.²³⁵

Busoni's reputation as a musical utopianist is based on his proposals for 'free' music outlined in his small but highly influential booklet *Entwurf einer neuen Ästhetik der Tonkunst* ('Sketch of a New Esthetic of Music', published in Germany in 1907 and 1917, and in English translation in New York in 1911). Tregear locates Busoni's utopianism in the connections he made between music and social organisation, in that both share an urge to be free²³⁶, and, as Busoni wrote in 'Sketch', the role of music was to reveal the possibility of this freedom.²³⁷ Kogan writes that Busoni saw himself and his music as beyond ideology; as a pure-aesthete he was 'far removed from politics, from Marxism; he wished to live, and hoped to live in an unadulterated world of art'.²³⁸ Busoni's utopianism is exposed in his belief that a 'perfect' music, freed from ideological constraints and sectarian stylisation – Busoni used the term *Ur-Musik* – had the ability to

²³⁴ Patteson, *Instruments for New Music*, 13.

²³⁵ Knyt, *Ferruccio busoni and his legacy*, 2.

²³⁶ Tregear, *Leaping Over Shadows: Ernst Krenek and post-war Vienna*, 198.

²³⁷ Busoni, *Sketch of a New Esthetic of Music*, 5.

²³⁸ Kogan, *Busoni as Pianist*, 100.

reawaken the listener and move them towards a heightened sense of consciousness and with it an elevated sense of community and society.²³⁹ This utopian belief in a social-spiritual role of music and a spiritual 'endpoint' was a widely held belief at the time and would have been shared by his opponents in the nationalist-*Volkisch* faction in German Music – Pfitzner being a prominent and coincident example, with whom he had a high profile spat in the German press in 1918. However, where Pfitzner and Busoni disagreed was on how to achieve this spiritual reawakening. For Pfitzner and his allies, German Music had reached a peak of perfection around the time of Beethoven's death (1827) and any tinkering with this hallowed tradition was anathema. The role of the composer, they believed, was to preserve and care for this tradition and await the arrival of a new Beethoven. Busoni on the other hand argued against stylistic tradition, and that German Music was merely a starting point.²⁴⁰ At only 400 years old, Busoni argued, German Music was in its infancy compared to the history of art, sculpture, poetry and architecture – the western musical tradition, despite its immense achievements, was therefore, still immature, and to 'freeze' music in a historical tradition prevented the free flow of musical development.²⁴¹

Busoni's central idea was that a timeless, free music or *Ur Musik*, founded on the traditions of 'the greats', should lead German Music to new heights of perfection. Knyt describes *Ur-Musik* as a music of 'oneness' and inclusivity: 'since music is pure-tone and all-encompassing in its primordial state, audible music should embrace all scales, harmonies, and styles of music'.²⁴² *Ur-Musik* was the antithesis of musical tradition – it was simultaneously of the present, but also in the original 'ur' form, of the past, before

²³⁹ Clarkson, *Wolpe, Varèse and the Busoni Effect*, 378.

²⁴⁰ Busoni, *Sketch of a new esthetic of music*, 2.

²⁴¹ 'Architecture, sculpture, poetry and painting are old and mature arts; their conceptions are established and their objects assured; they have found the way through uncounted centuries, and, like the planets, describe their regular orbits. Music, compared with them, is a child that has learned to walk, but must still be led. It is a virgin art, without experience in life and suffering'. Busoni, *Three Classics in the Aesthetic of Music*, 76.

²⁴² Knyt, *Ferruccio Busoni and his legacy*, 24.

the intervention of man made musical 'laws'. A central influence on Busoni's ideas of *Ur-Musik*²⁴³ was the pioneering acoustic research of the famously anti-Vitalist champion of materialism, the physicist, Hermann Von Helmholtz (1821-1894. see Chapter 2).²⁴⁴ Helmholtz's revolutionary book *Die Lehre von den Tonempfindungen als physiologische Grundlage für die Theorie der Musik* ('On the Sensations of Tone as a Physiological Basis for the Theory of Music', 1863) for the first time identified the relation between the physical composition of sound and its perception as musical tone – and in doing so laid out the blueprint for the electro-mechanical synthesis of music. Helmholtz's work was also a milestone in rationalist thought, controversially defining the rational basis for the emotional, mystical and seemingly irreducible qualities that German Music was founded upon. Busoni's 'Sketch' can be seen as an aesthetic reading of 'On the Sensations of Tone', and, despite the materialist/mystical contradictions, contains many identical themes. For instance, Helmholtz proposed a return to a 'natural' music freed from fixed intonation some forty years before Busoni:

[...] The very fact that music introduces progression by fixed degrees both in rhythm and in the scale, renders even an approximately correct representation of nature simply impossible, for most of the passionate inflections of the voice are characterised by a gliding transition in pitch. The imitation of nature is thus rendered as imperfect as the imitation of a picture by embroidery on a canvas with separate little squares for each shade of colour.²⁴⁵

The apparently irresolvable contradiction between Helmholtz's technological rationalism and Busoni's mysticism can be partly explained by the commonly held view that technical systems (telegraph, telephone, electricity) shared a common function and

²⁴³ Ibid, 213.

²⁴⁴ Hagen, 'Radio Schreber: Der "moderne Spiritismus" und die Sprache der Medien', 29.

²⁴⁵ Helmholtz, *Die Lehre von den Tonempfindungen als Physiologische Grundlage für die Theorie der Musik*, 371.

structure to the human body.²⁴⁶ Neo-spiritualists amplified this concept by extending these technical-biological attributes into the spiritual world – the ‘spiritual telegraph’, ‘ghost photographs’, phonography and Nikola Tesla’s commingling of electricity and spiritualism (as Hagen puts it: ‘Tesla was virtually synonymous with the Janus-faced image of electricity—powerful electrical motors that had become a tangible reality as well as other-worldly ideas and bizarre outgrowths of rampant techno spirituality.’²⁴⁷). This technical-mystical equivalence blurred the boundaries of materialist rationalism and allowed for technology to be assimilated into the irrational.

Busoni argued that *Ur-Musik* should consist of a dynamic combination of previously unheard and unimagined tones and timbres:

Innumerable are its voices; compared with them, the murmuring of the harp is a din; the blare of a thousand trombones is a chirrup. All melodies heard before or never heard, resound completely and simultaneously, carry you, hang over you, or skim lightly past you.²⁴⁸

To achieve this vision, Busoni argued, music must be liberated from the tyranny of fixed intonation: ‘So narrow has our tonal range become, so stereotyped its form of expression’.²⁴⁹ Using the metaphor of sunlight refracted through a prism into rainbow colours, Busoni argues for an infinite harmonic spectrum of tonal colour, connecting harmony with a return to a natural state, freed from the man-made restrictions defined by the proponents of fixed intonation and tradition:

²⁴⁶ Lenoir, ‘Helmholtz and the Materialities of Communication’, 185–86.

²⁴⁷ Hagen, ‘Busoni’s Invention: Phantasmagoria and Errancies in Times of Medial Transition’, 91.

²⁴⁸ Busoni, ‘The Realm of Music: An Epilogue to the New Aesthetic’, 188–9.

²⁴⁹ Busoni, *Sketch of a new Esthetic of Music*, 23.

Let us take thought, how music may be restored to its primitive, natural essence; let us free it from architectonic, acoustic and esthetic dogmas; let it be pure invention and sentiment, in harmonies, in forms, in tone-colours [...] let it follow the line of the rainbow and vie with the clouds in breaking sunbeams; let music be naught else than nature mirrored by and reflected from the human breast.²⁵⁰

This tonal liberty could only be achieved, Busoni argued, by reflecting the nuance and purity of nature through an advanced sonic palette, one that went well beyond the restrictions of the classical instrumentarium:

Suddenly, one day it became clear to me: the development of music is impeded by our instruments. [. . .] In their scope, their sound, and their performative possibilities, our instruments are constrained, and their hundred chains shackle the would-be creator as well.²⁵¹

Busoni was concerned not just with expanding the tonal range but also the timbral palette, the 'tone-colours'. Knyt points to the development of what Busoni called 'absolute orchestration', the idea, unusual at the time (1900s), that instrumental colour and timbre were an essential part of a musical work.²⁵² This emphasis on textures and timbres as well as greater control over tonal gradations led Busoni (followed in the 1920s by several others) to suggest that this need could be fulfilled by the type of new electronic musical instruments being developed at the time.

Busoni found what he thought would be the technological solution for his perfection of 'Ur-Musik' in Thaddeus Cahill's new electronic instrument: the 200 ton 'Telharmonium' (fig. 3.4), an electronic instrument built at the turn of the twentieth century, which,

²⁵⁰ Ibid, 34.

²⁵¹ Busoni, *Entwurf einer neuen Ästhetik der Tonkunst* 2nd Ed., 41.

²⁵² Knyt, *Ferruccio Busoni and his Legacy*, 59.

combining Tesla's alternating currents and Helmholtz' overtone theories, was designed to broadcast electronically generated music across the telephone network to fashionable salons and hotels across New York.

Although never having seen, heard or played the Telharmonium, Busoni enthusiastically championed it as a 'transcendental sound generator'²⁵³ and 'an extraordinary electrical invention for producing scientifically perfect music'.²⁵⁴ It possessed, he insisted, the qualities to become the final 'universal instrument' that would supersede all other instruments and through technology, produce free, microtonal music as described in his 'Sketch for a New Esthetic'.²⁵⁵ Busoni erroneously described the Telharmonium as being able to produce 'infinite gradation of the octave' by 'merely moving a lever corresponding to the pointer of a quadrant', a description entirely based, it seems, on Busoni's own hopes rather than the abilities of the fixed-tone Telharmonium.²⁵⁶ Hagen argues that Busoni's misinterpretation of the Telharmonium was a purposeful 'ideological wish' informed by his understanding of science through the occult and popular science fiction.²⁵⁷ Nevertheless, by championing the Telharmonium in his writing and teaching, Busoni gave the instrument publicity and academic credibility and opened the door for the use of electronic instruments in 'serious music'.²⁵⁸

²⁵³ Busoni, *Entwurf einer neuen Ästhetik der Tonkunst*, 63.

²⁵⁴ Quoted in Zeller 'Ferruccio Busoni und die musikalische Avantgarde', 9–21.

²⁵⁵ 'Das Universalinstrument war schon vorher in Amerika konstruiert worden: die elektro-dynamische Orgel. Es kostete eine Million, blieb liegen und geriet in Ruin.' Busoni, 'Futurismus der Tonkunst', in: *Von Der Einheit der musik*, 185.

²⁵⁶ Busoni, *Entwurf einer neuen Ästhetik der Tonkunst*, 33.

²⁵⁷ Hagen, 'Busoni's Invention', 106.

²⁵⁸ Busoni, *Sketch of a new esthetic of music*, 33.

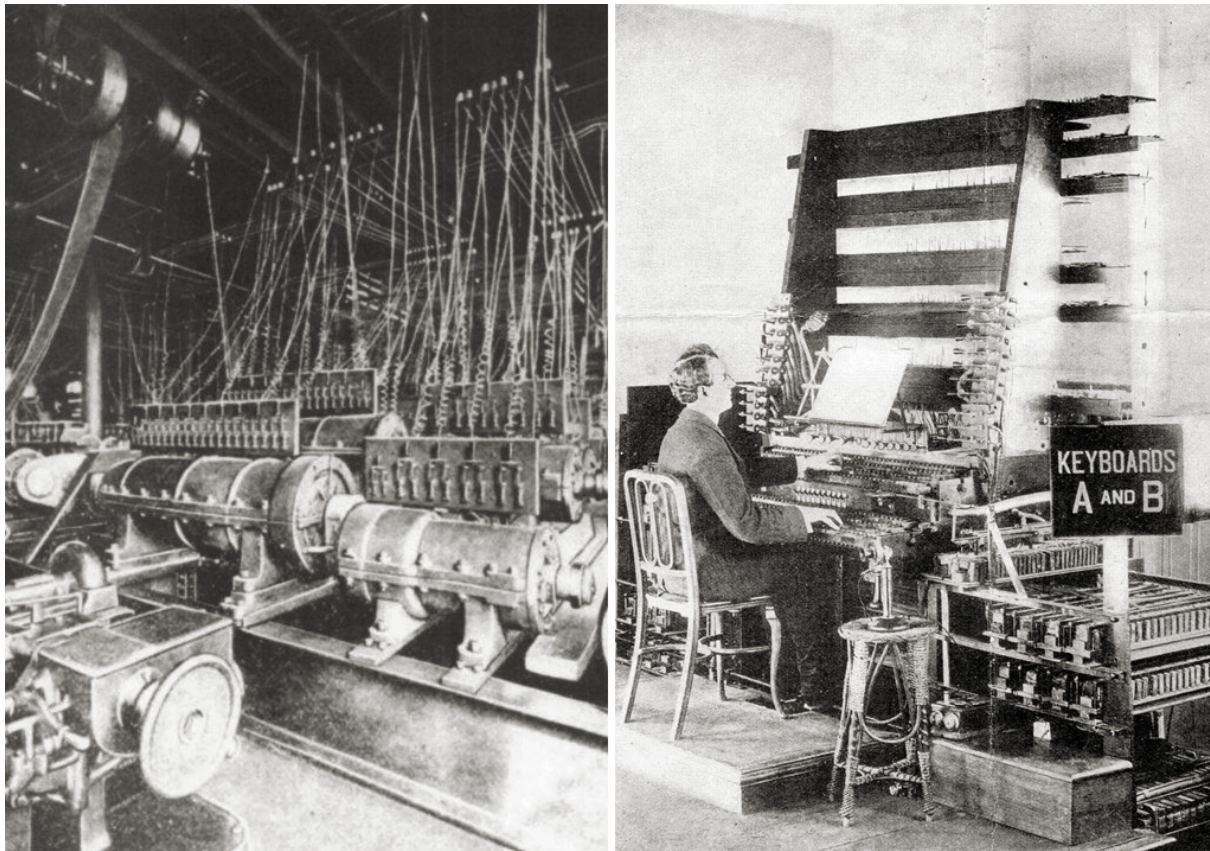


Fig. 3.4. The dynamo room and keyboards of Cahill's 200 ton, \$200,000 MkII Telharmonium from Ray Stannard Baker's review of the instrument in McClure's Magazine New York 1906. Image: 'New Music for an Old World' McClure's magazine. v.27 May-Oct 1906.

As a prominent champion of microtonality, Busoni became the centre of an international circle of young composers interested in microtonal and quarter-tone composition (*Viertelton* or sometimes just 'VT'), a group that included: Ivan Wyschnegradsky, Alois Hába, Willi Möllendorf, Richard Stein, Julián Carillo, Arthur Lourié and Jörg Mager. The group embarked on several ultimately unsuccessful attempts to create acoustic microtonal pianos and harmoniums to be able to perform their microtonal work: Hába's microtonal organ constructed by the August Förster company in 1923 and Wyschnegradsky's quarter tone piano are two examples. However, it was Jörg Mager who, taking inspiration from Busoni's evangelism of electronic instruments and his mystical description of the Telharmonium, decided that the problem of microtonality could only be solved through electricity.

The self-proclaimed 'father of German electronic music', Mager was an early and fanatical champion of quarter-tone music. Mager was a typical utopian in an age of utopians: a 'disciple' of Tolstoy, Strindberg, Schopenhauer and Gandhi and a devoted champion of radical teaching reforms, Pacifism, Teetotalism, Esperanto and Socialism, Mager had an unshakeable belief in the inherent transformational power of music alone being able to bring about a revolutionary new society of harmony and brotherhood.²⁵⁹ Mager inherited Busoni's mystical belief in the socially transformational power of music, but, unlike Busoni, Mager attempted to put these utopian ideas into practice. Mager had built his own acoustic quarter-tone harmonium in 1912 before meeting Busoni, and self-published his ideas in his microtonal manifesto *Vierteltonmusik* in 1915, but it was after arriving penniless in Berlin in 1921 and working part-time at the Lorenz Radio factory that he stumbled upon the possibility of creating microtonal sound through 'radio-electricity'.²⁶⁰

²⁵⁹ Mager, *Das Mager-Buch*, 106; Mager, *Eine Neue Epoche der Musik Durch Radio*.

²⁶⁰ Mager, *Das Mager-Buch*, 105–7.



Fig. 3.5. Jörg Mager and his dial-controlled Sphäraphon – a later 1926 model with a volume control allowing for audio envelope control. Image: Die Musik 20jg, 1hj 1927-1928, 37.

In 1921, Mager took Busoni's contrived description of the Telharmonium as the inspiration for his new electronic instrument, abandoning a traditional keyboard manual in favour of a pitch-controlling lever mounted on a semi-circular dial. Rotating the lever across the dial varied the pitch of the audio which was derived from a single self-oscillating vacuum tube, producing what would have been – there are no recordings of the instrument – a rather plain sine tone sweeping through a continuous glissando. (see: fig. 3.5.)

Mager christened his new invention the *Sphäraphon* ('Sphere-o-phone'), a name referring to the semi-circular dial but also making clear the relationship with Pythagoras's

idea of 'Music of the Spheres' – and again echoing both Helmholtz's and Busoni's earlier writings. Invoking Pythagoras was not just a classical embellishment, Mager's declared aim – following Busoni's previous suggestions – was to create what he called the 'Omnitonium', an ideal universal instrument, able to play any pitch and any tone – an instrument that would supersede all other instruments recreating the timeless Pythagorean dream of celestial music: 'Absolute music! The pan-tonal circle lay before me! The ocean of tone in its immeasurability! The omnitonium, the musical ideal of all times!'²⁶¹ Here we see Mager repeating, somewhat breathlessly, Busoni's utopian ideas of *Ur-Musik*: an 'infinite music' that exists both in historical tradition and in the future.

To achieve his utopian dream of musically-led social transformation, Mager planned to build '*Sphäraphon Towers*' where his microtonal electronic music would be amplified and projected across Berlin, inspiring a mass communal awakening. Mager describes this vision in his 1924 booklet *Eine neue Epoche der Musik durch Radio*:

A spring day in Treptower Volkspark. In the middle of the park, a tower, the *Sphärophon* tower, higher than the [Treptower park] observatory. The instrument, operated by music engineers and *Sphärophonmusikern*, starts to sound. Tone-colour cascades spray over thousands of people, transforming the spring blossom splendour into tonal splendour. All the feelings evoked in the human soul by the miracle of spring – cheers and jubilation, affectionate intimacy and a childlike loftiness, the *Sphäraphon* sounds out to them from the distance, brings them together and raises them to the effervescent ecstasy of spring joy! A utopia! But how long will [it take for this] Utopia?! ...²⁶²

Within the Berlin circle, Mager's insistence on pure microtonality and utopian pursuit of 'the ideal of the musicians of all time!' came to be seen as impractical, austere and

²⁶¹ Mager, *Eine Neue Epoche der Musik Durch Radio*, 5.

²⁶² Mager, *Eine Neue Epoche*, 16.

wilfully extreme. One of his fellow microtonal circle members, Richard Stein wrote in 1923:

Jörg Mager's ideal, namely the elimination of all solid tone levels by electrically controlled musical instruments, I think is completely utopian. The refinement of the hearing may go very far in distant times; but music is not painting and will never be an art without fixed tone levels.²⁶³

In 1929 Mager raised funding based in part on endorsements from his supporters, including Hindemith and Busoni²⁶⁴ to found the *Gesellschaft für elektro-akustische Musik* in Darmstadt where he continued the development of the *Sphäraphon*, a venture that eventually collapsed due to financial pressures and political disapproval – exacerbated by Mager's idealism and somewhat abrasive personality. Mager died destitute in 1939: by then his obsessive pursuit of microtonality was considered a quaint anachronism and his electronic instruments (all destroyed during the war) were obscured by the technical advances of the highly trained and skilled ex-students of the *HHI* (Oskar Vierling, Winston Koch, Harald Bode, Fritz Sennheiser and others). Despite this apparent failure, Mager was a solitary example of a German technological-creative who doggedly pursued a somewhat chaotic, idiosyncratic, experimental vision over commercial success – some of his 'unmusical' experiments such as low frequency modulation and noise generation became standard features of post-1945 electronic music.²⁶⁵

²⁶³ Richard Stein, quoted in Patteson, *Instruments for new Music*, 62.

²⁶⁴ *Ibid*, 162.

²⁶⁵ Low frequency modulation is the use of an inaudible low frequency oscillator (LFO) to modulate waveform characteristics.

Section 3.5: The search for the 'Absolute'

The term 'absolute' here refers to the overlapping concepts of 'absolute music' – a form of non-representational 'abstract' music that became in the nineteenth century an idealised 'spiritualised' form²⁶⁶ – and a more modern definition of the term connected to often technologically driven concepts that looked for 'total' solutions to societal problems. It is this latter definition when applied to music, that I will concentrate on in this study.

As we have seen, Germany in the early twentieth century was an age of contrasting absolute utopian solutions: the 'white socialism' proposed by industrial capitalists promising an escape from messy free-for-all of the class struggle through the application of 'rationalisation', the utopian social standardisation of classical modernism and the anti-technological return to a spiritual *Volksgemeinschaft* amongst many others.

Originating in Wagner's *Gesamtkunstwerk* concept of socially transformative 'total art', music began to be reimagined in absolute terms: Busoni's mystical pure culture of *Ur-Musik*, Mager's 'musical ideal of all times' being examples of this tendency. But the idea of an 'absolute' or 'total' music was particularly animated by the possibilities offered by audio technology: composers saw in technology the possibility of a 'universal' democratised *Gesamtkunstwerk* and a method of liberating the artist from the inaccuracies and inefficiencies of traditional composition and music production and sought to create new technological methods that would supersede previous musical practises.

The concept of 'absolute' art traversed artistic practises during the 1920s and included Wagner-esque combinations of creative disciplines into new practises – Schlemmer's

²⁶⁶ See: Dahlhaus, *The Idea of Absolute Music*.

'Absolute Visual Stage', Fischinger's '*Tönende Ornamente*', Ruttmann's 'Absolute Film' and Weill's *Absolut Radio Musik* for example. In this section I will analyse a number of 'absolute music' forms that emerged during this period which went some way beyond the standard cultural role for music to address specific utopian societal objectives. New genres that I will focus on in this section that were associated with the 'absolute' term include '*Hörspiel*' ('radio plays' or 'sound art') and *Absolute Radio Musik* – music composed specifically to exploit the nuance and limitations of the medium pioneered by Kurt Weill.

Radio had no parallel in 1920s Germany. Cinema had a history of magic lanterns, zoetropes, dioramas and slide shows going back to the 18th century, but radio was completely and unexpectedly 'new'. Emerging as it did from military rather than cultural origins, the medium of radio was free of the baggage of tradition, and as such it became a battlefield for contrasting political-cultural visions.²⁶⁷ The extraordinary power of radio was immediately recognised both by the state, political factions and artists who quickly (and somewhat chaotically until the establishment of the RRG national network in 1923) colonised the vacuum created by the new medium with their conflicting ideas and agendas. During this period of artistic/technical exploration, a fierce debate raged between the technologically-positive modernists who looked for technical, compositional and instrumental opportunities to create a new type of music - 'radio art' - suited for the broadcast medium, and the *Bildungsburgertüm* who insisted on using radio as a device to protect and reinforce their form of bourgeois *Kultur*. These conservative forces fiercely resisted the idea that music could be adapted to suit the medium, something in their eyes, that was tantamount to the surrender of *Kultur* to the materialist forces of *Technik*.

²⁶⁷ Birdsall, 'Sound Aesthetics and the Global Imagination in German Media Culture Around 1930', 259.

An early and active champion of the radio medium, Kurt Weill was by 1926 one of the first composers to be able to gain a living purely from his radio work – a mixture of commissions for original work and hundreds of reviews for the radio journal *Der Deutsche Rundfunk* (1924 to 1929).²⁶⁸ Weill wrote that radio was ‘one of the most essential elements of public life’²⁶⁹ and, during a period of enforced apoliticism, must be opened up to ‘the broad masses of the German people’ for open political debate. Weill insisted on the unrestricted, creative musical use of the medium, arguing that the mere ‘faithful’ transmission of operas and plays did no justice to the broadcast medium.²⁷⁰ Instead, invoking his former teacher Busoni’s clarion call for sonic innovation, in a 1925 article he demanded a new *Gesamtkunstwerk* inspired by radio technology, a new medium he called ‘Absolute Radio Art’ (*Absoluter Radiokunst*).²⁷¹

By formulating the idea of *Absoluter Radiokunst*, Weill (alongside several other dramatists and musicians) was reacting against what he saw as the unimaginative, dictatorial and reactionary political policy of the RRG which prioritised state stability and *Bildungs*-oriented *Kultur* above the creative opportunities presented by the new medium. Weill’s vision of a new form of technological music was formed in opposition to these restrictions, but also imagined through Busoni’s neo-spiritual model. Hagen suggests that Weill’s call for the ‘absolute’ was rooted in the etheric-spirit principles of the nineteenth century that framed technology in the type of mystical terms described in Chapter 2.2: ‘In a climate that is still epistemologically determined by the ether-paradigm of physics in the nineteenth century, radio is stylized into a transcendental chimaera of the absolute.’²⁷² This sentiment Weill seems to confirm in his 1925 article *Möglichkeiten absoluter Radiokunst* where he reveals the influence of his teacher Busoni, describing his

²⁶⁸ Weill, *Ausgewählte Schriften*, 110-114.

²⁶⁹ Weill, ‘Der Rundfunk und die Umschichtung des Musiklebens’ (1926).

²⁷⁰ Hagen, *Das Radio. Zur Theorie und Geschichte des Hörfunks Deutschland / USA*, 93.

²⁷¹ Kurt Weill, *Musik und Musikalisches Theater*, 264.

²⁷² Hagen, *Das Radio*, 73.

utopian vision of an absolute 'soul-like' music that would raise the spiritual and moral level of society:

Sounds from other spheres: calls from human and animal voices, natural voices, the sound of winds, water, trees and then an army of new, unheard-of noises, which the microphone could artificially generate if sound waves were raised or deepened, layered or interwoven, would be blown away and reborn. To emphasise the most important thing again: such an opus should not create a mood, no natural symphony with the most realistic possible use of all available means, but an absolute, soul-like work of art floating above the earth with no other end than that of any true art: To give beauty and to make people good through beauty²⁷³

Here, Weill describes the radio medium as a new creative sonic space where sounds can be generated and manipulated to 'float above the earth' to the new mass audience of radio listeners. Using Busoni-like mystical language – 'Sounds from other spheres' – Weill insists that the music is not simply an emotional experience but a profound moral and spiritual event with a social purpose, 'to make people good through beauty'.²⁷⁴

Despite its social/spiritual revolutionary potential, Weill also understood the more mundane sonic shortcomings of the radio medium:

Orchestral pieces were distorted by the radio, because [for example,] the bass lacks in this piece, the timpani in that piece, the violins sound like clarinets, the concert grand sound like old pianos etc.²⁷⁵

²⁷³ Weill, 'Möglichkeiten Absoluter Radiokunst', 1627.

²⁷⁴ Ibid, 1627.

²⁷⁵ Schunemann, 'Die Funkversuchsstelle bei der Staatlich Akademischen Hochschule für Musik in Berlin', 277-93.

Similarly Max Butting wrote in 1931 that these technical restrictions made traditional orchestral works incompatible with broadcast:

An over-loud blaring wind section in the middle range may override a violin melody, making parts of a work incomprehensible. A work like in Wagner's *Ring der Nibelungen* is not transferable [as], the many horns and tubas blur the sound.²⁷⁶

If these technical shortcomings filtered out the type of music that a harmonious German society was reliant upon, a new form of music was needed that fulfilled the same social purpose but both evaded the limitations *and* exploited the possibilities of radio broadcast. Weill believed that with suitable technical knowledge, a composer could not only write music that exploited the democratic character of the medium but also that the unique conditions of the radio allowed for new, unexpected sonic experimentation – in the same way that film opened up a new world of visual and temporal/spatial experimentation:

What the film has brought about in new ways: the constant change of scenery, the simultaneity of two events, the pace of real life and the larger-than-life pace of the pastiche, the puppet-like truthfulness of the animated film and the possibility of a line from its creation to its transition into others – The microphone must also be able to trace shapes – all of this - transferred to an acoustic environment. Just as the film enriched the optical means of expression, the acoustic ones have to be increased unexpectedly by the radio telephony. The 'acoustic slow motion' must be invented - and much more. And all of this could then lead to absolute radio art.²⁷⁷

²⁷⁶ Butting, 'Music of and for the Radio', 15.

²⁷⁷ Weill, 'Der Rundfunk und die Umschichtung des Musiklebens', 221-3.

Weill's first *Absoluter Radiokunst* piece composed to be performed exclusively for broadcast was *Das Berliner Requiem*, a collaboration with Bertolt Brecht, commissioned by the pioneering director-in-chief of *Südwest-Rundfunk* (SWR) radio Hans Flesch in 1928.²⁷⁸ Weill scored the work (for an ensemble of three-voice male choir, wind ensemble, guitar, banjo, and organ) using a sparse, economical arrangement that focused on the mid range notes of the brass ensemble punctuating the narrative and at the same time, outmanoeuvring the sonic and technical limitations of the day.²⁷⁹ *Das Berliner Requiem* was broadcast only once on May 22, 1929.

For Weill, radio was a utopian device that could realistically deliver social change. As Hagen puts it, to Weill, radio was 'the most modern machine that showed the possibility and hope of a new person. It would be this new type of person who, using this machine, would humanise the face of the masses'.²⁸⁰ To access this hope and reach the critical-mass required for social change, Weill understood that the new musician must adopt the form and behaviour of the type of music that had successfully developed through technology and critically, outside of the constraints of German Music - namely, popular music and jazz. This need to engage in the democratic nature of radio was a central factor in Weill's (and other modernist composers such as Krenek, Eisler, Wolpe) change of focus from concert hall music to new genres of popular music and *Gebrauchsmusik* - particularly the primary genre of mass media, the 'song'.²⁸¹

Ernst Krenek also spoke of the need to engage with the democratic potential of radio, a 'media, that allows [us] to be understood by the commonalty'.²⁸² This 'mediatisation',

²⁷⁸ Brecht described the work as a 'secular requiem that gives voice to contemporary Man's feelings about death.' and Weill; '...it has become one of my best and most novel pieces. It is called the Berliner Requiem and is a sequence of 7 pieces, partly solemnly tragic, partly ironic in character': Grosch, *Kurt Weill*, 152.

²⁷⁹ Grosch, *Die Musik der Neuen Sachlichkeit*, 233.

²⁸⁰ Hagen, *Das Radio*, 109.

²⁸¹ Grosch, 'Neue Sachlichkeit, Mass Media and Matters of Musical Style in the 1920s', 191.

²⁸² Krenek, 'Neue Humanität und alte Sachlichkeit', 244-58.

extending beyond the requirements of the broadcast as a medium, became a stylistic hallmark of *Neue Sachlichkeit* – where, as Grosch describes it, the ‘aesthetics for the production of art referred primarily to aspects of reception, communication, and the mediatisation of music’.²⁸³ Prominent examples of this genre were Krenek’s *Jonny Spielt Auf* (1927) and the later work of Brecht and Weill which incorporated elements of jazz, pop music, street music and atonalism.

Sharing many of the foundational motivations of *Absolut Radiokunst*, the short-lived but influential genre of *Hörspiel* (‘Radio Plays’) first appeared on German radio around 1924 and ended with Chancellor von Papen’s censorial takeover of the radio network in 1930.²⁸⁴ *Hörspiel* was an attempt at creating a hybrid ‘absolute’ form of radio art, a *Gesamtkunstwerk* like combination of theatre, music and spoken word that exploited the unique properties of the radio medium, described by the dramaturg and pioneer of *Hörspiel*, Walter Bischoff as:

A symphonic-acoustic structure of literary performances, directed into time and beyond the socially diverse structure of the time into the heart of the listener, [it] must result in an artwork that combines words and music and in the final totality it presents itself as an acoustic work of art, as a pure radio play.²⁸⁵

Hörspiel was an unresolved experiment in developing what Schumann & Rosenthal call a ‘specific radiogenic vocabulary’ i.e. a form of art that evolved *from* radio rather than being adapted to it.²⁸⁶ Rather than use the radio merely as a ‘repeater device’ i.e. to broadcast existing cultural forms unchanged, *Hörspiel* aimed to utilise these new creative opportunities presented by radio to develop a new artistic genre. Early pioneers of

²⁸³ Grosch, *Neue Sachlichkeit*, 191.

²⁸⁴ Interest in the ‘Hörspiel’ genre re-emerged later in Germany after 1950.

²⁸⁵ Walter Bischoff quoted in: Hagen: ‘Busoni’s Invention: Phantasmagoria and Errancies in Times of Medial Transition’, 87-107.

²⁸⁶ Hans Flesch, Schumann, & Rosenthal, *Magic on the Air*, 15.

Hörspiel were aware of the creative potential of radio's unique and unexplored properties: Ernst Krenek suggested that radio's 'departure from reality' allowed for the creation of 'new material, which presents certain features found nowhere else.'²⁸⁷ Similarly Hailey writes that it was the very 'newness' of radio that created a space for radical experimentation.²⁸⁸ Radio fundamentally challenged the previous certainties of music and theatre and presented the writer/composer with a set of novel and often contradictory challenges and opportunities: radio could distort spatial distance, shrinking or expanding geography at will, living in the listeners' own front-room speaking to them through their headphones while at the same time speaking at a distance to millions across the globe, inhabiting a spirit-like 'non-space' – a disorienting effect that Pierre Schaefer described as 'schizophonic distortion.'²⁸⁹ Hans Flesch made ample use of schizophonic distortion in what is considered to be the first *Hörspiel*,²⁹⁰ the Hoffmannesque *Zauberei auf dem Sender: Versuch einer Rundfunk-groteske* ('Magic on the Air: Attempt at a Radio Grotesque' October 24, 1924) where he created a sense of unease by intentionally obscuring the physical origin of the sound: was the performance taking place in the studio? In the listeners home? Or by some technical-alchemical wizardry, 'somewhere in the ether'? Flesch amplified this unsettling atmosphere employing an almost Joycean fractured narrative overlaid with a collage of ghostly manipulated 'audio sampled' voices (sounds previously recorded to phonograph disk and manipulated by hand) used to interrupt the narrative.²⁹¹

²⁸⁷ Hailey, 'Rethinking Sound: Music and Radio in Weimar Germany', 14–16.

²⁸⁸ Ibid, 32.

²⁸⁹ Gilfillan, *Pieces of Sound: German Experimental Radio*, 50.

²⁹⁰ Hans Flesch (December 1896 – April 1945) was a pioneer in the emergence of Weimar radio and the *Hörspiel* genre, first as the artistic director of the Südwestdeutscher Rundfunkdienst AG (SWR) in Frankfurt (from 1924 to 1929) and then the director of the Berliner Funkstunde ('Radio Hour') from 1929 to 1933. He played a role in the broadcast careers of figures including Walter Benjamin, Paul Hindemith, Bertolt Brecht, Arnold Schönberg, Alfred Döblin, and Kurt Weill, Theodor Adorno, Arnold Schönberg, and Kurt Weill ('The Berliner Requiem' of 1929 commissioned by SWR).

²⁹¹ Flesch, *Magic on the air*, 16.

Broadcast nationally only a year after the establishment of the national radio network, *Zauberei* was an oblique critique of the state's control: a playful satire on the attempts of the RRG to constrain the rapidly evolving culture of the airwaves, and, a way of questioning the new medium by provoking the listener's technological anxieties: who owned the radio? Who was in control? Can radio be trusted? What happens when things go wrong? Schumann & Rosenthal wrote that *Zauberie* explored the creative potential of radio as a 'productively disruptive technology, a nascent medium out of control'.²⁹² But it was also a prophetic exposure of the totalitarian potential of radio if left unchallenged. As the *Goldene Zwanziger* years of the 1920s fell into the global depression of the 1930s, conservative state intervention on the airwaves became more prevalent (particularly due to successful lobbying by the National Socialist *Rundfunkteilnehmer* group²⁹³) and any chance of creative exploration finally came to an end with Chancellor von Papen's nationalisation of the network in July 1932. The *Hörspiel* pioneer, Hans Flesch was later arrested by the Nazi regime in August 1933 and held at the Oranienburg concentration camp.²⁹⁴

Section 3.6: Utopian performance

The post-1918 reassessment of music within a sociological context led to the emergence of multiple new categories of music – *Gebrauchsmusik* and *Lehrstück* being the prominent examples that I will concentrate on in this study. In this section I will argue that the sociological systematisation of music was driven primarily by technological change – a technological-industrial change that disrupted the musical-cultural life of the population but also one that supplanted the national music culture with new, technologically driven forms.

²⁹² Ibid, 14.

²⁹³ Birdsall, 'Sound Aesthetics and the Global Imagination', 265.

²⁹⁴ Gilfillan, *Pieces of Sound*, 46.

From the beginning of the twentieth century the connection between German Music and the German people was progressively loosened. This distancing from what was seen as their cultural birthright and an essential component of 'Germanness' was caused by massive social changes brought about by industrialisation and urbanisation. Despite the enormous social changes taking place, the 'keepers of German Music', the *Bildungsbürgertum*, attempted to maintain the 'purity' and traditions of German Music by isolating it from external influence. As a result, German Music became increasingly irrelevant and less listened-to by the greater part of the population. The new industrialised masses replaced the *Heimat* culture of their agrarian roots with a new technologically driven mass culture aligned with the new soundscape of urban modernity.

New audio technologies were disrupting the economics and practice of music during this period leading to a clear separation between 'music for music's sake' and music defined by a function or context (such as advertising, film, gramophone production, radio broadcast and so-on). In contrast to the defensive 'bunker mentality' adopted by the *Bildungsbürgertum*, many modernist composers saw this disruption as a utopian opportunity to reunite the 'masses' through a re-categorisation of music outside of institutional control.

3.6.1. Gebrauchsmusik

The sociological and political aspects of *Gebrauchsmusik* have been well documented elsewhere.²⁹⁵ Therefore, in this section I specifically intend to explore the role of technological audio and utopian thought on the ongoing development of the *Gebrauchsmusik* genre.

The term *Gebrauchsmusik* was coined in the early 1920s by Paul Nettl as a musicological distinction between German music written for dance – specifically 17th-century dance

²⁹⁵ For a detailed account of *Gebrauchsmusik* see: Hinton: 'The Idea of *Gebrauchsmusik*', 16.

music – and music written to be listened to, or ‘music for music’s sake’.²⁹⁶ The term was adopted later first by the anti-technological musical right who yearned for a return to collective and communal performance, a practice that would, they believed, ensure the tradition of German Music. Later developments (c1925) repositioned *Gebrauchsmusik* in more sociological terms, i.e. ‘music with a social function’.²⁹⁷ This new form of *Gebrauchsmusik* extolled the virtues of collective, communal endeavour over aesthetic concerns, echoing the objectivity and functional rationalism of *Neue Sachlichkeit* and classical modernism,²⁹⁸ and became closely associated with the modernist left.

Both sides of the Weimar culture wars saw *Gebrauchsmusik* as a programme for utopian ends – i.e. the establishment of a better society through the practice of communal music. As we have seen in this chapter, this tendency towards utopian thought was in reaction to the musical and commercial changes brought about by the emergence of audio technologies in German Music. On the whole, the nationalist factions saw audio technology as a malign force that had, put simply, ‘de-souled’ the musical experience – the concert hall tradition – and removed ‘the people’ from their natural spiritual resource i.e. music. *Gebrauchsmusik* therefore, by making music more relevant through active participation in music making, would help achieve the restoration of a German national spiritual community. A leftist interpretation of the technological argument followed similar lines but (put simply) replaced ‘spirit’ with ‘class’: capitalist commercial exploitation of music through technology had created an elitist culture that was inaccessible and irrelevant to the working classes. *Gebrauchsmusik*, by increasing the relevance of culture through education and participation would bring about the ascendancy of the working class through cultural renewal and class consciousness.

²⁹⁶ Nettl, ‘Beiträge zur Geschichte der Tanzmusik’, 257–65.

²⁹⁷ Taruskin, *The Danger of Music and Other Anti-utopian Essays*, 61.

²⁹⁸ Aurin, *Dialectical Music and the Lehrstück*, 43.

Breivik illustrates this dual argument with two contrasting characters: the 'utopian socialist' Leo Kestenberg whose 'vision of reforming musical life was rooted in a preoccupation with the alienation of man in capitalist society, not only in the commercialization of concert life', and the nationalist (and later National Socialist) Fritz Jöde who shared Kestenberg's anti-capitalism but whose equally utopian vision of *Gebrauchsmusik* (in this case focussed around the youth movements and folk music) was 'based on the idea that a new age needed both a new culture of music and a new *Volksgemeinschaft*'.²⁹⁹ This dual interpretation of *Gebrauchsmusik* persisted until the early 1930s with, for example, the NSDAP introducing the concept into the nationalist *Volks* theatre of the *Thingstätte* movement and mass party rallies (see Chapter 5).

Breivik goes on to argue that one of the primary factors driving the need for *Gebrauchsmusik* was the increased commercialisation of German Music in the concert hall: the concert-hall-going public of the 1920s were becoming increasingly disillusioned with traditional concert activities and believed that public concerts primarily served commercial interests.³⁰⁰ Supporting this argument, Licco Amar, first violinist in the Amar Quartet, writing in *Die Musik* (1929) argues that:

Musical culture can no longer be measured by concert activity, whose zenith seems to be past as it has, for the most part, given way to a purely commercial exploitation of music.³⁰¹

Commercial exploitation in this case, was both the pandering of concert programming to commercial tastes and the collusion in the newly established business of the technological music industries – sound film, radio and the gramophone - which, it was argued, removed music from the common, communal experience.³⁰²

²⁹⁹ Breivik, *Musical Function. In Musical Functionalism*, 321.

³⁰⁰ Ibid, 318.

³⁰¹ Amar, 'Zur Frage der Gebrauchsmusik' 401.

³⁰² Breivik, *Musical Function*, 318.

This musical 'communality' was a central concern. The German musicologist Heinrich Bessler, writing in 1925, argued that audio technologies had destroyed the act of communal and active listening, reducing the listener to a passive consumer, at the cost of the Kantian concept of 'immediacy'. As Breivik describes it, 'Radio broadcasting has completely atomised the audience, and the gramophone has removed the listener from the immediacy of any actual performance'.³⁰³ Bessler argues for the return of music as the fundamental experience of everyday life: this was to be achieved, he proposed, by a restoration of active listening and participation (*Mitmachen*) through a new interactive role of the listener in the musical piece: 'Such an art will therefore always accommodate a lasting need, not seeking its audience but rather growing out of it. This is *Gebrauchsmusik*'.³⁰⁴ Bessler, Jöde and Amar, though from different camps, were primarily motivated with *Gebrauchsmusik* as a form of *Musikpflege* (music-care), the duty to nurture and protect the tradition of German Music for the next generation and for the consolidation of national *Kultur*. Their aim was less a revolutionary new form of music but a way to restore the *Geist*' and status of German Music, untarnished by commerce and technology.

In contrast to these defenders of the *Kultur* status quo, the modernist composer and critic Max Butting writing in *Melos* (1927) argues that the effect of technology on music was more complex than simple commercialisation. Technology and urban modernity, he argued, had fundamentally changed people's behaviour and perceptions, distancing them from traditional forms of culture: 'We have become simpler, more impatient and more rhythmic', he argues; the city dweller 'demands more conciseness' and are subconsciously drawn towards rhythm:

³⁰³ Ibid, 323.

³⁰⁴ Bessler, 'Grundfragen des musikalischen Hörens', 36.

The rhythm of every machine, every means of transport, every dance and sport is so strongly imposed in tone, noise and movement that rhythmic sensation has become more natural to us, and so completely that we are no longer aware of it. We are only amazed at processes that have no rhythm.³⁰⁵

The cumulative effect of this process was that German Music and the communal experience of the concert hall had become increasingly irrelevant to the urban listener. Butting goes on to argue that the only way to regain the social-communal soul of music was by creating a new type of 'modern' music that reflected the sonic realities of everyday experience. It was this analysis – that music had to come to terms with mass-modernity and the 'modern human' – combined with the 'democratic' use of audio technology, that informed the modernist interpretation of *Gebrauchsmusik*. This modernist version retained Besseler's anti-capitalist and anti-commercial foundations as well as the widely held belief in the socio-transformative power of music, but now added a newly re-evaluated relationship between music and technology. This new definition of *Gebrauchsmusik* argued that to effect a musical re-engagement with 'the people' it was necessary to connect with a mass audience who existed only through audio technology. Technology, therefore, was now not just a malign source of cultural decay but also an opportunity to promote a just society through the democratisation of culture.

This revised view of technology that connected human perception to modernity also led to a new genre of *Gebrauchsmusik* called *Mechanischen Musik* – music made for and by machines. This genre was less interested in the pursuit of musical communality and instead embraced the reproductive and performance capabilities of mechanisation as both a method of composition and performance but also a new method of distribution and listening. This concept extends Besseler's *Mitmachen* beyond the human and into areas of mechanical reproduction and broadcast. The motivations for experimentation

³⁰⁵ Butting, 'Die Musik und die Menschen', 58-63.

with *Mechanischen Musik* were varied, ranging from Stuckenschmidt's pursuit of a human-free, mechanical, 'almost utopian vision of musical composition' to Hindemith and Toch's experiments with the superhuman performative aspects of mechanical instruments (1926) and their later use of spontaneous mechanical interaction in *Grammophonmusik* (1930).³⁰⁶

This more experimental and technologically inclusive form of *Gebrauchsmusik* was championed by Paul Hindemith, whose name became synonymous (often pejoratively) with the genre. Hindemith's central interest in *Gebrauchsmusik* was, conventionally enough, to promote a re-engagement with music through participation and learning, specifically through children's music and the youth music (including, compositions for Jöde's *Jugendmusikbewegung* – a nationalist youth music group which had evolved from the youth movements). However, he also championed, alongside Kestenbergh, Brecht, Toch and others, the exploratory and experimental use of technology in *Gebrauchsmusik*.

The single event that perhaps best encapsulates Hindemith's technological vision was the 1926 Donaueschingen 'Summer of Music' Festival, that he curated.³⁰⁷ The provocatively *Gebrauchsmusik*-themed event ('mechanical music and military music') featured Hindemith's own music written for a pneumatic mechanical Welte-Mignon organ to accompany the Bauhaus member Oscar Schlemmer's radical 'Triadic Ballet', and the debut performance of Jörg Mager's *Sphäraphon* electronic instrument – alongside military music and chamber music. The inclusion of Jörg Mager's Sphärophon instrument in the *Gebrauchsmusik* category was due both to the perception that *all* electronic and mechanical music was *Gebrauchsmusik* thanks to its functional, 'materialist' nature, but

³⁰⁶ Hirt, *When Machines Play Chopin*, 134.

³⁰⁷ To give it its full title: *Donaueschinger Kammermusikaufführungen zur Förderung zeitgenössischer Tonkunst* the festival ran from 1921 until 1930 and was directed by an eclectic mix of well known modernists and conservatives: Modernists: Ferruccio Busoni, (until his death in 1924), Paul Hindemith, the rightwing nationalist Hans Pfitzner and establishment composers Richard Strauss, Joseph Haas, Arthur Nikisch, Siegmund von Hausegger.

also to Mager's much repeated utopian dream of social unity brought about by the experience of microtonal electronic music broadcast from urban towers - which is to say, a functional type of music aimed at a social transformation.³⁰⁸

3.6.2 Lehrstück

A radical subset of the *Gebrauchsmusik* category was a didactic form of music and theatre termed *Lehrstück* ('learning plays') developed in the late 1920s by Bertolt Brecht, with the close musical collaboration of Kurt Weill, Paul Hindemith, Hans Eisler and Paul Dessau. The much debated history of *Lehrstück* is too lengthy to cover in this study – instead I will concentrate on the utopian aspects of audio technology that influenced the creation of *Lehrstück* and its subsequent development, particularly Brecht and Weill's *Der Flug der Lindberghs* (1929).

Brecht's concept of *Lehrstück* was distantly founded on Wagner's utopian concept of *Gesamtkunstwerk* and the belief that German Music and theatre had a central role in the social and spiritual advancement of the nation. Brecht was, however, less concerned with a Wagnerian spiritual reawakening and more in driving social change through a Marxist inspired dialectical method of analysis and debate: a 'unity of representation and critique'.³⁰⁹ This dialectical method was informed by technology both in terms of the politics of production (that is to say, technical control and the 'means of production'), and as a method of democratising the performance (i.e. a way of accessing an audience beyond the theatre stage via a technologically facilitated dialectical interchange). Crucial to Brecht's theory of culture was the idea of 'apparatus': a concept derived from Marxism that (put simply) positioned culture as a product of politics and therefore, a political act

³⁰⁸ Stefan Paul writing in *Die Bühne*: 'Even greater possibilities, however, seems to be offered by the so-called *sphärophon*, an invention of the school teacher Jörg Mager, who now systematically reproduces the background noises that can be heard on the radio, giving any tone any divisions of the octave, so that not only quarter notes but also seventy-two notes can be produced, and finally a tone of twelve horsepower [volume] can be produced, which of course would impress the windows of all the concert halls. In return, symphonies for entire districts could be performed by monumental musical towers ...': Stefan, 'Das Donaueschingen Musikfest', 7.

³⁰⁹ Boner, 'Dialektik und Theater', 117.

in itself.³¹⁰ By apparatus Brecht includes the political class (the class in control of the means of production), their agencies (press, theatre agencies promotion etc.) as well as the actual tools of production – the technical equipment. Brecht pointed out that the ownership and control of these cultural bodies had critical consequences for culture, especially when in the hands of an economically powerful class such as the *Bildungsbürgertum* elite.

Brecht's ideas of culture and production were influenced by Marxist theories of production and class but also by the perception of technology at the time. As the mediator of change, technology was often seen as a way of uniting the troublesome heterogeneous nature of post-war society en-masse. The Weimar era was a period of technologically enabled mass movements. As Peukert describes it, this was a period of 'mass marching columns, huge rallies, great sporting events and mass spectacles in theatre',³¹¹ whose 'mass' and logistical organisation was only achievable through the new audio technologies of the radio, microphone and loudspeaker. This political-technological context gave radio a key function in German culture and politics – a function that Brecht was keenly aware of. The very 'newness' and sudden appearance of radio as a common resource meant that it had no tradition of ownership or control, a vacuum that, combined with the realisation of its potential power, placed it at the centre of a political struggle, provoking conflicting demands for autonomy, control and censorship. Since 1918, radio had been at the epicentre of autonomous leftwing political activity and anti-authoritarianism, a tendency that manifested in the formation of various revolutionary workers radio clubs.³¹² In reaction to this, the state under Hans Bredow's RRG, took control of the airwaves in 1923, banning private unlicensed broadcast and reception (apart from amateur radio 'clubs') and broadcasting a diet of mainly

³¹⁰ Mueller, *Bertolt Brecht and the theory of media*, 15.

³¹¹ Peukert, *The Weimar Republic*. 161.

³¹² For example the *Arbeiter Radio Bund* (ARBD) and the *Arbeiter Radio Klub* (ARK).

Bildungs-oriented *Kultur* combined with *Volks* and *Heimat* type broadcasting (with a few notable exceptions such as Flesch's *Hörspiel* and Weill's *Radio Musik*).

Within this tense cultural-political landscape, Brecht collaborated with Hindemith and Weill on the first *Lehrstück*, *Der Lindberghflug*, for the 1927 Baden-Baden 'Summer of Music' festival. This piece celebrated the recent successful transatlantic flight of Lindbergh: an event that was considered a miraculous achievement of technology, the power of communication and the power of 'will'. Brecht's text traces the journey from alternating viewpoints suggesting that a combination of technology and economic power would make possible the fight against ignorance and exploitation. (Lindbergh's later support for National Socialism led Brecht to revise and elaborate the first storyline.)

Der Lindberghflug was an exploratory exercise in the use of the radio apparatus as a means of communication rather than distribution.³¹³ Brecht had originally intended the piece to be performed only over radio, with the mass-audience participating in the sung narrative in their own home. However, for the stage production, the stage was separated into two halves to mimic the broadcast/listener divide: the musicians on the left representing 'the radio', separated by a screen from 'the listener' who sung/orated the part of Lindbergh (see Fig. 3.5).

³¹³ Mueller, *Bertolt Brecht and the theory of media*, 26.



Fig. 3.5. Brecht's 1927 staging of 'Der Lindberghflug' with the stage divided between 'the radio' and 'the listener'

The idea of an interactive dialogue between broadcaster and listener was further developed by Brecht in his short 1931 essay *Der Rundfunk als Kommunikationsapparat* where he proposed a radical utopian internet-like open network of asynchronous transceivers – radios capable of transmitting as well as receiving, forming a 'many-to-many' network capable of hosting nationwide mass collaborative *Lehrstücke*:

The radio could be the finest possible communications apparatus in public life, a vast system of channels. That is, it could be so, if it understood how to receive as well as to transmit, how to let the listener speak as well as hear, how to bring him into a network instead of isolating him.³¹⁴

³¹⁴ Brecht, 'Der Rundfunk als Kommunikationsapparat'.

Brecht admits his ideas are 'utopian' but suggests they could be made real with the right political will:

This is an innovation, a suggestion that seems utopian and that I myself admit to be utopian. When I say that the radio or the theatre 'could' do so-and-so I am aware that these vast institutions cannot do all they 'could', and not even all they want.

Here Brecht's admission of utopianism is informed by his understanding that the progressive possibilities offered by radio technology were limited by the structure and policies of the German radio network, which had already been 'nationalised' and brought under state control in 1930 – a network which, under the control of Goebbels, would become the servant of a very different utopian vision (see Chapter 5).

The merging of political and aesthetic issues as exemplified by *Lehrstücke*, led to competing forms of expression on both the left and right.³¹⁵ The most prominent rightwing form was the *Thingspiel* movement, which adopted a propagandised and ritualistic form of *Lehrstücke* aimed at involving the audience in the concept of a new national unity within a right-wing framework (in contrast to a Marxist inspired dialectical process). Although *Thingspiel* purported to be of archaic German origin, it drew heavily on the experimental theatre movements of the Weimar Republic and formed a right-wing analog of *Lehrstücke*. Referring specifically to Brecht's *Die Maßnahme* (1930), Pan argues that as the 1930s progressed, the increasing political polarisation of the period transformed *Lehrstücke* into 'exercises in political representation rather than in critical thinking'.³¹⁶ Correspondingly, Kiessel argues that both forms functioned as totalitarian rituals that aimed to establish 'political religions', one of a society united by 'class' and

³¹⁵ Pan, 'Developing a Theater of the Collective', 307.

³¹⁶ Ibid, 314.

the other by 'blood'.³¹⁷ *Lehrstücke*, therefore, had moved away from its dialectical origins to provide a purely utopian-political function, and similarly, the use of technology moved from the radio-enabled mass engagement and democratic debate to the sublime and immersive experience of electronically amplified ritual.

3.6.2 Grammophonmusik – Machine Music

A unique form of sonic experimentation of musical composition and performance and a prime example of 'technological mediation' are the recorded audio manipulations of Ernst Toch and Paul Hindemith known as *Grammophonmusik* or *Trickaufnahmen* (trick recordings). These sonic experiments I will argue were important in that they not only challenged preconceptions of performer and composer, but introduced the idea of interaction and chance into modern music. The utopian aspects of *Grammophonmusik* lie in Moholy Nagy and Hans Heinz Stuckenschmidt's proposal of 'total' solution to music composition: Nagy and Stuckenschmidt argued that a composer could be trained to learn a visual language based on the study of recorded gramophone grooves and write music directly onto blank gramophone discs – eliminating the need for all other forms of musical instruments and musical production.

Patteson suggests that audio technology was 'born of a desire for control', i.e. that enhanced control and precision was the driving force behind the evolution of electronic instruments (a controlling tendency that could also be applied to the gramophone and radio).³¹⁸ I propose that audio technologies also, through the surrender of control, provided the inverse: the ability to explore new sonic possibilities through chance and the unexpected. Perhaps the most distinct example of this new form of machine music, an extended form of technological audio mediation, was the *Grammophonmusik* form of *Mechanischen Musik* experiments made by Toch and Hindemith for the *Neue Musik Berlin*

³¹⁷ Kiesel, 'Die Maßnahme im Licht der Totalitarismus Theorie', 88.

³¹⁸ Patteson, *Instruments for New Music*, 167.

1930 festival – experiments which followed a history of utopian attempts at creating a mechanical method for composers to produce music directly from their imagination to an audible artefact, in this case a gramophone disc.

For *Fuge aus der Geographie* Toch recorded short rhythmic phrases sung by a four-voice choir onto multiple gramophone discs, and then, through a process of ludic serendipity, using techniques of editing, transposition and superimposition, he created a new type of unexpected music through the possibilities offered by the machine: 'How these amazing pieces worked hardly a musician could say, and how these unusual sounds came into being no one knew'.³¹⁹ Katz suggests that Toch's use of the gramophone was simply a 'post-production' process, a way of arranging and producing music.³²⁰ But this overlooks Toch's stated aim of using the machine as an aleatory compositional tool; Toch reappropriated the gramophone from its original function as a reproducer and distributor of sound, and instead exploited its 'formerly unrealised possibilities', allowing it to create 'a characteristic music of its own'.³²¹ Here Toch passes the central creative origination of the music to the machine, relegating his role to that of a human collaborator, an original instance of musical 'interaction' rather than 'performance'.

The playful properties of the gramophone are perhaps a symptom of its evolutionary history. The gramophone was a metamorphic object: originally designed by Edison (1877) as an office device for recording speech, it evolved into a method of distributing and selling music only after the introduction of Berliner's mass reproducible flat disk (1888). Alongside these mimetic capabilities (recording and reproducing speech and music), the gramophone had meta-qualities that involuntarily introduced new ways of listening and thinking about music, musical history and sound – attributes that crept into *Grammophonmusik*. The gramophone disrupted and distorted the temporal aspects of

³¹⁹ Schünemann, 'Produktive Kräfte der mechanischen Musik', 246-47.

³²⁰ Katz, 'Hindemith, Toch, and Grammophonmusik', 165.

³²¹ Toch, 'Über Meine Kantate "Das wasser" und Meine Grammophonmusik', 221.

sound and music, and as Ayers put it: 'human-kind's utopian dream of a technique for fixing the flow of time was finally realised'.³²² For the first time, music could be stopped, repeated, reversed, superimposed, and transposed, allowing the listener to analyse musical passages in detail and, for composers like Toch, to edit, combine and create new hybrid sonic forms.

The utopian nature of the gramophone can also be located in its tendency towards universalism. The gramophone created an audible history, an audio-memory of music during a period when previous musical styles were mainly overwritten (apart from a few canonised works) by the succeeding musical style. The American musicologist Joseph Kerman points out that in contrast to the other arts, the repertory of Western music – with a few key exceptions – did not extend back more than two generations.³²³ This generational memory and the filtering process of time was now removed, the composer, musician and listener were now able to pick and choose influences and stylistic interpretations through the perspective of non-linear musical history. Music was available for the first time 'out of time' and 'out of geography' bringing a world of music into the previously reliably hermetic field of German culture – the Balinese *Kecak*-like chants of Toch's *Gesprochene Musik* for example. This access to historical and non western music exposed musicians and composers to 'new' ideas and techniques creating an accumulation of influences, and ultimately changed the way music was viewed in a historical and global context.

This meta-history of the gramophone precipitated utopian attempts to rethink how music was conceived, produced and distributed. In 1922, Moholy-Nagy proposed that a skilled artist/composer could learn an audio 'groove-script alphabet' which could be hand-incised into a wax plate and played on a gramophone player, obviating the need for musicians and orchestras and liberating the composer from the tedious inaccuracies of

³²² Ayers, *Utopia: The Avant-garde, Modernism and (Im)possible life*, 218.

³²³ Kerman, *Musicology*, 337.

musical interpretation and production.³²⁴ H. H. Stuckenschmidt, extending Nagy's ideas in 1925, suggested that *Grammophonmusik* was the solution for the increasingly technical demands on the performer, in that a perfected 'groove-script alphabet' would be able to deliver nuance and performance speeds beyond the abilities of the human performer. It would also be able to create previously unknown timbres, rendering the orchestra obsolete: 'the diversity of the sounds [possible with *Grammophonmusik*] will leave the traditional orchestra looking quite primitive'.³²⁵ After describing his own ideas for a photo-mechanical method of writing grooves, Stuckenschmidt declared, 'Everything will be mathematically exact. The composer becomes his own interpreter'. Hinting at the future standardised supremacy of the technique, he predicted that in fifty years, 'this knowledge will be part of elementary music education'.³²⁶

Grammophonmusik's first and only public performance at the *Neue Musik Berlin 1930* festival also marked its demise. Considered too radical and unmusical – a perfect example of Weimar modernism's 'overindulgence' – in a period of increasing conservatism, interest in *Grammophonmusik* came to an end in Germany in 1930. However, Edgard Varèse, who almost certainly would have known about Hindemith and Toch's work began experimenting with the idea of multi-track temporal distortion and non-linear sound manipulation with gramophone players in 1935 –and in the work of John Cage who was an enthusiastic admirer of Toch's experiments: 'Toch-was onto some amazing stuff, what with those pieces for spoken chorus and some of those other experimental works' – an influence that can be found in the use of multiple, multi-speed turntables in *Imaginary Landscape No.1* (1939).³²⁷ After the Second World War the ideas of *Grammophonmusik* re-emerged with the use of the tape recorder in *musique concrète* and later, multitrack audio recording 'turntablism' and DJ culture.

³²⁴ Moholy-Nagy, 'Produktion-Reproduktion', 290.

³²⁵ Stuckenschmidt, 'Die Mechanisierung der Musik', 8.

³²⁶ Stuckenschmidt, 'Machines—A Vision of the Future', 8-14.

³²⁷ Holmes, *Electronic and Experimental Music*, 45, and Weschler, 'Popocatepetl: A Noodling Reminiscence', 6.

Section 3.7: Conclusion

The early Weimar republic was a conceptual crucible where nineteenth century ideas derived from the initial exposure to technology were melded with a utopian impulse – an impulse driven by a critical loss of faith in political and economic institutions, a post-war crisis in the ‘national psyche’ and anxieties about the technologicisation of German society. This new utopianism evolved into forms that, while pursuing contrasting socio-political ends, shared the idea that German Music was a crucial agent for radical social transformation – a trend that resulted in the new socialised genres of music – *Lehrstück*, *Gebrauchsmusik*, as well as a resurgence of utopian socialised spiritualism found in the work of Busoni, Mager, Weill and the conservative anti-modernist utopianism of Pfitzner and others.

Nineteenth century concerns about the ever-increasing integration of technology into everyday life persisted into the twentieth century, concerns that placed technology at the centre of political and cultural debate. The *Kultur und Technik* schism, born from the collision of romanticism and materialism during the age of steam, chemistry and the telegraph, was further sharpened and amplified during this period:

Hundreds of books, lectures, and essays emerged from both the technical universities and nontechnical intellectuals from all points along the political spectrum dealing with the relation between Germany's soul and modern technology.³²⁸

The enduring popularity of *Lebensphilosophie* during the Weimar era meant that mystical biopolitical ideas as described in Chapter 2 were similarly polarised and hardened by the moral and political crises of post-war Germany and continued to exert a profound

³²⁸ Herf, *Reactionary Modernism*, 18.

influence on German thought. Chief amongst these concepts, and of particular relevance to the study of German Music, were *Unmittelbarkeit* and *Erlebnis* described in Chapter 2. These two concepts determined opinions of audio technology and became a critical conceptual barrier to the acceptance of technology in music. *Erlebnis* was the idea that only an immediate 'lived experience', i.e. an unmediated, somatic, emotional response to an event, was capable of revealing a true reality. The abstract, intangible character of music, it was believed, made it the ideal medium for *Erlebnis*: music could not be rationalised or reduced to words, colour or line; it was a pure manifestation of divine inspiration and therefore a unique spiritual connection to God. Music was uniquely capable of imparting an immediate emotional response, one that made an emotional appeal to the heart rather than communicating 'meaning' to the intellect. Furthermore, the transient form of music set it beyond the grasp of material rationalism: music could not be made physical and analysed, it was one of the last human artefacts in an increasingly material world that was entirely irreducible, belonging to the world of the divine rather than science. The post-1918 appearance of audio technology subverted this belief: music could now be recorded, reproduced, commodified and made visible in grooves and filmstrips. The technology of the gramophone and radio, it was argued, would, through a process of mediatisation, destroy the essential 'lived experience', transforming the listener from a communal, active, spiritual experience – one who was self-aware and in control of their destiny – to become an atomised, passive materialist consumer – one who through a blunting of the senses and the spirit was manipulable and vulnerable to materialist (capitalist) predations. This technological degradation was not just an aesthetic concern, but, considering all of the nationalist and spiritualist ideas that were attached to German Music, it was seen as an attack on the very future of the German nation. Polarised by the encroachment of technology into music, *Erlebnis* became an aesthetic celebration of irrationalism: the glorification of emotional response over intellectual enquiry – a musical analogue of the utopian *Lebensphilosophie* romantic ideal of spirit and the sublime, in which an innate truth is revealed when rationality is

overwhelmed. This aesthetic irrationalism went on to have a profound influence on nationalist and specifically Nazi thought, where it provided the bedrock for Nazi 'aestheticised politics' – a concept explored in detail in Chapter 4 and 5.

After the collapse of the German state in 1918 a number of utopian theories were put forward that, it was hoped, would modernise post-war German society and save it from ongoing economic and political crises – the foremost of which was the imported American practice of rationalisation. Initially conceived as a business management practice, rationalisation mutated during the cauldron of Weimar crises to become a widespread movement with distinctly utopian goals.³²⁹ Rationalisation promised that the application of 'rational' scientific methods could not only increase industrial productivity but, by eradicating human error and inefficiency, transform society as a whole. For some nationalist factions, rationalisation provided a resolution to the *Kultur und Technik* dichotomy while retaining the preeminence of *Kultur*: the chaos of post-war Germany could be brought to an end with the realisation of a scientifically organised *Volksgemeinschaft*. In relation to art and music, rationalisation was responsible for creating the conditions for the era of 'objectivity' that evolved into *Neue Sachlichkeit*, a stylistic resolution of *Kultur und Technik* that will be discussed further in Chapter 4.

The varied utopian components of *Lebensphilosophie*, again, ideas founded in the nineteenth century and galvanised by the crises of military defeat, were a fundamental aspect of modernist *and* conservative music during the Weimar and Nazi eras. Notwithstanding the view maintained by many scholars of Weimar modernism who argue that modernist rationalism overcame Wilhelmine-era irrationalism in the 1920s, utopian, spiritualist irrationalism remained a persistent and influential current in German art throughout the first half of the twentieth century. Busoni, regarded at the time as the

³²⁹ Killen describes the shift from 'scientific' rationalisation to socialised forms as 'psychotechnics' in: Killen 'Weimar Psychotechnics between Americanism and Fascism', 48-71.

leading apostle of musical modernism, was chiefly responsible for introducing a lasting strand of utopian spiritualism into musical modernism. In this study, the contrasting work and writing of two of Busoni's students, Jörg Mager and Kurt Weill, illustrate the continuity of Busoni's legacy of spiritual and technological utopianism – a trend that surfaced in Mager's ideas of socially and spiritually transformative *Sphäraphonmusik* and Weill's concept of *Absoluter Radiokunst*.

The individuals that I have chosen to illustrate these contrasting values of technology and spiritualism: Busoni, Mager and Weill, despite maintaining a form of nineteenth-century romanticism, managed to reconcile spirituality with material technology – a resolution in effect of the *Kultur und Technik* schism. Each of these individuals recognised that for German Music to achieve its utopian potential it had to re-engage with a new audience, one that had been transformed by the upheavals of industrial capitalism and urban migration. The traditional form of the concert hall and the opera house, once viewed as an inclusive and socially levelling culture had, through the breakdown of traditional ways of life, become distanced from the people and, they believed, radical measures that kept pace with modernity were necessary to reconnect with them with their spiritual-musical birthright.³³⁰ Weill's 'absolute, soul-like work of art floating above the earth' which aimed to 'make people good through beauty', and Mager's urban *Sphäraphon* towers, were a result of this combined revolutionary, utopian spiritualism that argued for the socially transformative power of music and technology.³³¹ By emphasising the social significance of music and technology, Busoni, Mager and Weill's beliefs corresponded to those of their opponents, the defenders of traditional bourgeois *Kultur* who, for example, somewhat paradoxically, used radio to connect with a new audience to defend German Music from the incursions of modernity.

³³⁰ Müller, 'The Invention of Silence', 155.

³³¹ Weill, 'Möglichkeiten Absoluter Radiokunst', 1627.

As the twentieth century progressed however, audio technology and the overall technologisation of music had begun to follow a path that threatened the positions of both the musical intellectualism of Mager and Weill and the conservative defenders of traditional *Kultur*. The commercial exploitation of music was shifting audio technology from a medium of utopian social transformation (or the preservation of tradition) to a mass media concerned largely with the pursuit of financial gain. The increasing commercial trajectory of audio technology and the reactions to it will be explored in Chapter 4.

Chapter 4: Negotiating Commercial Modernity

Section 4.0: Introduction

The rapid growth of German industry in the early twentieth century polarised the relationship between technological capitalism and the defenders of what was an explicitly anti-capitalist, elite German *Kultur* – putting the German establishment on an inevitable collision course with twentieth century technological modernity. The expansion of technological capitalism combined with the advent of new audio technologies resulted in the growth of a new form of popular, commercial mass-cultures whose primary aim was the maximisation of profit. The rise of commercial culture was of concern to the *Bildungsbürgertum*, opposed to what they saw as the *anti-Kultur* mundanities of private enterprise. The left *Kulturkritik* and many of the Weimar republicans aligned to the SPD who, despite backing progressive social programmes, maintained a conservative *Bildung* vision of elite *Kultur*. This meant, on the whole, that commercial cultures developed completely outside of the established cultural and political institutions, an outsider position that provoked a range of responses: initially: rejection, criticism, demonisation and legislation, progressing to more complex methods of ‘defensive modernism’ and attempts at assimilation – reactions that I will explore in this chapter, and which I will argue determined the future of German Music and the political-cultural character of Germany into the 1930s.

The effect of this collision between commercial *Technik* and *Kultur* was both musical and sociological. Audio technology and its associated ecosystems changed music through commerce but also through their ‘meta characteristics’.³³² For instance, the introduction

³³² By ‘meta characteristics’ I mean the technological aspects that were unintended or auxiliary functions of the main function of the device or medium. Peter McMurray uses a similar term ‘materialities’ to trace the history of tape recording: Bohlman and McMurray, ‘Tape: Or, Rewinding the Phonographic Regime’, 3-24.

of the gramophone opened up new audiences to new types of music, but its 'meta' attributes – the ability to choose (choice of music and location), repeat, skip, stop and start and the musical transformations required to meet the physical time limitations of the gramophone disk – caused a change in how people listened to music and a commensurate change in how music adapted to meet these new behaviours. This process opened up music to a new class of listener who, in a reciprocal cycle of consumption and innovation, defined the direction of cultural change beyond the control of the mandarins of German *Kultur*.

These developments were regarded by the *Kulturkritik* as a dangerous, soulless, American *Zivilisation*-inspired threat to German Music and *Kultur*. In a sense, this concern was well founded: patronised and financed by the *Bildungsbürgertum* elite, German Music was a revered but fragile institution that was uniquely vulnerable to the transformative forces brought about by rapid technological change. As the modernist architect Erich Mendelsohn wrote:

The gramophone does away with the musical dilettantism of 'Haustöchter' (daughters living at home³³³), with the unbearable business of concerts; and it frees that musical individual, the artist, from the day's constraints, through the medium of music.³³⁴

With the arrival of a new, independent, technologically driven commercial music culture (jazz, pop music and 'modern music'), the institution of German Music, which was entirely predicated on the tradition of carefully controlled evolution, had little choice but to adopt an antagonistic, defensive position. The polarisation of attitudes to culture during this period meant that German Music became an increasingly conspicuous

³³³ Referring to the bourgeois-Bildung tradition of *Hausmusik* or domestic music learning and performance, regarded as the defensive frontline of German music culture.

³³⁴ Erich Mendelsohn in: Lindström, *50 Jahre Carl Lindström GmbH*, 47.

signifier of political positions in the Weimar culture wars. The cumulative result of this process of polarisation was to further entrench and ossify German Music and *Kultur* and widen the schism between the forces of capitalism, technological modernism and the ideals of German *Kultur* to a point of irresolvability – a divisive tendency that was to increasingly characterise the Weimar and Nazi periods.

In this chapter I will argue that ultimately, audio technologies were instruments of division on three counts: one, by inciting an irresolvable discourse between *Kultur und Technik*; two, by further exacerbating existing socio-geographic schisms (particularly between urban and country, rich and poor); and lastly – a subject developed further in Chapter 5 – by providing emerging fringe politics with a new form of ‘aesthetic politics’ that paved the way for the NSDAP’s accession to power in 1933. Section 4.1 outlines the development of mass media formed around commercial musical consumption and the impact that it had on the prevailing cultures of the day. In this chapter I will argue that two dominant factors were important in determining the discourse around German *Kultur* – first, ‘rationalisation’, i.e. psychotechnical concepts of industrial and social management that were absorbed into music and culture; and second, changes in the perception of music driven by the technological characteristics of audio technologies (portability, psychoacoustics, spatial dislocation etc.). These two factors, when combined and catalysed by the pursuit of financial profit, had a profound effect on the development of German Music and with it the socio-political discourse of the period. Section 4.2 describes the negative reactions and resistance to commercial cultural modernity – mainly, but not exclusively, from the conservative, *Bildungsbürgertum* and nationalist camp. This section focuses particularly on the adoption by some in these camps of ‘defensive modernism’ i.e. the paradoxical use of modern technology to defend reactionary positions from modernity. As Herf has described it, the *Bildungsbürgertum* ‘made their peace with modern technology because it was needed to carry out their

antimodernist politics, not because they could discern any intrinsic value in it'.³³⁵ Section 4.3 analyses the cultural and musical attempts at coming to terms with commercial modernity, on the whole but again, not exclusively, by the techno-positive modernists. This section focuses primarily on the *Neue Sachlichkeit* and *Neue Musik* movements and their responses to rationalisation and mass cultures. I will investigate the trend of totalitarianism within *Neue Sachlichkeit* and modernism, and examine and question the motives for this reconciliation and the parallel attitudes to censorship, class and social engineering in relation to elite culture and mass cultures.

Section 4.1: The Development of the Entertainment Industry

4.1.1 The Elektropolis & Rationalisation

Post-war 1918 Berlin was the *Elektropolis* – the global centre of the commercial electronics industry pioneered by Siemens & Halske, Osram, Telefunken, and AEG. Berlin was also a city where electricity was reimagined as the life force for a new type of urban order, one that, it was hoped by some, would bring stability to the crisis-prone post-war Republic and establish a utopian, just society.

Cut off from *Hand und Land*, Berliners were acutely conscious of their technological modernity – a position that set them apart from the rest of the country. As Whyte points out, 'Berlin in the post-war decade was very aware of its modernity, of its generally positive reception of Americanization, and of its radical cultural production'.³³⁶ This geographic schism embodied an ideological division in Germany which was to determine the trajectory of cultural and political debate for the next two decades: while the conservative defenders of *Kultur* opposed the development of autonomous, urban, technological cultures – which to them represented both spiritual and physical decay -

³³⁵ Schoenbaum in: Herf, *Reactionary modernism*, 7.

³³⁶ Whyte and Frisby, *Metropolis Berlin*, 3.

the urban techno-positivists adopted a contrary, almost mystical faith in the ability of technology to solve social problems.

The idea that technology had the potential to deliver German society from the recurrent crises of the post-war Republic was precipitated by the arrival in the mid 1920s of American theories of rationalisation. Rationalisation, originally a psychotechnical industrial management concept, grew into a utopian, ideological 'cult of technology' that was to have a profound effect on Weimar society and culture (see Chapter 3).

Synergistic with the *Elekropolis*, rationalisation was the optimistic belief of those tired of the interminable left/right factional struggles, that the marriage of scientific organisation (such as Ford and Taylor's management theories), consumer capitalism and the ongoing trajectory of technical progress would deliver a prosperous, ideologically free society, liberated from unemployment, manual drudgery and social inequality. 'Rationalisation' during this period referred to a form of 'organised capitalism' made efficient by the application of improved management and production techniques based on the scientific studies of the assembly line, but importantly, it also referred to a general modernisation of society and culture within an objective framework (*Sachlichkeit*) which was expressed in the music and art of the period.³³⁷ 'Social Rationalisation' had far wider implications than work, economics and mass production, encompassing the type of human-machine concepts detailed in Chapter 2:

...an abundance of ideas and movements,...ranging from sexual ethics to family planning, from 'good taste' to proper hygiene, from eugenics to racial policies, from the construction of housing to children's playgrounds, from reform pedagogy to education through the media, and so on.³³⁸

³³⁷ Lethen, *Neue Sachlichkeit, 1924-1932*, 5.

³³⁸ Eley, Jenkins & Matysik, *German Modernities from Wilhelm to Weimar*, 76.

The new acceptance of social and cultural 'modernisation' resulted in previously unthinkable forays of technology into German culture and music, where mass production via the gramophone, radio, sound-film and electronic musical instruments began to change the way music was controlled, conceived, produced and listened to.

The veracity of Ford's new theories seemed to have been confirmed by their astonishing success in America during a period of severe financial crisis. The German publication of his ideas in *My Life and Work* (1924) received a rapturous reception from a diverse audience of industrialists, social democrats, nationalists and middle class, who hoped that similar ideas could be deployed to resolve the ongoing chaos of the Weimar period. Stefan Link writes that 'many Germans greeted the book like the saviour of a millenarian cult'; the book, which achieved a print run of 200,000 copies in Germany alone, was a 'doctrine of salvation' that offered 'revelation and redemption'.³³⁹

Ford's ideas in Germany were interpreted through the lenses of the contrasting ideologies of the period. The conservative right, the KPD and many left intellectuals rejected rationalisation altogether: the former as dangerous, soulless materialism, and the latter as a new form of evolved, invasive capitalism. The social democrats and the trade unions, on the other hand, saw its promise of high wages driven by high productivity and an efficient consumer economy as a pragmatic solution to class struggle and low pay, while the techno-positive modernists (of both left and right), despite their wariness of capitalism, saw the (apparently) democratising aspect of rationalisation as an opportunity to free culture and society from the grip of the dominant bourgeois institutions.

The revolutionary right produced more regimented and utopian readings of rationalisation – ideas that exposed the connection between *Sachlichkeit* and totalitarianism. Amongst these were the NSDAP ideologues Gottfried Feder and Fritz Todt

³³⁹ Link, *Forging Global Fordism*, 52.

of *Deutsch Technik*, responsible for the autobahn network and Nazi-*Sachlichkeit* ideas of rationalised economics;³⁴⁰ the 'White Socialism' of the economist Gottl-Ottlilienfeld, where the worker's *Dienst* ('duties' or 'service') to the factory, family, nation, and *Volk* displaced the conceits of status and class; the pro-business and anti-union propaganda of the DINTA³⁴¹ ('German Institute for Technical Work Training' which evolved into the DAF/KdF during the Nazi period); the utopian nationalist Volks-concept of the *Werksgemeinschaft* (see Chapter 3); and ultimately, the type of utopian machine society advanced by Jünger and Ortner: 'Our beginning is the machine, our principle is the mechanization of life, our moral base the collective human being. What should perish is the individualistic occidental, the individual European'.³⁴²

The left was as divided as the right in their approach to rationalisation. During the 1920s, as industrial capitalism became ever more coordinated, interconnected and autonomous from the state, the SPD turned to rationalisation as a way of enabling democratic accountability and, through mass mobilisation, the best route to delivering socialism. This 'socialised rationalisation' led to experiments in urban planning, housing policy, architecture, domestic design, welfare state policy, cultural politics and the arts. In contrast, the KPD saw rationalisation as another front in the struggle against capitalism: modernisation to the KPD was an authoritarian cost-saving exercise bringing only unemployment, social division and the erosion of working class solidarity.

The central objective of political rationalisation was to remove the current of social philosophy and replace it with a new system run by 'objective' technocrats motivated by the faith in indisputable fact rather than democratic reason. For those who opposed the ideology of rationalisation (and its cultural expression in aspects of *Neue Sachlichkeit*, modernism and consumer mass-culture) this willingness to submit to objectivity and

³⁴⁰ Feder's ideas are outlined in: Feder, *Das Programm der NSDAP und Seine Weltanschaulichen Grundlagen* (1927).

³⁴¹ Neumann, *Behemoth*, 458.

³⁴² Ortner, *Gott Stinnes*, 154.

espouse a 'single truth' above debate, exposed its fundamentally totalitarian character. Lethen argues that by the mid 1920s playful *Sachlichkeit* began to take on a secondary meaning, denoting 'unconditional submission to the "dominant" tendency of industrial rationalisation'.³⁴³ Indeed Kröner's German philosophical dictionary (1960) defined 'Objectivity' as a particularly German attribute that sacrificed individuality to the mass:

Objectivity: The mental and spiritual tendency to perform actions not for the sake of personal gain, but in the service of a higher order. The prerequisite for objectivity is the ability to grasp facts without prejudice, then the ability of 1. obedience, 2. surrender. This objectivity is one of the main virtues for Germans.³⁴⁴

Lethen goes on to propose that in the mid 1920s, technology began to be seen by both industrial capitalists, politicians and trade unions as the only basis for legitimate rule.³⁴⁵ A tendency that accepted a submission to 'fact' was exemplified by the ideas of the centrist philosopher of technology, Friedrich Dessauer (1881-1963). Dessauer, searching for a way to resolve the republic's ongoing left-right political conflict, proposed in 1927 what he saw as a pragmatic solution based on the scientific determinist 'one best way' theory (the argument posited by the adherents of F.W. Taylor that scientifically and logically every problem has a unique, single best solution), which he argued, would be delivered by a 'Ministry of Technology' driven by 'a dictatorship of technical reason' instead of a parliament.³⁴⁶ This conflation of science and totalitarianism was adopted particularly by elements of the nationalist right who in 1932 promised that the 'anarchy' of the capitalist economy would be ended by an objective 'dictatorship of facts'.³⁴⁷

³⁴³ Lethen, *Neue Sachlichkeit*, 13.

³⁴⁴ Kröner, *Philosophischem Wörterbuch*, 521.

³⁴⁵ Lethen, *Neue Sachlichkeit*, 13.

³⁴⁶ Dessauer, *Philosophie der Technik. Das Problem der Realisierung*, 133.

³⁴⁷ Schrempf, *Diktatur der Tatsachen*, 187.

Most of these technocratic dreams of societal and cultural salvation through rationalisation collapsed along with the German economy during the global depression of 1930. By then, however, the resurgent nationalist right had adopted elements of 'objectivity' and rationalisation in the form of a technological scientism which 'allowed only one truth'.³⁴⁸ Theodor Lüddecke, a *Freikorps* veteran and Nazi technological evangelist, writing in 1931, combined Schrempf's 'dictatorship of fact' with the nationalist neo-romanticism of the *Volksgemeinschaft*. Lüddecke argued that if Germany was to prevail, it had no choice but to abandon internecine bickering and unite in a community of entrepreneurs, engineers and workers. This 'great, vital community', the *Werkgemeinschaft*, was founded on a harmonic, rationalised, resolution of capital accumulation and industrial development under the direction of scientific objectivity: 'The great work will succeed if the strongest heroism is paired with the coldest objectivity.'³⁴⁹

Ultimately, economic and industrial rationalisation served only to exacerbate the polarisation of German society: the pursuit of higher profit and high productivity led to higher unemployment and a pronounced segmentation of the labour force, which in turn eroded social solidarity. In addition, as the promised salvation of rationalisation faded and previous social conflicts reasserted themselves, a new form of anti-rational salvation arose to take its place.³⁵⁰ Peukert suggests that once the dreams of 'infinite expansion' promised by rationalisation and the '*Werksgemeinschaft*' were destroyed by the economic crises of the 1930s, the beneficiaries of rationalisation (primarily, the *Angestellten*) were more willing to countenance a reversion to the irrational authoritarianism and totalitarianism of the National Socialists. I would add that the NSDAP had already co-opted and evolved ideologies of *Sachlichkeit* into a new form of technologicised

³⁴⁸ Lethen, *Neue Sachlichkeit*, 13.

³⁴⁹ Theodor Lüddecke, *Meisterung der Maschinenwelt*, Leipzig, 263.

³⁵⁰ Peukert, *The Weimar Republic*, 117.

neo-romantic 'aestheticised politics' (see Chapter 5) that made the transition to totalitarianism for the *Angestellten*, synchronous with their previous beliefs.³⁵¹

4.1.2 Mass Culture and Rationalisation

In the following section I will show that the varied readings of and responses to rationalisation – both in reaction against it and in support of it – had a significant influence on German culture and music: specifically with the emergence of the *Neue Sachlichkeit* 'movement', which was in essence, a rationalised resolution of *Kultur und Technik*, replacing Wilhelmine neo-romanticism and expressionism with a detached objectivism. Concepts of rationalisation imported into the music sphere led to new types of musical expression: ideas of efficiency drove a new found concern with 'purity' in music and also a general reassessment of electronic techniques in musical production and performance – including attempts at applying the process of production-line techniques to musical composition.

As the 1920s progressed, rationalisation and mass-production, allied with new technological mass media, resulted in the evolution of new forms of mass culture and mass behaviour – a phenomenon only made possible by the development of technology and in particular the emergence of audio technologies. Mass-culture became a defining characteristic of the period: mass culture changed not just the characteristics of culture but the relationship between artists and their 'product'. Peukert suggests that the transition to mass culture was the final stage in a post-1918 process of mass production and mechanisation, one that marked the metamorphosis of the intellectual and the musician from a model of institutional bourgeois introspection to one where the artist was 'a creator of artistic use and exchange value on the mass-cultural market'³⁵² – a

³⁵¹ Peukert, *The Weimar Republic*, 277. See Chapter 2.2 on concepts of mediated suggestion.

³⁵² *Ibid*, 167.

changed artistic function that was repeatedly highlighted by commentators of the day.³⁵³ This new commercial reality catalysed and polarised the culture wars of the period, forcing artists, writers and musicians to either rapidly come to terms with mass culture or, conversely, to reject it and fall back on tradition, *Kulturpessimismus* and insular intellectualism.

The growth of a new culture of commercial technological entertainment – sound film, radio, gramophone – led to the emergence of a new type of technologically-literate mass consumers – the ‘Tempo generation’ described in Chapter 3 – a demographic who ignored the doctrines of *Kultur* in favour of the commercial cultures of technological media that had developed outside of the constraints of *Bildung*.³⁵⁴ Consumer-driven mass media, although regarded as one of the defining elements of Weimar cultural modernity and one that created a more open, less hierarchical society and a more accessible cultural environment, was at the time, met with extreme hostility both from leftwing *Kulturkritik* and members of the *Bildungsbürgertum* who resurrected ideas of cultural and bodily decay – see Chapter 2. For the nationalists, the ‘degenerate’ cultures of consumption defined the ‘mass’ in relation to the ideal of the *Volk*. Disconnected from their spiritual *Volks* roots, the mass was a wandering mob with a predilection for trash-culture; they were ‘the new nomad, the big city dweller, the *Tatsachenmensch* (‘people of facts’) without tradition, assuming form only in formless fluctuating masses’.³⁵⁵ The stereotype of the ‘mass consumer’ constructed in the *Bildungsbürgertum* imagination was that of a young, proletarian, superficial, uncultured materialist, an image formed from a press-inspired moral panic that German youth was in danger of being corrupted by the ‘amusement addiction’ (*Vergnügungssucht*) of *Amerikanisierung* and technological entertainment:

³⁵³ For example: Honigsheim, ‘Music and society’ in: *Kunst und Technik*, 63.

³⁵⁴ *Ibid*, 6.

³⁵⁵ The Berlin architect Erwin Gutkind 1922 quoted in Hake, *Topographies of Class*, 83.

If we were to ask them about the meaning and purpose of life, the only answer they could give would be: 'We don't know what the purpose of life is, and we're not interested in finding out. But since we are alive, we want to get as much out of life as we possibly can.' Earning money and enjoying themselves are the twin poles of their existence, their enjoyments taking in both the high-minded and the squalid - primitive sexuality and jazz, and on the one hand, the modern working-class concern, artistically unexceptionable, for home decoration and sensible personal hygiene [...] They wish to get from this world, and from this world alone, whatever can be got from it.³⁵⁶

This persistent image of the proletarian mass consumer as a dangerous underclass was constructed by the *Bildungsbürgertüm* to condemn mass-cultures and maintain their cultural hegemony but it was also, in counter reaction to this bourgeois condemnation, maintained and mythologised by some on the left as an idealised example of proletarian culture. The reality was, I will argue, somewhat different. Führer's 2009 study of the demographics of the period shows that in the 1920s, only a small minority of Germans participated in the new consumer culture.³⁵⁷ Hit by the combined effects of war and inflation, 'The majority of working-class and white-collar employee families in Berlin during the 1920s usually remained at home in the evening and, at best, read in the newspapers about the legendary cultural life of the Weimar Republic.'³⁵⁸ Schmidt similarly argues that, for instance, due to the prohibitive costs of live performances, gramophone equipment and radio receivers, the experience of jazz as a musical phenomenon was only experienced by a small monied class, more written and read about than actually heard. Ross states that 'despite its plebeian associations in the minds of the educated bourgeoisie, it is clear that the gramophone was more a middle-class than a working-class amusement.'³⁵⁹

³⁵⁶ Dehn, *Proletarische Jugend*, 39.

³⁵⁷ Führer, 'A Medium of Modernity, 1923-1932'.

³⁵⁸ *Ibid*, 277.

³⁵⁹ Ross, *Mass Media, Culture and Society in Twentieth-Century Germany*, 28.

The figures for radio receiver and gramophone player ownership and media consumption during the period seem to support this class description. In 1926 there were 1 million radio owners; by 1928 that number had increased to 2 million, and by 1930 it had reached 3 million³⁶⁰ i.e. 5% of the total population owned radio receivers giving a shared listening audience of around 9 million people³⁶¹ or 14% of the 1930 population. The prohibitive cost of licences and receiving equipment³⁶² meant that this audience was overwhelmingly middle class (Schmidt gives a figure of 78%³⁶³) and concentrated in the major urban conurbations – in 1927 40% of urban dwellers had sets, compared to only 3% in rural locations. The interrelated issues of cost, availability of equipment and limitations of reception meant that radio listening was predominantly an urban and middle class *Bildungsbürgerlich* experience.³⁶⁴

The gramophone audience was similarly stratified due to the cost of equipment: the most basic player was around 50 RM (compared to an average working class salary of around 39 RM per week giving a disposable income of around RM 2.50 per family in 1927).³⁶⁵ By 1930 gramophone player sales were around 500,000 units with around 30 million gramophones sold in the same year³⁶⁶ – with light music accounting for 75% of sales. These sales figures dropped dramatically to 5 million during the global financial crisis of the early 1930s.³⁶⁷

³⁶⁰ Saldern, *Volk and Heimat Culture*, 5.

³⁶¹ Anton Shirokauer (1929) quoted in: Peukert, *The Weimar Republic*, 170.

³⁶² A 1925 standard 3-valve set cost RM 300 – roughly equivalent to the monthly income of a white-collar clerk or a skilled worker, putting radio receivers beyond the reach of most German households. Dahl, *Radio*, 49.

³⁶³ Schmidt, 'Visual Music', 207.

³⁶⁴ Ross, *Mass Media, Culture and Society in Twentieth-Century Germany*, 136.

³⁶⁵ 'Statistisches Reichsamt, Die Lebenshaltung von 2000 Arbeiter-, Angestellten und Beamten Haushaltungen, 57.

³⁶⁶ Ross, 'Cinema, Radio, and "Mass Culture"', 27.

³⁶⁷ Partsch, *Schräge Töne : Jazz und Unterhaltungsmusik in der Kultur der Weimarer Republik*, 117.

In contrast to the proletarian stereotypes of the day, the typical 'mass consumer' of the 1920s appears to have been solidly middle class and overwhelmingly urban – a small but influential minority and a similar class that, previous to the advent of technological media, participated in German *Kultur* and pursued it as an aspirational ideal. This consumer-class, whose shifting behaviour was determined by the prevailing winds of political and financial stability³⁶⁸ – formed the basis of what became known as *AngestelltenKultur* ('salaried mass-culture', see Chapter 2), a class that dictated the character of the culture of Weimar mass media.³⁶⁹ The concern about the rise of *AngestelltenKultur* was significant enough for Kracauer, writing in 1930, to focus on it, rather than any of the other rising political or cultural factions, as a dangerous threat, portraying it as 'an ominous symbol of rationalistic, empty, consumption dominated world of industrial modernity'.³⁷⁰

Audio technologies therefore found their greatest adherents in the 'converts' of the *Bildungs* class, a mostly urban sector of society who were willing to embrace the promises of rationalisation (prosperity, modernity, individualism) in exchange for the certainties of the German *Kultur* tradition – a cultural shift that challenged and disrupted the very heart of *Bildungsbürgertum* controlled German Music.

³⁶⁸ Martin Geyer argues that, rather than inhibiting entertainment spending, the very experience of financial and political instability drove a significant increase in spending on commercial entertainment in the late 1920s. After seeing savings being obliterated by inflation, and with an abundant supply of technological entertainment at hand, it made more sense to spend than save: 'whoever did not consume today would have nothing tomorrow, and what would be available tomorrow was uncertain anyway', or as Klaus Mann describes the period in his autobiography 'The dollar rises: let us fall! Why should we be more stable than our currency? The German Reichsmark is dancing: we are dancing with it!'. Geyer, 'Verkehrte Welt', 266, and Widdig, *Culture and Inflation in Weimar Germany*, 207.

³⁶⁹ Ross, 'Cinema, Radio, and "Mass Culture" in the Weimar Republic', 26.

³⁷⁰ Kracauer, *The Salaried Masses, Duty and Distraction in Weimar Germany*, 96.

4.1.3 Changes to Listening Driven by Technology and Profit

In addition to the class divisions exacerbated by audio technology, a further disruptive aspect was its ability to fundamentally change how music was perceived: the 'meta-characteristics' of audio technologies ('meta' in that they were unforeseen features beyond the devices' primary function) changed the way music was made, distributed and listened to – and ultimately changed the way society viewed itself. McMurray describes this effect when the (primarily) unintentional 'superficial' characteristics of early tape recorders (Pfleumer's *Tonendes Papier* of 1928) introduced new concepts of audio and temporal manipulation (repetition, temporal distortion and erasure and so-on) into German Music and society – characteristics exploited by Nazi culture and propaganda during the 1940s.³⁷¹ Alongside their individual physical attributes, audio technologies had, en-masse, an immaterial but disruptive influence on the cultural ecosystem of the period: a defining characteristic of audio technologies was their expansionist tendency: driven by the pursuit of profit, technological media sought out new groups of listeners beyond the confines of elite culture. Ross writes that this expansion was 'extensive' rather than 'intensive', replacing authenticity with availability – a dynamic that was of particular concern to the *Kulturkritik*.³⁷²

Audio technologies challenged control and ownership: for the first time 'control' of listening was in the hands of the listener-consumer: the locus of listening moved from the concert hall to the living room, the listener now being able to choose when (temporal), where (spatial) and how (context) they listened to music. This shift broke the *Bildungsbürgertum*-owned controlling monopoly of German Music's direction of development. By listening to a broadcast or gramophone the listener, for the first time, was visually and spatially distanced from the music-making act. Instead, listeners were exposed to what Schaefer and Peignot later (1955) called the 'acousmatic'; the distant,

³⁷¹ McMurray, 'Once Upon Time', 28-37.

³⁷² Ross, *Media and the Making of Modern Germany*, 121.

disembodied sounds emanating from the device were a pre-selected, edited representation of music, privately and often individually 'consumed' rather than as part of a social (with roots in the liturgical) community. This spatial shift changed the position and role of the listener from that of a participant in the collective ritual of the concert hall to an isolated individual where the listening was mediated by technology. Music consumption had become an individualistic act and the music production consequently formed a commercial relationship with the 'consumer': a virtuous cycle of musical innovation and production aimed at satisfying the needs of the individual. The communal *Erlebnis* crucial to the spiritual development of the German nation and the very idea of Germanness was being replaced with a type of music designed to appeal to an atomised collection of individuals.

The portability and spatial distancing of audio technologies enabled music, especially jazz and popular music, to colonise new spaces and take new forms. Re-contextualised from its original use, new species of music were born when cafes, bars, restaurants, hotels and shops installed gramophones and radio receivers using music in a commercial, functional context, giving rise to new types of listening in the form of aural wallpaper that performed a background function to facilitate a separate activity (eating, drinking, shopping etc.). This 'unlistened-to music' (Adorno) also functioned as a commercial sign, defining the status and function of a place, or acting as an audible functional billboard or sonic mnemonic for product advertising and brand identity. Such uses formed the cumulative sonic background to the Weimar period, an audio analogue to the visual surface of *Asphalt Kultur*.

The performative immediacy of new audio technologies, particularly the gramophone, gave the listener-consumer control over the temporality of the sound. The new-found ability to choose a song, repeat, replay, stop or play a certain section of the music (at a time and place of their choosing) revolutionised the way music was perceived, composed

and consumed. Being able to choose when and what they listened to, the listener, through a technological-capitalistic filtering process, had taken control of musical curation from the hands of the concert hall and conductor. German Music had up until now celebrated the linear aspect of composition: there was a cerebral virtue attached to listening through the lengthy instrumental forms of German music, in which processes of thematic development were expected to be patiently followed in the order they were composed. In contrast, the gramophone allowed the listener to edit the music to their own temporal preferences ('jump to the good bit') in any sequence they desired.

If the gramophone created a dispersed community of people listening to the same sounds at different times and places, the radio produced a collective community of simultaneity, 'creating a novel sense of being there'.³⁷³ This communal quality was exploited both by the state in attempting to form an establishment image of nationhood and also by the *Funkerspuk* revolutionaries of 1919 who attempted to use radio to coordinate a unified opposition to the state. As described in Chapter 1, the chaotic period of 'free' radio ended in 1923 when the Weimar state enforced a national network of localised broadcasting stations formed around a supposedly apolitical policy of *Bildungs*-oriented content. The NSDAP in turn, after 1933 exploited the 'community of simultaneity' effect of radio to develop a symbolic political language and to consolidate power – discussed in detail in Chapter 5.

The cumulative combination of these meta-characteristics was the formation of a new highly dynamic medium that was able to bypass *Bildungs*-oriented institutional control and expand into new audiences and spaces. Being concerned mainly with financial gain, this new media was impervious to the critical attacks and institutional restrictions of the guardians of elite culture; instead it became reliant on an ecosystem of advertising, distribution and a culture of musical novelty and innovation. The eradication of

³⁷³ Wiessen, 'Mass Media, Culture and Society in Twentieth-Century Germany', 184.

centralised control over musical culture opened up the previously hermetic institution of German Music to global influences, predominantly jazz and popular music, genres that inherited the characteristics of the new medium and its ecosystems. This tendency towards social and economic liberalism was matched however, by a concomitant societal polarisation: the distant, urban, middle-class 'modern' character of mass-culture confirmed the prejudices of rural Germans who formed the majority of the population and whose lives on the whole remained untouched and unchanged by modernity and rationalisation – a rural/urban schism that was easily exploited by the NSDAP who positioned their mythic *Volkism* as the antidote to 'degenerate' urban modernity.

4.1.4 Popular Music

A dominant aspect of Weimar mass culture was the rapidly growing genre of popular music and jazz, which by the end of the 1920s dominated music listening and gramophone production.³⁷⁴ The sudden success of jazz in Weimar Germany was brought about by a combination of forces – one geopolitical: the occupation of Western Germany after the end of the First World War by allied troops broke the *Bildung* hermetic cultural seal and introduced jazz to the nation – mainly via gramophone recordings brought by American troops but also via black African French colonial troops who had adopted and performed the new American style in new Jazz clubs in the occupied zones.³⁷⁵ The other was through the vector of audio technologies.³⁷⁶ Jazz in the U.S.A. had already evolved through a commercial/technological evolution and filtering process, streamlining it for mechanical audio distribution. Jazz also had an immediate sonic advantage in recording and production: its street instrumentation based on marching bands – wind instruments and percussion – proved perfect for the limited audio frequency range of recording and radio technology and the corresponding limitations of (pre-electronic loudspeaker)

³⁷⁴ A variety of styles of American dance music: Foxtrot, Shimmy, Charleston etc.

³⁷⁵ Wipplinger, *The Jazz Republic*, 25.

³⁷⁶ *Ibid*, 9.

reproduction equipment of the day.³⁷⁷ Jazz was also eminently musically flexible: it thrived on reinterpretation, improvisation, innovation, rearrangement and modification – traits analogous to the mechanical-commercial medium – and was on the whole, free of the type of debates about technology or *Kultur und Zivilisation* that restricted the development of German Music. Jazz and the gramophone seemed to be made for each other.

Jazz and popular music had a reciprocal relationship with the new music industry: Jazz music ignited a new market in gramophone disks plus a huge growth in associated modern marketing and advertising companies, promoters, music publishers, copyright lawyers and so on.³⁷⁸ From 1925 onwards, record labels such as Carl Lindstrom AG, Odeon, Parlophone, Telefunken's Ultraphon and Gloria, primarily recorded and distributed pop and jazz music. Due to the high demand and fragility of the medium, recordings were produced at an astonishing rate.

In the early 1920s Jazz music was closely associated with the left in German politics due to its coincident emergence during the 1919 revolutions and its reputation as the youthful antithesis of the values of the now discredited Wilhelmine era. Radical arts groups such as Berlin Dada identified with the anti-establishment values of Jazz, and with a wholesale rejection of the tradition of *Bildung* they 'celebrated indiscriminately and provocatively everything American, especially the "fashion dance" of jazz and Afro-American tap dance as a type of modern primitivism'.³⁷⁹ However, as the decade progressed, jazz became less associated with the left and with primitivism. Instead, by virtue of its ability to integrate with commercial modernity, jazz became connected with rationalisation, materialism and urban, industrial modernity. With its adoption of spontaneity and most importantly, rhythm, the sonic character of jazz was now closely

³⁷⁷ Chanan, *Repeated Takes*, 39.

³⁷⁸ Nathaus, 'Popular Music in Germany', 767.

³⁷⁹ Wipplinger, *The Jazz Republic*, 30; Partsch, *Schräge töne*, 11.

linked with the sound of urban modernity, invoking the rhythmical sounds of mechanisation, industrial production and the rotary percussion of the motor:

[the sound of jazz was like] being run over, electric shock, the clap of the mailbox, the whistle of the locomotive, the whetting of the razor blade, the rolling of the elevated train, the workings of vending machines, the flapping of the revolving door of a café, stumbling up and down a subway stairway, the calls of newspaper sellers, the pounding of jackhammers at the construction of a high rise building, the grinding of cranes, howling of factory sirens.³⁸⁰

Jazz became the soundtrack of mass consumption and the production-line. As the critic Kurt Tucholsky described it, jazz was a sonic extension of the work environment:

Their music clatters in the same beat as the typewriters which the audience left behind two hours before, its song is the scream of the boss, made rhythmical, and its dance is around the golden calf. The jazz band is the extension of business by other means.³⁸¹

The American composer George Antheil writing in *Der Querschnitt* (1922) directly links jazz with mass production, commercial innovation and consumption:

[jazz] will derive its energy from the direct environment of the masses; the towers, new architecture, bridges, steel machinery, automobiles, and other things which have a direct function [...] it will be purely abstract and will derive its energy from the rhythmic genius of a solitary innovator whose sense of time

³⁸⁰ Giese, *Girlkultur*, 68.

³⁸¹ Panter, (Kurt Tucholsky) 'Die Neuen Troubadoure', 342-3.

spaces comes from the present moment of intricate machines which are new arms and legs of steel and reach out to change the entire epoch.³⁸²

As well as its sonic and structural qualities, the modernity of jazz lay in the stark polarity between it and the ponderous attributes of German Music. Where German Music was cerebral, national and traditional, jazz was spontaneous, corporeal, internationalist and new.³⁸³ Jazz as experienced through the medium of technology was the epitome of the shock of modernity, a sudden, liberating break with the past:

Shimmy [Jazz] dances over fading cultures, the way paved by tap-dance and foxtrot ... It is free from bondage and has unlimited freedom, it is formed of artistic instinct and not of ill-conceived intellect.³⁸⁴

Bertolt Brecht, expressing his frustration at the ossified nature of German *Kultur*, wrote 'All my youth was a torment with all music, and it is only now that the jazz bands are finally here, that I feel well.'³⁸⁵ In Hesse's *Der Steppenwolf* the novel's bourgeois protagonist Harry Haller describes the *Angestellten* white-collar guilt at being seduced by new forms of commercial, technological music that were invading and irreversibly destroying the 'well-groomed' world of German Music:

As the gramophone spoiled the air of ascetic spirituality in my study room, as the American dances invaded my well-groomed world of music in a strange and disturbing, even destructive way, on all sides something new, dreaded, dissolving penetrated my hitherto so sharply defined and so strictly closed Life...and sometimes, when I danced my 'onestep' in any fashionable restaurant between all

³⁸² Antheil, 'Jazz', 172.

³⁸³ Wiplinger, *The Jazz Republic*, 44.

³⁸⁴ Herwarth, 'Shimmy', 50-51.

³⁸⁵ Brecht, *Gesammelte Werke in 20 Bänden*, 69.

the elegant bon vivant - and forlorn figures - I found in myself a traitor to everything that had ever been venerable and sacred to me in life.³⁸⁶

As we have seen, jazz listening was almost exclusive to the monied, urban, upper and middle class audience who owned radios and gramophone players: Schmidt writes that Jazz was played at high-end dance venues: expensive hotels, casinos, theatres, wine bars, dance cafes, dance salons: 'Its performance —whether live or in mechanically reproduced form—was located in spaces and apparatuses that were predominantly populated and owned by Germans with privilege'.³⁸⁷ Eric Hobsbawm, describing his experiences in 1930s Berlin, writes that German jazz listeners 'were overwhelmingly composed of members of the established middle classes or the college-going classes'³⁸⁸ – a condition that provoked Adorno to describe German jazz as 'the *Gebrauchsmusik* of the haute bourgeoisie of the post-war period'.³⁸⁹ In contrast, working-class entertainment consisted of a combination of older styles (*Tanzmusik*, *Unterhaltungsmusik* and *Schlager*) played by small ensembles, *Arbeiterlieder* at worker's singing associations and street music often performed on mechanical barrel organs. Jazz was, of course, an entirely urban affair; dance venues were completely absent in the countryside and villages³⁹⁰ – a social and geographic schism that further inflamed rural and class opinion with jazz positioned as the epitome of urban moral laxity, conjuring images of 'occupation, insurrection, chaos and moral abandon and loss of national identity'.³⁹¹

The white-collar middle classes, who once underpinned the institutions of *Kultur*, were now adopting its nemesis, the *anti-Kultur* genres of materialist capitalism and

³⁸⁶ Hesse, *Steppenwolf*, 141-142.

³⁸⁷ Schmidt, *Visual Music*, 204.

³⁸⁸ Hobsbawm 'Jazz Comes to Europe', 271.

³⁸⁹ A cynical reference to *Gebrauchsmusik* i.e. the fashionable, functional music of the middle classes: Adorno 'Farewell to Jazz', 497.

³⁹⁰ Schmidt, *Visual Music*, 206.

³⁹¹ A view reinforced by popular racist attitudes to black Americans – especially resonant during the '*Schwarze Schmach am Rhein*' campaigns of 1920–23. See: Weiner, *Urwaldmusik and the Borders of German Identity*, 476.

rationalisation. This process of what was seen as 'cultural erosion', galvanised the antipathy of the *Bildungsbürgertum* (and some of the left *Kulturkritik* – Adorno and others) towards technological modernity and widened the gap between the techno-optimists and pessimists. With attitudes to technological modernity now central to the cultural debate, a dichotomous discourse evolved where either *Kultur* had to be defended from the forces of modernity or evolve into new forms that integrated with technological modernity. These divergent debates will be the focus of the following sections.

Section 4.2: Cultural Resistance to the Commercial-Technological World

With German Music representing the core of German *Kultur*, the encroachment of commercial commodification into *Kultur* was seen predominantly, but not exclusively, by the conservative right as the culmination of the nineteenth century battle between materialism and spiritualism – a battle that maintained that *Kultur* (represented in this case by German Music) and *Technik* (represented by technology, rationalisation and industrial modernity) were in eternal and irresolvable conflict.

Both left and right *Kulturkritik* were alarmed at the technologically enabled changing behaviour of the musical audience, moving the locus of the musical experience from the communal setting of the concert hall (mediated by elite cultures) to the home (mediated by the listener and the media industry) – a change that progressively eroded *Bildungsbürgertum* control over German Music. The immediate response to these changes from the *Bildungsbürgertum* was to isolate and defend German Music from what was perceived as decadent, foreign influences. Unless music was 'cared for' (*Pflege*: a common term used in relation to music at the time) through performance, *Hausmusik*

and defence in public discourse, it would be corrupted and decay. Not only were new mass cultures rapidly displacing 'real art', they were also destroying the people's ability to understand and appreciate German Music. Where previous popular and folk song had, it was believed, evolved organically through the *Volk*, commodified hits of the Weimar period were a mechanical soulless confection, a material product of a precise calculation; their texts and melodies were derived not from oral or musical tradition, but written by publishers and composers in such a way as to maximise royalties.³⁹² The *Bildungsbürgertum* argued that the lack of a tradition of human spiritual development in mass culture meant that it was merely a superficial, materialist obsession, disconnected from human and spiritual values. The availability and affordability of mass entertainment, cutting across previous hierarchies, would lead the masses to become victims of *Vergnügungssucht* ('amusement addiction') – the stupefying condition brought about by the consumption of easily digested but superficial culture-products, a habit that would weaken the cognitive and moral faculties needed for the understanding and appreciation of the higher values of German Music and *Kultur*. During an era of increased biological concepts of the nation – see the *Volskörper* in Chapter 2 – this weakness presented a danger not just to the individual but to the nation as a whole.

The mass-media concerns of leftwing *Kulturkritiker*, in contrast to the conservative's concerns over tradition and spirituality, were largely based on their interpretation of rationalised mass media as an evolved form of technological capitalism: a spectacle that was on the one hand, exciting, advanced and sophisticated, but on the other, a superficial veneer that exposed the instability, inequality and deep social divisions of Weimar society.

In his 1926 essay 'The Cult of Distraction' Siegfried Kracauer highlighted this inequality observing that the apparent order of Weimar society projected by the spectacle of

³⁹² Ross, *Mass Media*, 33.

electric *FassadenKultur* hid the reality of its underlying disorder: 'In the streets of Berlin, one is often struck by the momentary insight that someday all this will suddenly burst apart'³⁹³ – which ultimately it did, but not in the way Kracauer had hoped. This new form of expansive capitalism, they argued, operating through the 'culture industry', sought to colonise all aspects of life. In doing so it demanded a wide range of social, psychological and cultural changes from society and from the individual worker: submission to oppressive labour policies, the maintenance of social discipline, and progressive puritanism etc. – a process of 'hegemony' that exposed the totalitarian aspects of Ford's rationalisation.³⁹⁴

As ever in Weimar culture, music was of central importance to the left *Kulturkritiker* and the effect of rationalisation on music was an important concern. The mechanical reproduction of art and music allied with the pursuit of profit, they argued, had a degrading effect on music leading to a distancing from 'real art' to one dangerously mediated by the 'culture industry' and therefore, ultimately delivering a mass audience open to manipulation and the acceptance of totalitarianism. An example of this degradation-effect could be seen, it was argued, in the way the gramophone changed and distorted music. The subtle technical characteristics of the gramophone format – discussed in Chapter 1.3 – when combined with the profit motive of the music industry promoted an infantilised version of music. The combination of the three-minute per side duration and the listener's ability to manipulate and edit the music had, it was argued, the consequent effect of shortening the musical attention span and emphasising compositional novelty – the listener was no longer prepared to wait for musical gratification and instead demanded a musical diet of concentrated innovation.³⁹⁵ The left-wing *Kulturkritik* Theodor Adorno complained that this process of commercial production and reproduction had a tendency to 'de-compose' music into a stream of

³⁹³ Kracauer, *Das Ornament der Masse*, 327.

³⁹⁴ Schwarzmantel, *The Routledge Guidebook to Gramsci's Prison Notebooks*, 126.

³⁹⁵ Ross, *Media, Culture and Society in Twentieth-Century Germany*, 29.

meaningless highlights designed only to capture the listener's ever shortening attention: 'striking melodic intervals and turns of phrase, unsettling modulations, special instrumental effects, intentional or unintentional quirks of interpretations'.³⁹⁶ This process of degradation was levelled particularly at jazz and popular music which seemed to echo the production-line practises of rationalisation, 'manufacturing' songs by assembling previously tested parts into new permutations, creating a never ending cycle of metamorphosis and commercial evaluation.³⁹⁷

In desperation at the continuing and seemingly unstoppable incursion of technological, commercial modernity into German *Kultur*, elements of the cultural elites began to temporarily suspend their concerns about *Technik* if the primacy of *Kultur* could be maintained – a change in thinking brought about by the realisation that audio technology would not simply disappear or be vanquished by the obvious superiority of *Kultur*, combined with the lucrative potential of a tentative 'managed' resolution with *Technik*. This attitude developed into the practice of 'defensive modernism' i.e. the use of the techniques and apparatus of modernity to defend against modernity. This tactic introduced a type of paradoxical thought that was to characterise the Weimar and Nazi era – what Herf called 'reactionary modernism': 'a reconciliation between the antimodernist, romantic, and irrationalist ideas present in German nationalism and the most obvious manifestation of means-to-ends rationality, that is, modern technology.'³⁹⁸

Defensive Modernism: Radio

The most prominent and early example of defensive modernism was Hans Bredow's programming policy for the national radio network which, exploiting the 'community of simultaneity' attributes of the new radio medium, aimed to both define the nation state

³⁹⁶ Ibid, 118.

³⁹⁷ Chanan, *Repeated Takes*, 16.

³⁹⁸ Herf, *Reactionary Modernism*, 1.

as a cultural (and racial) entity and to reinforce the values of German *Kultur* – in other words using radio to defend *Kultur* against the incursions of technological modernity and the forces of social and cultural decay - see Chapter 2.

Unlike the privately owned industries of cinema and the press, the state was able to effectively subsume radio, due both to its newness and by exploiting *Bildung* anxieties of an unregulated and intangible network. In contrast to other national networks of the period, the Weimar government viewed radio as an apolitical, national resource, yet, despite this claim, the new network was clearly an instrument with a socio-political agenda based firmly on defending and consolidating the German bourgeois antimodern values of *Kultur* and *Bildung*:

Listeners should feel released from the 'exhausting restlessness' of modern life and so their houses should become 'home', providing shelter not just from the rigours of the climate but also from the psychological perils of modern society, with its tendencies toward superficiality and anonymity.³⁹⁹

Bredow's RRG viewed radio as a device to nurture the *Volksgemeinschaft*, an ambition not necessarily aligned with the National Socialists, but, as Führer points out, it placed him 'in the same camp with many Weimar conservatives who felt that modern industrialised Germany painfully lacked social and intellectual unity.'⁴⁰⁰ To these ends the RRG broadcast a schedule of 'improving' content – lectures on German philosophy, poetry, literature but predominately German Music – and *Volkisch & Heimat* culture.⁴⁰¹ For Bredow, radio was a sociological instrument in bringing the war-torn and politically divided nation together, an 'instrument of culture and equilibrium'.⁴⁰² Programming became a mixture of predominantly classical music within a German context and

³⁹⁹ Hans Bredow, quoted in Führer, *A Medium of Modernity?*, 728-9.

⁴⁰⁰ Führer, (1997), *A Medium of Modernity?*, 729.

⁴⁰¹ Regional folklore based on a broad nationalist cultural agenda.

⁴⁰² Pohle, *Der Rundfunk als Instrument der Politik*, 61.

educational topics (language, culture, literature), drowning out the revolutionary voices of the *Funkerspuk* movements and consolidating *Bildung* hegemony through German Music.⁴⁰³ Regional broadcasters became responsible for the cultural education of their respective 'cultural areas' (*Kulturraum*). The idea of *Kulturraum* was in turn based on the idea of *Stamm* or *Volksstamm*: a nationalist cultural movement (ideologically close to 'blood and soil' nationalism) based on the belief that each region's unique identity originated from the culture of a (supposed) aboriginal Germanic people – the role of radio was to uncover this history, obscured by the 'misery and haste' of modernity and urbanisation, through national conscious-raising to bring about the rebirth of the German *Geist*.⁴⁰⁴

Through this policy, Bredow isolated German radio from the current of modernity and especially mass-culture, a policy that put it on a path that would inevitably conflict with new audiences immersed in the cultures of rationalisation and mass media. One typical comment from *Radio-Zeitschrift* (1930) argued that listeners wanted 'Above all, light entertainment music! But also dance music, marches, variety shows and the occasional operetta and comedy' instead they were served a diet of 'heavy chamber music or great operatic works or boring lectures that barely interest three percent of the listeners.'⁴⁰⁵

The frustration at 'culturally uplifting' and *Heimat* programming was also partly due to the changing demographics of radio ownership of the time – receiver ownership was until the mid 1930's overwhelmingly urban *Angestellten* middle-class, people whose tastes tended toward modernity in art and entertainment rather than a rural regional diet of *Volkslied*. But also, the '*Heimat & Volk*' project angered left-wing republican intellectuals, trade unionists, socialists, and communists who opposed the concept not just because of its blatant social engineering aspect but also because of the rural and nationalist focus

⁴⁰³ 'Around half of airtime was taken up with music, 10% by lectures, 15% by news and reports, and a further 10% by "target group" broadcasts' – Ross, *Mass Media*, 151.

⁴⁰⁴ Saldern, *Volk and Heimat Culture*, 327.

⁴⁰⁵ Rellseg, 'Zur Programmefrage!', 582–84.

which ignored the plight of the urban worker. As the critic Erik Nölting wrote: 'the search for the organic roots of culture in *Heimat* art was only a romantic escape and ... the old saga heroes could not be models for modern times'.⁴⁰⁶ This frustration at the RRG's broadcast policy contributed to the popular and growing opinion that the Weimar government was out of touch with 'the people' and that the republic's experiment in social democracy was an indulgence of elite of intellectuals – a division that was effectively exploited by the NSDAP (who, having been excluded from the airwaves had nothing to lose in criticising the broadcasters). When the NSDAP did take full control of the airwaves in 1933 it became a critical factor in their consolidation of power. Ironically, they immediately replicated the RRG's unpopular schedule of uplifting and *Volkisch* content, interspersed however, with symbolic political content derived from techniques of mass psychology and mass cultures – a subject explored in Chapter 5.

Defensive Modernism: Electronic Musical Instruments

During the late 1920s the German piano market dramatically crashed due to a number of factors including restrictions on exports, and intermittent economic instability. But the change in fortunes for this industry was primarily due to the erosion of piano playing culture by the popularity of the radio and gramophone. Piano production declined by 93% between 1927 and 1933, with the industry running at only 8% of its capacity in 1932.⁴⁰⁷ Middle class families ditched their pianos in favour of new gramophone players and radio receivers, while poorer families unable to maintain their instruments, afford expensive lessons or space in their homes, dumped the pianos in the streets en-masse or sold them as firewood.⁴⁰⁸

The principal piano market was for *Hausmusik*, the *Bildungsbürgertum* practice of amateur music making: 'an indispensable requisite of the German bourgeois household'

⁴⁰⁶ Saldern, *Volk and Heimat Culture*, 327.

⁴⁰⁷ Donhauser, *Elektrische Klangmaschinen*, 84.

⁴⁰⁸ Kater, *The Twisted Muse*, 132.

and one that was regarded as German Music's frontline defence against the ever increasing encroachment of *Amerikanisierung* and *Zivilisation*.⁴⁰⁹ The piano-crisis was therefore perceived not just as an economic crisis but as an attack of materialist capitalism on German Music and *Kultur*.

The latest technological advances in instrument design had shown that electro-acoustic pianos could be built that were smaller, cheaper and notably, fit for mass production. The German Music establishment, realising the potential of technology to save the piano tradition, took the unprecedented step of accepting products of rationalised modernity to promote *Hausmusik*.⁴¹⁰ Rationalisation in this case consisted of the application of mass production efficiencies informed by the new science of market research. Ross, emphasising the role of market research, writes:

By the second half of the 1920s market research was deemed an integral component of Germany's rationalisation efforts, at least in principle. By determining which social groups were most likely to purchase a product, and targeting publicity accordingly, it promised to increase sales at lower costs.⁴¹¹

Research conducted during the early 1930s seemed to prove the existence of a market for the new electronic instruments, i.e. the middle-class ex-practitioners of *Hausmusik* who had been seduced by the radio and gramophone but were technologically literate enough to consider an electronic instrument – and were, it was believed, sufficient in number to rescue the German piano market.

⁴⁰⁹ N.A, 'Rundfunk, Schallplatte und individuelle Musik', 87.

⁴¹⁰ Represented by the conservative music press, the Association of German Piano Dealers, prominent performers and musical commentators allied with commercial organisations.

⁴¹¹ Ross, 'Cinema, Radio, and "Mass Culture"', 216.

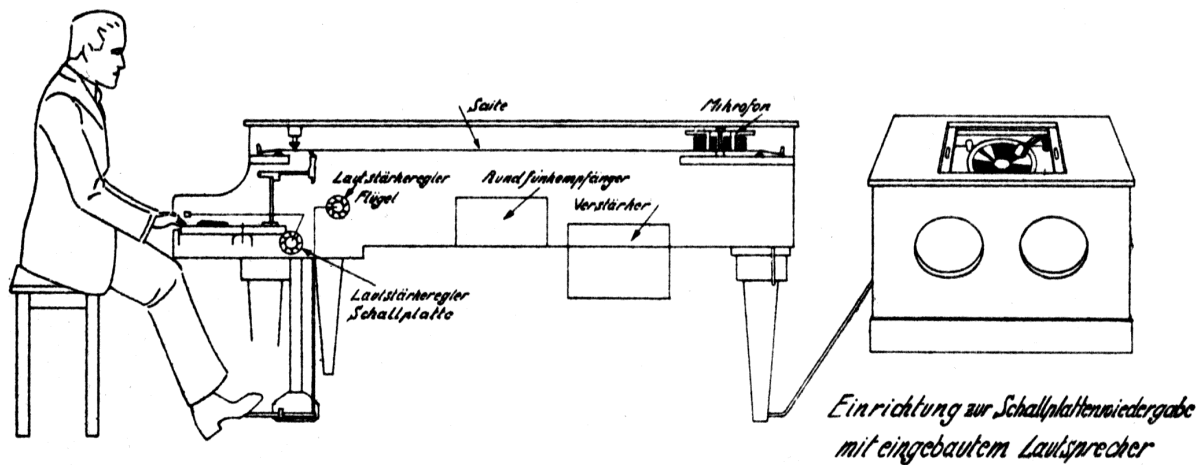


Bild 2. Schema des Nernst-Flügels (Seitenansicht)

Fig. 4.1. Diagram of Nernst's Neo-Bechstein Flügel showing the instrument and radio/gramophone player and amplifier/loudspeaker cabinet. Image: issue 46 / VIII of "Das Rundfunkwesen" November 13, 1931.

The commercial initiatives aimed at rescuing the Piano industry were inspired by research and development at the newly founded acoustic research centre, the *Heinrich Hertz Institut für Schwingungsforschung (HHI)* in Berlin. The HHI was a joint venture between the state and private commercial organisations such as Siemens & Halske, Telefunken who licensed their designs to various piano manufacturers.⁴¹² While the state hoped for a technological solution to the erosion of German *Kultur*, the private sector hoped to diversify their specialisation in radio and gramophone products by developing and exploiting a new market for 'modern' electronic musical instruments, which considering the rapid success of the radio and gramophone markets, would have been seen as too lucrative to ignore.

The cost-saving innovation of these electro-acoustic instruments was the application of electro-magnetic amplification (the detection and amplification of the sonic vibrations of piano strings through magnetic pick-ups) which meant that the most expensive part of a

⁴¹² C. Bechstein with the *Neo-Bechstein Flügel* (or Nernst-Bechstein Piano) designed by the Nobel laureate, Walther Nernst at the HHI in 1931, Förster's '*Elektrochord*' by Oskar Vierling also at the HHI in 1932 and Steinway's '*Steinway-Hiller Flügel*' by Bode & Hiller (1934).

piano, the resonating acoustic-amplifying cast iron frame, was unnecessary, resulting in a smaller, cheaper instrument.⁴¹³ In the case of the *Neo-Bechstein Flügel* the output from the magnetic pickups was passed through a system of capacitors and filters to an external speaker attachment, giving the player the ability to extend the sustain of the sound and customise the timbre by boosting the bass notes and high-end according to taste or the variable acoustics of the room. The player could also, uniquely, control the volume and play quietly at home – a distinct advantage over acoustic domestic pianos. Equipped with a built in radio receiver and gramophone player (or with the option of connecting with the owner's equipment), the performer was able to accompany gramophones or radio programmes – particularly the *Spiel Mit* learning programmes, a new genre of broadcast or gramophone disk consisting of music pieces minus the lead instruments, composed specifically for home musical accompaniment.⁴¹⁴

The Neo-Bechstein Piano (see Fig. 4.1) was launched at a prestigious press event in Berlin on August 25, 1931 with a performance of works by J.S. Bach, Domenico Scarlatti and Corelli performed by the celebrated pianist Max Narath. The instrument initially received widespread and mostly positive reviews:

It is an open secret that the piano has considerably lost its importance as a domestic instrument since the advent of radio and the advance of mechanisation. The growing misery of the piano industry is probably not just due to the consequences of the general economic decline, but also of the circumstance of being able to purchase musical instruments for the needs of modern musical needs. The old piano seems to be no longer enough for the music lover of today, because the radio and the record are 'more versatile'...In this situation a new invention bursts in...one that unites all useful possibilities of electric music with

⁴¹³ The Neo-Bechstein's price of 2,800 RM was substantially cheaper than Bechstein's cheapest conventional acoustic instrument of 3,450 RM: Donhauser, *Elektrische Klangmaschinen*, 95.

⁴¹⁴ Ross, *Mass Media, Culture and Society in Twentieth-Century Germany*, 51.

piano sound. It is not too much to say that this 'electric piano' is the beginning of a new stage in piano history, and is a landmark as important as the invention of the hammer piano.⁴¹⁵

The new electric piano however, failed to win over the endorsements of 'big name' players who were essential to promote the instrument within the concert hall circle (and fulfil the aspirational conceits of domestic *Hausmusik* players) as had been hoped. The conservative classical piano playing elite – already of an anti-technological disposition – were in practice unwilling to adopt such a radical departure. One of the critical elements in this rejection was the separation of the sound of the piano from an acoustic source to an electronic audio output from a single loudspeaker. It was argued by the conservative *Kulturkritik* that this would separate the performer from the 'emotional spirit' (the *Lebensphilosophie* concept of *Unmittelbarkeit*' and *Erlebnis*) of the traditional instrument and would threaten the very values of *Hausmusik* rather than preserve it. A typical press report from 1931 read:

The culture of Hausmusik is in danger! Instead of seventy five "string parts" [the number of strings on a piano] for a Mozart sonata on a normal piano, there would be only one sound source available, namely the loudspeaker [...] From a purely artistic-cultural point of view, one wants to call this new direction of the musical instrument industry a "wrong path" because when the artist loses direct contact with the material of his means of expression, the emotional experience immediately loses its communicative power. In this way, one gradually loses the cultural values that have accumulated over the past centuries.⁴¹⁶

Ultimately, new instruments such as the Neo-Bechstein piano failed to have any serious commercial impact on the declining piano market – a failure that resulted from a

⁴¹⁵ Schliepe, 'Der Zeitgemäße Flügel', Deutsche Allgemeine Zeitung 26.8.1931.

⁴¹⁶ Donhauser, *Elektrische Klangmaschinen*, 92.

combination of the techno-pessimism of the *Kultur* establishment and the marketing inexperience of the piano companies. Bechstein in particular, were unduly confident in organic sales and invested little or nothing in promotion and advertising; instead the company relied completely on their existing piano distribution network to generate sales. This failure, as with other commercial electronic instruments of the period, was partly due to overconfidence in selling novel technology to a *Technik* resistant market, but also down to remarkably bad timing: the *Neo-Bechstein Flügel* was launched in 1931 in the middle of one of the worst financial crises in German history and musical instruments were an unaffordable luxury to even the most well-off.

An even greater technological leap of faith for the defensive modernists was the decision to promote not just an imitation of a conventional classical instrument such as the *Neo-Bechstein Flügel*, but to develop a completely new, purely electronic commercial instrument called the *Volkstrautonium* – an early predecessor to the modern synthesiser. The *Volkstrautonium* began life as an experimental electronic instrument at the *Rundfunkversuchsstelle* (RVS) Berlin. Designed by the electronic instrument pioneer and amateur organist, Friedrich Trautwein (see Chapter 5.4), the *Trautonium* was highly influenced by the RVS composition tutor and violist, Paul Hindemith: instead of a standard manual keyboard, the *Trautonium* was played using a continuous controller formed from a wire stretched over a conductive plate (similar to a violin string and capable of a two octave glissando). This innovation, Hindemith hoped, would make the instrument suitable for string quartet chamber music – but it was also the product of two decades of interest in microtonal music (Mager, Hába, Stein and others) that linked both the exploration of new timbres with new forms of expression, continuing the *Ur-Musik* utopian tradition of Busoni.⁴¹⁷ Trautwein negotiated a licensing deal with Telefunken, the leading domestic electronic company of the time to manufacture and market a compact version of the instrument dubbed the *Volkstrautonium*. As with the *Neo-Bechstein Flügel*,

⁴¹⁷ Oskar Sala– Anfänge: Interview mit Oskar Sala, 1992 von Matthias Becker. Oskar Sala Fonds am Deutschen Museum.

the *Volksrautonium* was aimed primarily at the conservative, middle-class *Hausmusik* market in an attempt to revitalise the declining practice; this market was targeted by a publicity campaign that made explicit links to the *Hausmusik* tradition. But, at the same time, Telefunken shrewdly produced a second advertisement aimed at a 'modern' audience, the same one that was deemed responsible for the demise of *Hausmusik*: popular music dance bands and music producers.



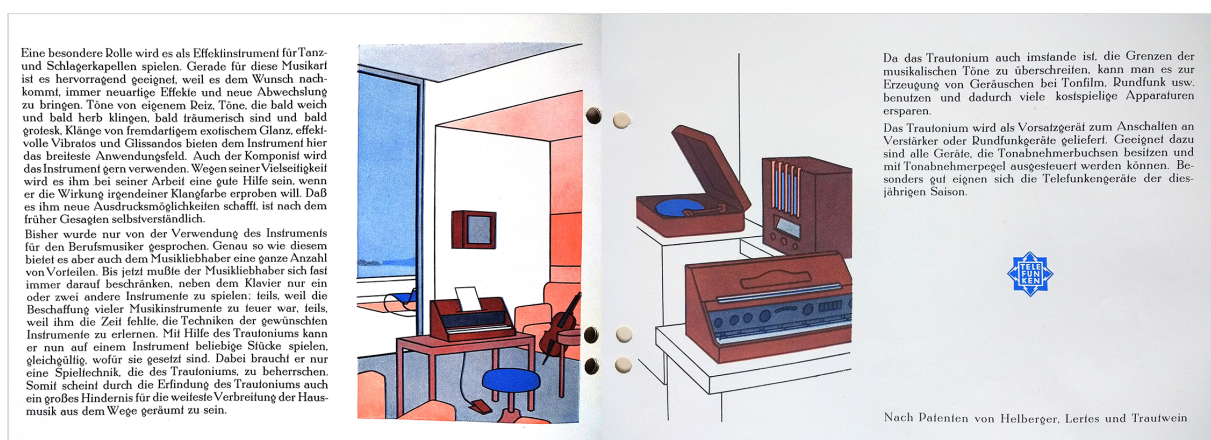
Fig.4.2 The 'conservative' version of the Trautonium brochure. Telefunken 1933.⁴¹⁸

In the 'conservative' advertisement (fig. 4.2), set in 'traditional' fraktur gothic font, the new instrument, whose modern styling is hidden from view and technological function is glossed over, is depicted as integrating into a refined baroque setting reflecting the values of *Bildung* and cultural aspirations for *Hausmusik*. Similarly, the text adopts a proudly nationalist tone, referring to 'unser Volk' and 'German science and technology'. The *Trautonium*, it seems, would fit seamlessly into the noble history of German Music, gracefully avoiding any concerns about the impossibility of merging *Kultur und Technik*. The virtue of the *Volkstrautionium* lay not in its modernity but, Telefunken claimed in its

⁴¹⁸ Telefunken Trautonium brochure, Siemens Historical Institut, Berlin.

brochure, its versatility: it was easy to learn, affordable and could be used to play string and wind instrument solo parts for all *Hausmusik*:

Our people ('*Unser Volk*') have rediscovered their love of *Hausmusik*. The art that has long been reputed to be dead has awakened to a new love and will undoubtedly continue, renewed and encouraged by the renewal of our people's life. We all gladly find ourselves learning new instruments; we foster the noble sociability of playing music together, and also the youth are also encouraged to play music. The new instrument, the *Trautonium*, is destined to be instrumental in the fifth evolution of *Hausmusik*. The new instrument produces tones in a purely electric way and is therefore not bound to the limitations imposed on any other instrument such as construction material, size, etc. This makes it possible to produce the characteristic sounds of all known musical instruments with great realism, both those of stringed instruments and wood and brass instruments. As well as the sounds of other well-known musical instruments, the *Trautonium* has an overwhelming abundance of new, more effective, special timbres, which can enrich the music in an unusual way and make *Hausmusik* particularly charming and varied.⁴¹⁹



Eine besondere Rolle wird es als Effektinstrument für Tanz- und Schlagerkapellen spielen. Gerade für diese Musikart ist es hervorragend geeignet, weil es dem Wunsch nachkommt, immer neuartige Effekte und neue Abwechslung zu bringen. Töne von eigenem Reiz, Töne, die bald weich und bald herb klingen, bald träumerisch sind und bald grotesk, Klänge von fremdartigem exotischem Glanz, effektvolle Vibratos und Glissandos bieten dem Instrument hier das breiteste Anwendungsfeld. Auch der Komponist wird das Instrument gern verwenden. Wegen seiner Vielseitigkeit wird es ihm bei seiner Arbeit eine gute Hilfe sein, wenn er die Wirkung irgendeiner Klangfarbe erproben will. Daß es ihm neue Ausdrucksmöglichkeiten schafft, ist nach dem früher Gesagten selbstverständlich.

Bisher wurde nur von der Verwendung des Instruments für den Berufsmusiker gesprochen. Genau so wie diesem bietet es aber auch dem Musikliebhaber eine ganze Anzahl von Vorteilen. Bis jetzt mußte der Musikliebhaber sich fast immer darauf beschränken, neben dem Klavier nur ein oder zwei andere Instrumente zu spielen; teils, weil die Beschaffung vieler Musikinstrumente zu teuer war, teils, weil ihm die Zeit fehlte, die Techniken der gewünschten Instrumente zu erlernen. Mit Hilfe des Trautoniums kann er nun auf einem Instrument beliebige Stücke spielen, gleichzeitig, wofür sie gesetzt sind. Dabei braucht er nur eine Spieltechnik, die des Trautoniums, zu beherrschen. Somit scheint durch die Erfindung des Trautoniums auch ein großes Hindernis für die weiteste Verbreitung der Hausmusik aus dem Wege geräumt zu sein.

Da das Trautonium auch imstande ist, die Grenzen der musikalischen Töne zu überschreiten, kann man es zur Erzeugung von Geräuschen bei Tonfilm, Rundfunk usw. benutzen und dadurch viele kostspielige Apparaturen ersparen.

Das Trautonium wird als Vorsatzgerät zum Anschalten an Verstärker oder Rundfunkgeräte geliefert. Geeignet dazu sind alle Geräte, die Tonabnehmerbuchsen besitzen und mit Tonabnehmerpegel angesteuert werden können. Besonders gut eignen sich die Telefunkengeräte der diesjährigen Saison.

Nach Patenten von Helberger, Lertes und Trautwein

⁴¹⁹ *Ein Neues Vollkommenes Musikinstrument, 1933, Telefunken Trautonium brochure, Siemens Historical Institut, Berlin.*

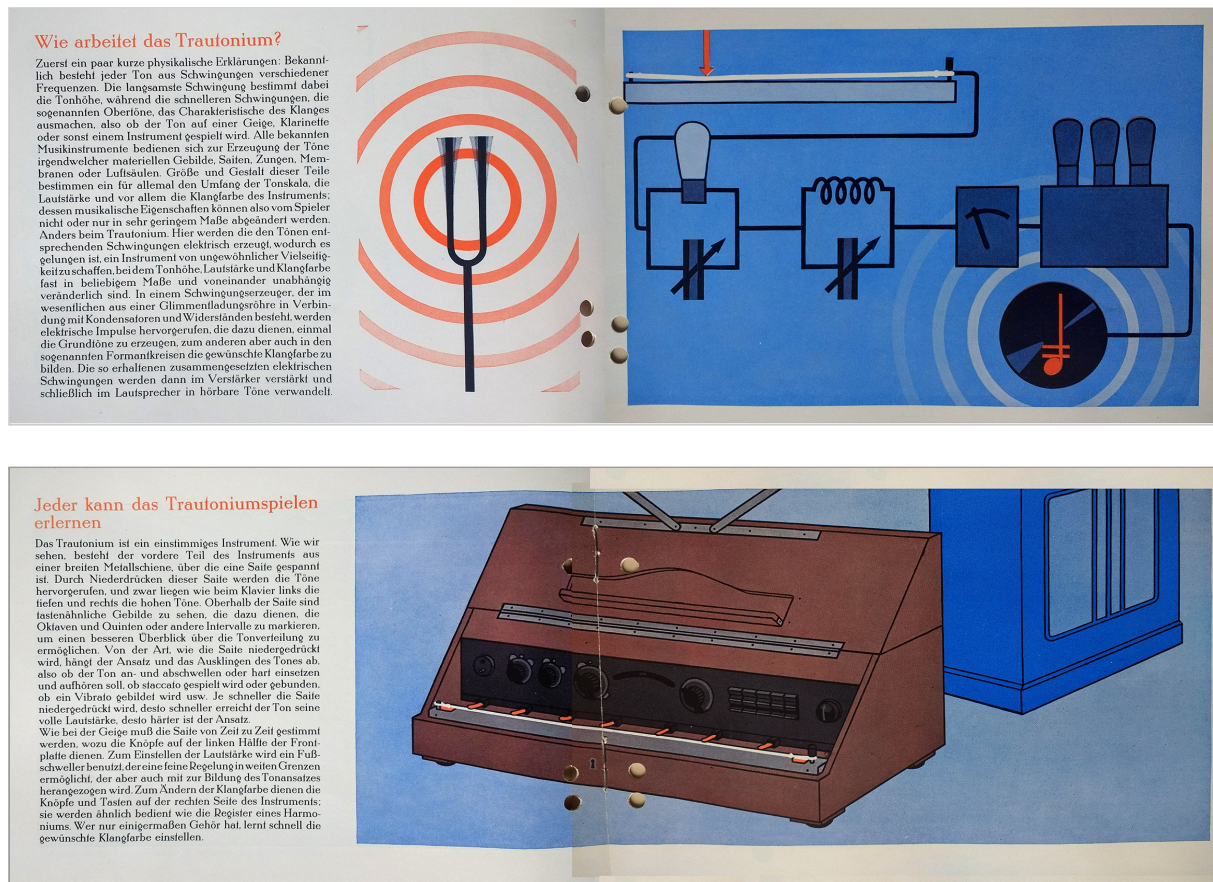


Fig.4.3 The 'modern' version of the Trautonium brochure. Telefunken 1933.⁴²⁰

The 'modern' version of the advert (Fig. 4.3), complete with circuit diagrams and minimal modern design, makes a virtue of the instrument's modernity and positions it as a triumph of technology: an aspirational piece of consumer electronics that integrates with the latest radio receivers and gramophone players – all set within the environment of a stylish Bauhaus-like apartment. Gone were the noble aspirations of *Hausmusik*, this *Trautonium* was aimed at commercial and pop music:

[the *Trautonium*] will play a special role as an effect instrument for dance and pop music bands. It is ideally suited especially for this type of music, because it fulfils the need to bring new effects and a new variety of sounds. Sounds with their unique charm, tones that can sometimes sound soft and sometimes harsh,

⁴²⁰ Ibid.

sometimes dreamy and then grotesque, sounds of exotic splendour, full-bodied vibratos and glissandos; this instrument offers the broadest field of application. Since the *Trautonium* is also capable of exceeding the limits of musical tones, it can be used to produce sounds in sound film, radio, etc., thereby saving a lot of costly equipment.⁴²¹

This contradictory marketing strategy illustrates the paradox of modernism at the time. Telefunken was aware of the division of opinion that surrounded music and technology in the early 1930s: they knew that the most immediate market, that of the *Hausmusik* playing middle class, held traditionalist views of *Kultur und Technik*; but also that, if they were to develop a new market in electronic musical instruments, they had to appeal equally to a new modern, experimental and commercial audience of musicians.

The commercialisation of the *Trautonium* was, in Hindemith's student and *Trautonium* virtuoso, Oskar Sala's words 'A flop'. The reasons for this failure were several: like the *Neo-Bechstein Flügel*, Telefunken seemed overly confident in the possibilities of a future market in electro-music, so much so they priced the instrument at a loss in order to secure a foothold in this new potential market. This confidence meant that they barely promoted the 'product', relying instead on the above brochures in radio salesrooms and the occasional press advert. Alongside the *Neo-Bechstein Flügel*, the *Trautonium* was launched at the worst moment during the height of the 1931 global financial crisis: the instrument, priced at 400 RM⁴²² (equivalent to two and a half months wages for the average worker) and designed with an unfamiliar continuous controller playing mechanism rather than a keyboard, was seen as an expensive and complicated irrelevance. Very few of the initial run of 200 units were sold.⁴²³

⁴²¹ Ibid.

⁴²² Telefunken catalogue, 1931, Siemens Historical Institut, Berlin.

⁴²³ Donhauser, *Elektrische Klangmaschinen*, 132.

Ultimately the conservative attempts at defensive modernism failed. Bredow's policy of *Bildung* broadcasts produced the inverse to his objective: instead of building a unified listening nation, the blatant social engineering of the RRG was the cause of complaints and derision, intensifying the already widely-held opinion that the elite policy makers of the Weimar government were out of touch with the needs and feelings of the 'real people'. Both *Volkisch* radio broadcasts and the attempts to shore up the practice of *Hausmusik* seemed anachronistic and were rapidly outflanked by advances in popular mass cultures – mass cultures that further eroded the hegemony of German Music.

Section 4.3: Reconciliation with the Commercial World

This section examines the various cultural and musical attempts at reconciling culture with commercial modernity during the Weimar period – a broad movement that I will term *Neue Musik*.⁴²⁴ The most prominent example of this was the stylistic movement of *Neue Sachlichkeit* which informed much of the modernist musical output of the period in terms of its relationship with mass culture and technology, but also, I will argue, through its focus on objectivity it retained totalitarian aspects of rationalisation. The *Neue Sachlichkeit* advocates of a cultural resolution with *Technik* saw many positives in the mass cultures of rationalisation, primarily: democratisation, objectivity and internationalism. Despite being on the whole 'anti-capitalist', the proponents of *Neue Musik* saw in commercial mass media the promise of a form of cultural democratisation – 'a shift towards the masses' – that had the potential to free music from the hegemony of German cultural institutions – an institutional musical handicap that, they argued, applied only to Germany and not the 'modern' nations such as the USA.⁴²⁵ The proponents of modernism, seeing connections between mass production and mass cultures, argued that mass culture unified and democratised the masses through

⁴²⁴ *Neue Musik* is not a unique term but one that was used before and after the 1930s and in this case named after the *Neue Musik Berlin festival* at the RVS in 1930 and includes a diverse group of composers such as Weill, Hindemith, Toch, Krenek, Butting, Stuckenschmidt and others – and not the earlier 'atonal school' around Schönberg.

⁴²⁵ Grosch, *Die Musik der Neuen Sachlichkeit*, 6.

technology. For example in 1930 the critic Warschauer wrote: 'A characteristic feature of mechanisation is: the turn towards the masses [...] Technologisation aims sociologically at the cultural unity of the masses it encompasses'.⁴²⁶ In 1929, the writer Anton Schirokauer similarly observed:

There are 3 million families listening to about 3 million radio sets: in other words, there is a radio audience of about 9 million people. Art is publicly available on an unprecedented scale. Art has been taken into public ownership.⁴²⁷

The cultural left regarded mass culture as liberated from bourgeois control and democratised through technology. It was therefore the best route to engage with the masses and the best route to establish a new form of popular 'serious' culture that would achieve their utopian societal objectives. Rather than the traditional forms of theatre and concert hall, the most effective way of engaging with 'the masses', it was argued, was to use the same technological channels – radio, gramophone and sound film – that powered mass culture.⁴²⁸ A general objective for progressive intellectuals and artists during the 1920s became, as Ross put it, to bridge the division between elite art ('*E-Kunst*' or elite art controlled by the *Bildungsbürgertum*) and popular cultures and entertainment ('*U-Kunst*' – *Unterhaltung Kunst* – or entertainment, mediated by the masses and the entertainment industry) through the creation of a universal art (*Allgemein-Kunst* or universal art) – in short an overall attempt at the democratisation of German culture.⁴²⁹ The musical aspects of *Allgemein-Kunst* were, as ever in Weimar Germany, a central component of the project. The cultural left maintained the belief that 'serious' German Music had become historically separated from the people during the feudal and bourgeois era and that a 'universal art' would return German Music to 'the people' as their original birthright. To achieve this, the aim was to build a broad community with a common

⁴²⁶ Warschauer, 'Die Zukunft der Technisierung', 433.

⁴²⁷ Anton Schirokauer (1929) quoted in Peukert, *The Weimar Republic*, 170.

⁴²⁸ Krenek, 'Neue Sachlichkeit in der Musik', 216-18.

⁴²⁹ Ross, *Media and the Making of Modern Germany*, 100.

shared musical experience. This community (*Gemeinschaftsbildende kraft der Musik*) would challenge the dominant individualistic, bourgeois music culture and ultimately pave the way for a socialist society.⁴³⁰

While rationalisation to the conservative nationalists was a new form of capitalism (and a product of Jewish international high finance) whose *anti-Kultur* values could be witnessed in the decadent cultures it spawned, the techno-positivist left saw rationalisation as an opportunity to finally break the hermetic seal of German culture and bring outside influences into music and art (jazz, popular music and cinema in particular) – a technological internationalism that was symbolised by Lindbergh’s iconic trans-oceanic flight in 1927 and the international flights of the *Graf Zeppelin* airship. For the techno-positivist left who, through Marxist theory, were already advocates of internationalism, *Amerikanisierung* was positively aligned to modernity, innovation, openness and progress. International influence through rationalised modernity was the most likely route for modernising German Music, and also the only prospect for international recognition and sales for German modernist composers and musicians.

The fact that German *Kultur* could not reconcile its relationship with commercial modernity condemned it to an increasingly polarised, defensive position. In contrast, the capability to come to terms with and resolve the values of rationalisation (i.e. technologically enabled commercial culture and urban modernity) was the key determiner of success and the main attribute of the dominant stylistic movement of the Weimar period which became known under the catch-all term of *Neue Sachlichkeit* ('New Objectivity' or 'New Sobriety').

⁴³⁰ Dennis, *Beethoven in German Politics*, 100.

What Becker describes as the 'the only genuinely new and relevant stylistic notion' of the period was without any particular set of stylistic rules: it defined itself as 'modern' in that it was uniquely unafraid of embracing the problems and benefits of urban modernity.⁴³¹ It also rejected the crisis-culture of post-war Germany that led both to the pessimism of the *Konservative Revolution* group (Jünger, Spengler etc.), the romanticism and emotional excess of expressionism and the escapist culture of bourgeois formalism.⁴³² An important aspect of this reaction against prewar thought was that by the mid 1920s, *Neue Sachlichkeit* had shifted the creative focus from Wilhelmine ideals of 'pure art' towards the social and the political. The output of *Neue Sachlichkeit* was varied often to the point of being contradictory⁴³³ – but can be loosely bisected into two main groups:⁴³⁴ the first, a mainly visual and literary genre that adopted a pessimistic, distanced objectivity to satirise post-war Weimar society: a 'sober, disillusioned, resigned, and cynical mood in literature and reportage during the stabilisation phase of the Republic'⁴³⁵ and, the second a later, post-Dawes plan (1924) evolution of *Neue Sachlichkeit* which was closely aligned to rationalisation and urban modernity. This dominant form of *Neue Sachlichkeit* viewed Weimar Germany as trapped in the outmoded and discredited mores of its feudal past and instead, turned to the outside world and the tangible, determinable structures of objectivity and *Amerikanisierung*.⁴³⁶ This section will focus on the musical aspects of this later form of *Neue Sachlichkeit* .

Neue Sachlichkeit as a literary and visual movement has been widely documented and researched but the emergence of musical forms associated with *Neue Sachlichkeit* are less well understood. Musical forms of *Neue Sachlichkeit* i.e *Neue Musik*, originated from

⁴³¹ Becker, 'Neue Sachlichkeit', 127.

⁴³² Max Weber, writing as early as 1918 called for a new 'objectivity' to counter the 'spiritual narcotic' and 'irresponsible mysticism' of Expressionism: Weber, 'Ein Jahrhundert Frankfurter Zeitung', 15.

⁴³³ Grüttemeier, Beekman and Rebel discuss the various forms and historical changes of perception of NS in: Grüttemeier, Beekman, and Rebel, 'Neue Sachlichkeit and Avant-Garde', 7-16.

⁴³⁴ Sergiusz, *New Objectivity*, 8.

⁴³⁵ Gay, *Weimar Culture*, 98–101.

⁴³⁶ Becker, *Amerikanismus in der politischen Kultur der Weimarer Republik*, 29.

the same post-1918 revolt against individualist neo-romanticism; however, distinct to *Neue Musik* was a pivotal re-engagement with audio technology and concepts of media and communication – medial ideas that often involved the participation in contrasting cultural forms, such as commercial media, technology and popular music with the ultimate aim of realising a ‘universal art’.

Rationalisation’s insistence on objective ‘truth’ and detached scientific fact as the driving and organisational force for modern society became the inspiration for later *Neue Musik*. For the conservative factions the cultural expressions of ‘truth’ and authenticity were the sole territory of the evolutionary traditions of German Music, art and cultures of the *Volk*. Mass culture, lacking any tradition, was for them at best a worthless superficial distraction. In contrast, the cultural proponents of rationalised modernity celebrated this lack of tradition: authenticity was to be found, unmediated by the preconceptions and myth of tradition, in new technology, an impartial ‘faithful mirror of real social conditions’.⁴³⁷

For composers such as Weill, Krenek, Toch (and several others) it was the ‘democratic’ and objective, ‘realistic’ (the ‘faithful mirror’) aspects of mass culture that appealed to them, and which they attempted to incorporate into *Neue Musik*. By doing so they believed they could engage with a wider, new proletarian audience and fulfil the utopian, socially progressive role central to the genres of *Gebrauchsmusik* and *Lehrstück* that had been lost in German Music. Though he was wary of the term *Neue Sachlichkeit*, the composer Ernst Krenek, in a 1927 essay titled *Neue Sachlichkeit in der Musik*, demanded a reassessment of media and technology in music. Krenek argued that, in rejecting the old hermetic ways of the Wilhelmine era by pursuing a new objectivity – or ‘essence of things’⁴³⁸ – the new composer needed to engage not just with familiar local tropes but

⁴³⁷ Warschauer, ‘Die Zukunft der Technisierung’, 419–433.

⁴³⁸ Krenek, ‘Neue Sachlichkeit in der Musik’, 216–18.

also with the 'outside world', and do so in an understandable form, i.e. engage in commercial and popular cultures through the new electronic mass media:

In order to regain the lost contact with the outside world (*Außenwelt*⁴³⁹), we must represent objects that are common property of the outside world and must represent them with means that the outside world understands.⁴⁴⁰

This 'new objectivity' therefore, refuted isolated individualism and aimed to reach a broader audience beyond the confines of German Music institutions. Krenek goes on to argue that 'The musician longs for the basis of a broader effectiveness'⁴⁴¹ – i.e. effectiveness in terms of musical acceptance by this broader audience but also in new methods of technological delivery to access the mass cultures of the time. Through this new focus, media and audio technology became a central concern in the aesthetic discourse of *Neue Musik* to such an extent that the exponents of the genre prioritised 'commonality' and methods of communication above musical aesthetics.⁴⁴² Kurt Weill, writing in 1927, proposed that 'The primary question for us is: Is what we do useful to the general public? A secondary question is whether what we do is art; because that only decides the quality of our work'.⁴⁴³ Weill's concern was precipitated by the conspicuous commercial success of popular musical forms (jazz and schlager) but also by the growing divide between German *Kultur* and the rise of mass movements – political, 'spiritual' and cultural – during the mid 1920s and the concomitant need for *Neue Musik* composers to be able to access and engage this mass audience if they were to be socially relevant – and commercially successful.

⁴³⁹ Krenek's use of the word '*Außenwelt*' here, I suggest, means both the larger 'outside world' as well as the 'commonality' i.e. the common people beyond cultural hierarchies

⁴⁴⁰ Krenek, 'Neue Sachlichkeit in der Musik', 216-18.

⁴⁴¹ Ibid, 216-18.

⁴⁴² 'Communicative and medial skills of art achieved a more important degree on the scale of aesthetic values than complexity, originality, or craftsmanship' quoted in: Grosch, 'Neue Sachlichkeit, Mass Media and Matters of Musical Style in the 1920s, 186.

⁴⁴³ Weill, *Musik und Musikalisches Theater*, 92-96.

Neue Sachlichkeit was intended to be the art of the people: during a period of mass culture and mass production, the individual 'subjective' view of the artist was out of step with the depersonalised 'objective fact' of the mass, a tendency that led to the dissolution of the individual and the promotion of the mass. Rationalisation with its prioritisation of efficiency and profit, attempted to progressively remove the error-prone human – the 'sand in the gears'⁴⁴⁴ – from the perfect, pure system. This search for purity was echoed in music where, it was argued, music could be pared down to its material essentials; in a *Neue Sachlichkeit* revolt against expressionism, music would be stripped of any romantic pretensions in favour of authenticity and clarity.

Ernst Toch, one of the first Weimar composers to embrace technology, envisioned a future 'crystalline music freed from human intervention', characterised by 'degree of exactitude that can never be attained by human agency, the complete de-personalisation of performance [...] every trace of spontaneity, of sentiment, of impulse, is driven out.'⁴⁴⁵ Toch's search for mechanical, depersonalised objectivity can be found in several works, most famously the *Fuge aus der Geographie* and *Gesprochene Musik* (1930) which consisted of nonsense phrases recorded to a gramophone disc and played back in unison at different speeds. This pursuit of dehumanised mechanical efficiency and purity was also central to the *Mechanische Musik* experiments of Hindemith, Toch, Münch and Haas who exploited the super-human performance abilities of the Welte reproducing organ, debuted at the *Gebrauchsmusik* themed Donaueschingen *Neue Musik* festival in 1926. Dispensing with traditional notation, the *Mechanische Musik* of the Welte organ was composed using a punch-paper roll technique and then fed directly into the machine – a labour-saving musical method that replicated aspects of Ford's production line – systematisation, mechanisation, streamlining, cost-efficiency, mass reproduction.

⁴⁴⁴ Meskill, *Optimizing the German Workforce*, 129.

⁴⁴⁵ Gilliam, *Music and Performance During the Weimar Republic*, xi.

One strand of thought that took the rationalisation concept of musical 'authenticity' to an extreme, originated in the 1923 writings of Piet Mondrian and Moholy Nagy who had proposed that inaccurate and unreliable human musical interpretation could be eliminated by the development of a gramophone groove style sonic-visual language (see Chapter 3.6.2) that ultimately obviated the need for musicians and the whole, messy, human-error ridden music production process.⁴⁴⁶ H.H. Stuckenschmidt, picking up on this concept in 1925, argued provocatively that this sonic-writing process would allow a pure, authentic transmission of the composer's ideas directly to an audible product and that in the future, music would be written *only* with these new technologies, insisting that 'the essential significance of these machines [The gramophone] lies in the possibility of writing for them in an authentic fashion',⁴⁴⁷ i.e. the gramophone becomes a tool for original musical production rather than reproduction, and that through this process the composer could achieve a faultless transfer of a musical concept to a finished work – 'the role of the interpreter is a thing of the past'.⁴⁴⁸

Although neither Mondrian, Nagy or Stuckenschmidt put these ideas into action, the abstract filmmaker Rudolf Pfenninger developed (1931) a system of sound synthesis he called *Tönende Handschrift* ('Sonic handwriting') that was clearly influenced by their ideas (and possibly also by similar developments in the USSR.⁴⁴⁹) of a direct sonic production process. Pfenninger, shifting the hand drawn concept from gramophone to the new technology of sound film, created a method of visually synthesising sound by hand drawing sound-shapes on a ciné film soundstrip that when run through a sound-film projector produced synthetic sound corresponding to the drawn shape (see Fig. 4.4).

⁴⁴⁶ Moholy-Nagy, 'Neue Gestaltung in der Musik. Möglichkeiten des Grammophons'

⁴⁴⁷ Stuckenschmidt, 'Die Mechanisierung der Musik', 4.

⁴⁴⁸ Ibid.

⁴⁴⁹ See: Smirnov, *Sound In Z: Experiments In Sound And Electronic Music In Early twentieth century Russia*.



Fig. 4.4 Pfenninger's synthetic music production-line 'Tönende Handschrift' studio, 1932, Promotional images from the EMELKA film company.

Pfenninger's rigorously systematic method – echoing the 'scientific' systems of rationalisation – was inspired not by musical enquiry but by economic necessity and aimed to deliver a commercially pragmatic way of mechanically synthesising sound which avoided the expense of hiring musicians and producers. *Tönende Handschrift* was a mechanical system which he proposed, would eventually become 'a contrivance resembling a typewriter which, instead of letters, will set together [graphic] sign-waves in succession.'⁴⁵⁰ In a studio closely resembling Ford's production line, libraries of hand drawn *Tönende Handschrift* waveform templates were created that could be organised and processed. Images of sound waves could be photographically enlarged or reduced to vary pitch, a process that entailed no input from human musicians, prompting the *Frankfurter Zeitung* to write in 1932 '*Unheimlich*, the degree to which technology unceasingly renders superfluous in all domains both organic creation and the natural labours of man!'⁴⁵¹

Pfenninger's process posed a threat to both composers and musicians, bypassing the process of composition, recording and production to that of a compressed sequence of photographs. In doing so, it elicited aggressive anti-technological responses. The critic Prévot described the inhumanity of the system as 'a soulless impression of the

⁴⁵⁰ 'Soundless Film Recording,' *New York Times*, 29 January 1933, section 9, 6.

⁴⁵¹ W.P, 'Der Gezeichnete Tonfilm' *Frankfurt Zeitung*, November 2nd 1932.

mechanical',⁴⁵² while the right-wing editor of the *NZfM* Fritz Stege in an article called *The Dangers of Electronic Music*, echoing the contemporary concerns of the impact of rationalisation on employment, focussed on the replacement of serious artists by machines:

It is perhaps only a matter of time before man has penetrated the secret of all those wavebands with their incisions and jagged edges that represent the sound on the sound film strip. The artificial orchestra, the artificial singer, are on the march - a new danger for the long-impooverished professional worker ...⁴⁵³

Other critics argued that the almost mystical ability to synthesise sound threatened the very order of traditional music constructed through the historic accumulation of organic sounds. By producing 'tones out of nowhere', a reviewer in the Nazi newspaper, the *Völkischer Beobachter* wrote, Pfenninger broke what Levin called the 'the logic of acoustic indexicality', the historic link between sound and its origin⁴⁵⁴ – a dynamic that threatened to eradicate the accepted language of orchestral music and with it the spiritual, human link to German Music's mythic past.

The techno-positivist attempts at a *Kultur und Technik* resolution were largely terminated by the Nazi accession to power in 1933. Pfenninger ended his experiments with sound synthesis and instead pursued a safer career as a visual effects specialist in the German film industry. Many of the *Neue Musik* group left Germany and, outside of the cauldron of the *Kultur und Technik* schism, pursued more conventional compositional careers. The few examples of *Algemeine Kunst* that made it to a wider audience (Weill and Hindemith's *Das Berliner Requiem* and *Sabinchen* as prominent examples) were

⁴⁵² R. Prévot in: Levin, 'Tones from out of Nowhere', 54.

⁴⁵³ Stege, 'Gefahren der Elektrischen Musik', 65-66.

⁴⁵⁴ N.A, *Völkischer Beobachter*, 25 October 1932.

greeted with a similar derision as Bredow's *Volkisch* uplifting broadcasts by the mass audience for which they were intended.

Despite their democratic and progressive aims, the paternalistic imposition of a 'worthy' universal art with its attendant aims of spiritual and social betterment, exposed the totalitarian aspects of *Neue Sachlichkeit* - a cultural distillation of Taylor's 'one best solution'. From contemporary writings on the subject, the proponents of *Allgemein-Kunst* seldom discussed how this new culture would be disseminated and 'controlled': presumably it was to be mediated autonomously and informally by 'the masses' (in the same way that popular culture developed through mechanical media consumption), but in reality *Allgemein-Kunst* being the proposal of a small number of intellectuals would remain under their jurisdiction and imbued with their prejudices and misperceptions. The intellectual left's (and the conservative right's) understanding of 'the people' tended to be rudimentary, and was, as Ross points out, 'tainted by a fundamentally patriarchal and authoritarian view of the 'masses', whose tastes and expectations needed a close guiding hand' - an authoritarian view linked to the nineteenth century mass-psychology ideas of Gustave Le Bon whose work went on to have a pivotal influence on Nazi philosophy (see Chapter 5). The reforming left had little experience of, and made little effort to investigate the attitudes of their target audience:

What audiences actually wanted to see or hear was rarely asked by any of these reformers, regardless of their political inclination. The point was to give them what they needed, whether the stabilising certainties of conventional morality, the intellectual cultivation of the individual, or the collective spirit of revolutionary fervour.⁴⁵⁵

⁴⁵⁵ Ross, *Media and the Making of Modern Germany*, 116.

The paternalistic attitude of the progressive left can be compared to Bredow's conservative policy of *Heimat & Volks* broadcasting and was received equally unfavourably by the general public. For the bulk of manual labourers and *Angestellten*, the products of *Allgemein-Kunst* were simply too demanding, abstract or boring to be a viable alternative to commercial culture. The overall utopian nature of the project and the patriarchal attitude of the proponents contributed to the eventual failure of creating a 'universal art' that combined popular appeal and aesthetic value. The social divides that reformers sought to bridge were, it seems, still too wide to be overcome during the 1920s and 1930s. Ultimately, the modernist attempts at technological-cultural synthesis contributed to a negative view of musical modernism and provided an opportunity for exploitation by the conservative nationalists, specifically the NSDAP, who included many of the *Neue Musik* composers in their *Entartete Musik* exhibition of 1938, a subject explored in Chapter 5.

Section 4.4: Conclusion

The large-scale adoption of commercial audio technologies in Germany was predominantly a post-1918 phenomenon. Arriving some decades after the rapid phase of German industrialisation (1880-1910), audio technology was positioned within the same *Kultur und Technik* technological/human dichotomy that developed during the nineteenth century. Despite its later arrival, the social impact of audio technology was, however, comparable to that of industrialisation. In a commercialised form, audio technological devices were amongst the first technologies to expand beyond the world of work to colonise everyday life, and in doing so became a familiar, symbolic representation of technological modernity: an aspirational symbol but also, to some, representative of a surrender to the technological world.

Factories and the urban lifestyle that they demanded were the self-evident antitheses of the agrarian ideal. By emphasising the contrast between the human and 'natural' world, industrialisation on the whole reinforced and maintained the *Kultur und Technik* division and with it Wilhelmine class hierarchies. The threat posed by audio technologies was less visible but had a greater disruptive effect on social hierarchies: by infiltrating and disrupting German *Kultur* it directly attacked the very heart of German-ness and questioned established certainties and traditions. By refining the process of class restructuring initiated by industrialisation, the audio technologies of the 1920s were fundamental in forging new social classes, classes that were formed around dispersed technological communities, consumption and individualism, rather than nationalism, traditional class hierarchies and the tenets of *Bildung*. The *Angestellten* are a primary example in this study. However, despite the socially transformative and apparently liberating effects of technology, the new 'consumer classes' such as the *Angestellten*, were founded on a concealed undercurrent of conformity and uniformity, supported by a utopian reliance on exponential growth delivered by the efficiencies of rationalisation. This trend replaced the tradition of *Kultur* with a new ever-changing culture of consumerism, one that exchanged social support structures – family, unions, church etc. - for a volatile, precarious system subservient to the increasing demands of rationalised capitalism – essentially, an exchange of Tönnies' *Gemeinschaft* (community) for *Gesellschaft* (society).⁴⁵⁶ With the collapse of *Angestellten* dreams during the economic crisis of the 1930s, this subservience – a condition exploited by the mediatised imagery of the 'new politics' of Nazism – resulted in a growing willingness to countenance the simple solutions offered by the various types of utopianism and specifically the totalitarian utopian promises of the NSDAP – a topic explored in the next chapter.

⁴⁵⁶ In *Gemeinschaft und Gesellschaft*, Ferdinand Tönnies made a sociological distinction between *Gemeinschaft* (Community) – the 'the lasting and genuine form of living together' formed by families, villages, traditional small towns, an existence governed by custom, religion, mutual assistance and *Kultur*, and *Gesellschaft* (Society)– the 'mechanical aggregate and artefact': urbanism, states, factories powered by calculation, profit, individualism, technology, industrialisation and *Zivilisation*. Tönnies, *Gemeinschaft und Gesellschaft*, 232–34.

An additional factor that amplified the disruptive potential of audio technology was its 'newness': in contrast to the industrial advances of the nineteenth century which were essentially mechanised forms of pre-existing industries, the radio, gramophone and sound film industries were without precedent and completely and unexpectedly new. The new audio industries operated largely independently of pre-established economies, creating their own ecosystems of supply and promotion and delivering a new form of product to a new audience beyond the control of the establishment and bourgeois industrial mandarins. As Siegfried Kracauer described it, technology opened up new, unexploited possibilities: 'Technology has taken us by surprise, and the regions it has opened up are still glaringly empty'.⁴⁵⁷ As a newly commodified product, the characteristics of commercialised music were now determined by an iterative cycle of musical innovation in response to consumer demand rather than the decree of tradition and the elite guardians of *Kultur*.

The growth of commercial music resulted in a widening rift between mass-cultures and the institution of *Kultur* and German Music. Despite being cast as the birthright of the German people and their guarantee of spiritual, racial and social unity, German Music was becoming increasingly less relevant to the new listening public. From their embattled position, the *Kultur* defenders attempted to stem the rise of mass cultures and protect German Music from the corruption of *Zivilisation* through a policy of defensive modernism. However, private and state defensive initiatives (the RRG's broadcast policy and the construction of electronic musical instruments for *Hausmusik* as examples in this study) were outflanked both by the rapid developments of audio technology and their ability to colonise existing and new spaces.

⁴⁵⁷ Kracauer in: Hansen, 'A Self-Representation of the Masses', 261.

The antipathy towards popular mass culture was not, however, unique to the *Bildungsbürgertum*: many on the modernist left, who came from a similar bourgeois *Bildungs* background as the conservative factions, viewed commercialised cultures as a dangerous form of seductive capitalism and a corruption of the democratic potential of technological mass media. Inspired by the utopian concept of the socially transformative role of music described in Chapter 3, a new type of 'high' German Music could be created, they argued, which when combined with elements of popular music and the democratic characteristics of the radio and the gramophone, would produce an *Algemeine Kunst*: a new art form of 'universal art' that would both supersede the bourgeois hegemony of German Music and transcend the banalities of mass consumer cultures, a new music that would be both socially and spiritually uplifting as well as popular. The modernists' attempt at creating a socially transformative music was ultimately cut short by the ascendancy of the NSDAP in 1933. Despite the democratic and socially unifying hopes for technology by the left and the reactionary defensive modernism of the right, technological mass media had an overall divisive effect on German society during the Weimar period. Instead of uniting society as both the *Bildungsbürgertum* and modernist left had hoped, mass cultures emphasised, reinforced and polarised existing social divisions (urban/agrarian, poor/wealth etc.), an effect that was felt all the more keenly during a period of deep economic inequality and uncertainty. These divisions provided fertile opportunities for exploitation by the NSDAP. In their categorisation of popular mass culture as *U-Kunst* – a 'low art' that needed to be suppressed and replaced by a music chosen managed by an educated elite - the modernist left shared a common patronising attitude as the conservative defenders of *Kultur* that originated in their shared *Bildung* educational background. The paternal tendency towards musical control went on to inform the Nazi-era imposition of *Kulturpolitik* and *Musikpolitik*, in which music was a vehicle for social change managed by the party.

Rationalisation, the dominant utopian concept of the 1920s, provided the background to *Neue Sachlichkeit*, the major aesthetic movement of the Weimar era. With its veneration of technology, newness and objective fact, rationalisation in the Weimar mind *equalled* modernity. The extra-human, detached aesthetics of rationalisation - universality, efficiency, purity, popularity (the mass) – infused the new music of the period, from the adoption of popular music to the machine aesthetics of *Mechanische Musik*. Attempts were also made to emulate the techniques of the production line to produce a pure music free of human inefficiencies (the 'sand in the machine') and also establish a commercially efficient musician-free form of music production.

However, the *Neue Musik* genres of *Mechanische Musik*, *Tönende Handschrift* and *Grammophonmusik* that did evolve from this aesthetic were the sole examples of German musical culture that were able to break free from tradition and align themselves with the spirit of rationalised modernity that dominated the visual surface of the period: 'everything from frying pans to industrial gears were exhibited for their pious adherence to the principles of economy of form, efficiency of design, and mathematical precision.'⁴⁵⁸ German Music was, in stark contrast, decreed by the defenders of *Kultur* to be a tradition isolated from the current of modernity, and attempts to meld it with the aesthetics of rationalisation met fierce condemnation and ultimately successful suppression.

⁴⁵⁸ Rabinbach, *The Eclipse of the Utopias of Labor*, 140.

Chapter 5: The Role of Audio Technology in the Transition to Nazism

Section 5.0: Introduction

This chapter explores the role of music and audio technologies in the cultural and political transition from the embattled Weimar democracy to the NS totalitarian state. I will analyse how concepts explored in previous chapters were developed, rejected or assimilated by the NS state in this process of 'Nazification'.⁴⁵⁹

The central topic and argument of this chapter is that the 'new politics' of the NSDAP – what Michaud and Mosse described as the 'mythic image' and Benjamin, 'aestheticised politics'⁴⁶⁰ – was formed through the adoption of the apparatus, techniques and aesthetics of audio-technological mass media. This new form of mediatised politics became a significant factor in the success of the NSDAP's rise to power. The combination of new technology and neo-romantic and mythic ideas offered in essence a resolution of the *Kultur und Technik* dichotomy, a discourse that was promoted by some in the NSDAP as the future direction of a new Nazi culture – Joseph Goebbels with *Stählerne Romantik* and Friedrich Trautwein's Mass Rally Music for example – both explored later in this chapter. My original contribution to this field is to highlight the fundamentally important role of music and audio technology in a new type of political discourse that emerged in Germany after the First World War. I will argue that the use of audio and musical symbolism in this new form of political communication was central to Nazi *Kulturpolitik* –

⁴⁵⁹ The term 'Nazification' is a post-1945 term and one that was not used during the Third Reich. In this study I will use it as a general term for the process of cultural transition from the Weimar period to the policies of the Third Reich.

⁴⁶⁰ Michaud, *The Cult of Art in Nazi Germany*, 186-206, Mosse, *The crisis of German ideology*, and Benjamin, *The Work of art in the age of Mechanical Reproduction*, Epilogue.

one that was, however, not a Nazi innovation but the culmination of the type of musical and cultural debates discussed in previous chapters.

Section 5.1 identifies the dominant concepts of the early Nazi period relating to music and technology. I will focus in particular on the Nazi response to Weimar modernism, which, I will propose, laid the ground for the later attempts at *Kultur und Technik* resolutions. Section 5.2 argues that Nazism was a new type of symbolic, mythic politics that evolved from a technological, mediated discourse, a development that was only possible due to the growth of audio technologically led mass consumer cultures. Section 5.3 explores the under-researched area of the audible aspects of Nazi 'myth-image' – particularly the 'Nazi Soundcape' of musical performances, theatre and ultimately mass rallies – I will argue that audio technologies and music had a central role in the form and dissemination of the 'myth image'. Section 5.4 describes the shifting aims of Nazi broadcast policy, starting with the post- *Gleichschaltung* imposition of *Kulturpolitik*, moving subsequently to the contrary position where the NSDAP adopted the populism of mass-cultures in order to fulfill a policy of distraction in preparation for war. Section 5.5 examines the work, ideas and career of the German pioneer of electronic musical instruments, Friedrich Trautwein – a figure who represented the continuities and conflicts of the Weimar and Nazi periods. By proposing a new form of Nazi musical culture built around audio technologies, Trautwein attempted a resolution of *Kultur und Technik* that incorporated many of the concepts and debates central to this study. Trautwein's work demonstrates the willingness of the Nazi regime to adopt technologised culture, but also the connection between the Nazi *Weltanschauung* and the wider current of cultural debate within early twentieth century Germany.

Section 5.1: Nazism, Modernity, Modernism and the “Myth-image”

The ideology of Nazism, alongside other Fascist ideologies of the period, was founded on the promise of a national rebirth, a return to the glorious mythic past.⁴⁶¹ The core ‘revolutionary’ aim of the Nazi regime was to finally and for all time, deliver the utopia of the *Volksgemeinschaft* – a return to a mythic, just society of the German *Volk*. In 1933, to lay the foundations for the coming *Volks* utopia, the new NS state launched the *Gleichschaltung* (‘synchronisation’ or ‘bringing into line’) – in effect a total ‘rationalisation’ of the German state where, building on Weimar era concepts of rationalisation-driven efficiency and objectivity (see Chapter 3.3), all political, economic and cultural activities were assimilated into the state.

According to NS ideology, the hoped for ‘national rebirth’ would come about as a result of a spiritual reawakening through a type of cultural revolution. *Kulturpolitik* – the political use of culture – was therefore seen as a crucial element in the *Gleichschaltung*. Through a process of intimidation, censorship, coercion and sponsorship, the NSDAP aimed to dictate the values of art and redefine it as an ideological, political and moral platform that would shape the new Reich – a total reappraisal of culture with the aim of establishing a permanent, homogeneous and racially pure ‘German’ culture.⁴⁶² As Goebbels described it in 1933, it was a ‘decisive step to bring all artists under control’, where the state would ‘determine whom it considered worthy to produce [art]’.⁴⁶³ The new Nazi culture would, it was planned, permanently erase what was perceived as the liberal, modernist ‘Cultural Bolshevism’ of the republic: ‘the age of extreme Jewish intellectualism is over!...the past is lying in flames’.⁴⁶⁴ To facilitate this ‘national rebirth’,

⁴⁶¹ Griffin proposes that a defining characteristic is the concept of a return to a pure state based on a foundational or paligenetic myth: ‘A genus of political ideology whose mythic core in its various permutations is a paligenetic (rebirth) form of populist ultranationalism’. Griffin, *A Fascist Century*, 89.

⁴⁶² Rabinbach, Geroulanos, Herzog, *Staging the Third Reich: Essays in Cultural and Intellectual History*, 132.

⁴⁶³ Roh, ‘*Entartete Kunst*’, 41.

⁴⁶⁴ Goebbels quoted in: Welch, *The Third Reich: Politics and Propaganda*, 35.

the new NS state spent a considerable amount of time and effort reorganising artistic and musical life through numerous, bureaucratically complex, state institutions, most notably the RKK (*Reichskulturkammer* or Reich Chamber of Culture) and KdF (*Kraft durch Freude*– Strength Through Joy) leisure organisation, which were both ultimately under the control of Goebbels' *Reichsministerium für Volksaufklärung und Propaganda* (RMVP propaganda ministry) – new institutions that were not Nazi innovations but the result of debates during the Weimar period.⁴⁶⁵

The *Gleichschaltung* was, for the Nazis, a victory of the common-sense, spiritual, German *Volk* over the bourgeois and Jewish, urban elites who had been foisting a type of ersatz *anti-Kultur* on the German people: it was a 'democratisation of music', liberating music from bourgeois dominance and returning music to its rightful owners, the *Volk*. Using remarkably similar language to that of the left-wing modernists who called for a return of German Music to an alienated nation (and thereby establish a socialist Germany), the Nazi critic Hans Pachaly-Hennersdorf argued that the Nazi cultural objective was to liberate music from bourgeois elitism and restore it to the people:

[...] concerts that wanted to be 'people's concerts' were not [of the people] because they were full of mainly so-called 'elite audiences', in these concerts, the simple German 'national comrade' (*Volksgenosse*)⁴⁶⁶ was absent, hence there was no *Volksgemeinschaft*; in the Third Reich, however, musical art must exclusively serve the whole people!⁴⁶⁷

⁴⁶⁵ As Potter put it, they were 'something that grew out of years of lobbying by creative artists for professional and economic security' Potter, 'Visual and Performing Arts in Nazi Germany: What Is Known and What Is Believed', 62.

⁴⁶⁶ The term for a member of the German *Volksgemeinschaft*.

⁴⁶⁷ Pachaly-Hennersdorf, 'Deutsche Musik Im Dritten Reich', 330.

Fritz Stege, the editor-in-chief of the conservative music journal *Zeitschrift für Musik* in 1933, defined the future spiritual goal of culture while ridiculing modernism and gloating over the victory of the *Volk* over elite urban intellectualism:

The destiny of music will no longer be decided behind the walls of the big city, but in the locale of the nature-loving people (*Naturverbundenen*) and their original homeland. Gone are the times when an express train locomotive or an iron foundry or other typical products of the big city were the models for creative musicians. The future generation of composers will turn to higher, immortal goals. They will no longer just look towards a selected metropolitan social class, but to the *Volk* as a whole.⁴⁶⁸

The Nazi post-*Gleichschaltung* preoccupation with culture was for the NSDAP, a recent affectation, one that was driven primarily by three factors: firstly, the need to broaden support beyond *Kampfzeit* era street politics; secondly, the search for a vehicle to communicate Nazi 'mythic-politics' outside of bourgeois political processes; and thirdly, the need to differentiate the new Nazi state from its 'decadent' Weimar predecessor. Despite being founded and led by one-time aspiring artists (Hitler, a painter; Goebbels a novelist; von Schirach and Rosenberg amateur artists), the early NSDAP during their *Kampfzeit* period had an innate suspicion of the bourgeois concept of *Kultur* and little interest in cultural issues except for propaganda uses – an attitude characterised by the famous phrase (falsely) attributed to Goebbels: 'When I hear the word 'culture' I unlock my pistol'.⁴⁶⁹ The aggressive criticism and mockery of the cultural products of the Weimar republic was popular with many Germans, especially those distanced from Weimar urban modernity. However, when it became necessary to appeal to the bourgeois

⁴⁶⁸ *Zeitschrift für Musik*, August, 1933, 842.

⁴⁶⁹ 'Wenn ich Kultur höre ... entsichere ich meine Browning!' Often attributed to Goebbels, the quote is originally from: Hanns Johst, '*Schlageter*', 1933 (Act 1, Scene 1).

Bildungsbürgertum and the white-collar *Angestellten* to gain mainstream support, the NSDAP needed not just to condemn Weimar culture but to present a popular alternative.

This antipathy to culture and the rapidity of political change left the party little time to formulate and deploy a coherent cultural policy. A 1933 article in one of the last editions of the modernist music journal 'Melos' somewhat cynically describes the enormity of Goebbels' task of developing a Nazi form of culture:

He [Goebbels] will be faced with a responsible and difficult task here. Since National Socialism did not find the time to burden itself with such questions [about culture] in its struggle and growth period, some of the sins of individuals will have to be made good in order to pursue a clear productive line in art that has so far been missing.⁴⁷⁰

NS ideology decreed that the diverse modernist musical genres of the Weimar period – seen by the Nazis as synthetic and meaningless distinctions – were abolished in favour of a single, united German Music founded on tradition and *Geist*. The musicologist Friedrich Welter in *Die Musik* (1933) ridiculed the genres of the Weimar years:

The new motor-skills, the 'new melody' with its accumulations and tensions, the '*Neue Sachlichkeit*', the 'new primitiveness', 'linearity', etc. What was missing was just 'new humanity'. '*Zeitoper*' here, 'school-opera' there. 'Youth' and 'school music', '*Gebrauchsmusik*', 'amateur' and 'community music'. Yes, there was hardly a term from the past and present that was not picked up to juggle and experiment with.[...] the arrogance and lack of instinct that a development could take hold in our music can only be described as a sin against the spirit. People believed they could 'make' a development and forgot that this is impossible

⁴⁷⁰ Werner, 'Zur Kulturpolitik', 130.

without ties to the *Volk* and tradition. It was believed that one could skip the laws of calm organic development by disputing them. Intuition, inspiration, honest feeling and shaping, divine grace and creativity, inner allegiance - all those incalculable forces of cultural life: they were not valid, they were not allowed to count and were therefore subjected to a disruptive criticism.⁴⁷¹

The Nazi *Weltanschauung* rejected the previously accepted position that art had evolved historically through 'schools' in response to global events. All culture was, it was argued, purely a product of race – in the case of German art, the genius of the Aryan *Volksgeist*.⁴⁷² German art and music, they argued, had become distorted and obscured by foreign influence (identified as the 'Jewish' atonality and intellectualism of the Schönberg school and the 'primitivism' of jazz). The objective, therefore, of the Nazi musical project was to rediscover, cleanse and re-present this race-art in its pure, united and original form so that it could resume its rightful, dominant position in global culture – in reality, a selective reinterpretation and purging of German culture to create a model that corresponded to the Nazi worldview.

This 'selective reinterpretation' that defined Nazi music was a wide-ranging re-interpretation of often marginal concepts of the type that I have covered earlier in this study: expressionism, rationalisation, technological utopianism, *Lebensphilosophie*, the German liturgical tradition, 'irrational' science (Vitalism, biocentrism, race theories, hygiene, decay, social Darwinism etc.) modernism and *Volkisch* myth, the sum of which was a conflicting, unstable and often incoherent whole. This patchwork of competing cultural concepts became a characteristic of National Socialism, and resulted in a variety of ideological interpretations, a viewpoint confirmed by Rabinbach who wrote that unlike the Soviet Union, which insisted on a demonstration of ideological conformity, the Nazi regime required only a 'willingness to adhere to the precepts of the worldview which was

⁴⁷¹ Welter, 'Um die Deutsche Musik Ein Bekenntnis', 727.

⁴⁷² Michaud, *The Cult of Art in Nazi Germany*, 113.

vague and indistinct enough to embrace a variety of related perspectives'.⁴⁷³ This 'vagueness' meant that the artist or composer with an approved racial and political background could, for the most part, continue to work as before – an unspecificity that can be witnessed in the cultural output of the period.

Despite the lack of a clear definition of Nazi music and 'German-ness', the RKK went to extraordinary lengths to co-opt music into an approved Nazi canon. In *Inhumanities*, Dennis illustrates this process in great detail, showing how the NS state managed to overcome inconvenient historical and musicological realities through the precise but convoluted application of Nazi racial and political theory.⁴⁷⁴ Notwithstanding this obsessive re-classification, the musical aspects of the new Nazi culture were ill-defined and largely determined by what it was *not*, i.e. what it was opposed to, rather than an underlying ethos or aesthetic – a reality that echoes the earlier Weimar-period attempts at defining 'German Music'.⁴⁷⁵ As Dennis writes: 'While Nazi critics were unified in their opinions about the deviant nature and gross inadequacies of Modernism, they were less confident about what specifically they would have replaced it'.⁴⁷⁶ The hope was, that at some time, with the right musical 'care', a new German musical genius, a 'new Beethoven', would arise:

It is possible and probable - that the trembling birth pangs of our new era will one day be the source of an eternal genius – a possibility that manifests in the rousing arts of our era. We can hope and wish; we have the right to humbly wait.⁴⁷⁷

The much anticipated renaissance of Nazi music, however, never materialised. Werner Egk, one of the most prominent and successful representatives of 'new' music during the

⁴⁷³ Rabinbach, 'The Aftermath: Reflections on the Culture and Ideology of National Socialism', 394.

⁴⁷⁴ Dennis, *Inhumanities*, (2012).

⁴⁷⁵ See: Applegate and Potter, *Music and German National Identity*.

⁴⁷⁶ Dennis, *Inhumanities*, 383.

⁴⁷⁷ Goebbels, *Melos*, 12 1933, 145.

Nazi era (and potential 'new Beethoven') commented in the *Völkischer Beobachter* (1943) that Nazi music culture was at present only based on traditional 'folk-classical' forms and that there was no such thing as 'National Socialist Music' – only music that reflected NS ideology as its subject.⁴⁷⁸ Supporting this view was the musicologist Eugen Schmitz, who argued in the *Zeitschrift für Musik* (1939) that due to cultural reorganisation and censorship, National Socialist opera lacked contemporary themes, and, since all it had to do was to conform with required 'conditions', it had become a sterile form:

As far as the expansion of the program in the National Socialist opera theatre is concerned, one could initially imagine it to be enriched by new-mass operas with contemporary historical subjects. That never happened. The stylised form of the opera resists such attempts. We could perhaps imagine Horst Wessel in a spoken drama. But as an opera tenor, surrounded by SA friends and communist opponents singing baritone and bass, such a heroic figure would sink into that nationalist kitsch that the National Socialist state does not want, and has forbidden for cultural reasons. So, the mass of operas today only has to meet the conditions of a certain intellectual and technical cleanliness and decency for it to be up to date and can then be seamlessly integrated into the new cultural structure.⁴⁷⁹

Schmitz concludes that NS opera, six years after the *Gleichschaltung*, was still work in progress (*Oper im Aufbau*) and awaits the arrival of a 'young creative genius' to rise through the ranks and claim the crown of Wagner and Beethoven.

⁴⁷⁸ *Völkischer Beobachter*, February 14 1943. The SA or *Sturmabteilung* were a Nazi paramilitary organisation of party loyalists superseded by the SS in 1934.

⁴⁷⁹ Schmitz, 'Oper im Aufbau', 380-82.

The incoherence of Nazi ideology therefore, resulted in a type of 'unspecific' music that patently failed the three criteria for a new Nazi art: instead of presenting a liberated, popular, distinctive alternative to Weimar era culture and a vehicle for the mythic and heroic *Volks* politics, *Gleichschaltung*-era Nazi music was a *Völkisch* and racist-inflected replica of the bourgeois conservative culture of Wilhelmine period and not the new type of popular, classless art that some Nazi ideologues had hoped for. To an audience predisposed to technologically driven mass cultures the 'new' Nazi culture was indistinguishable from the heavy handed 'improving' radio broadcasts of the Weimar era and the – by now anachronistic – institution of the concert hall.

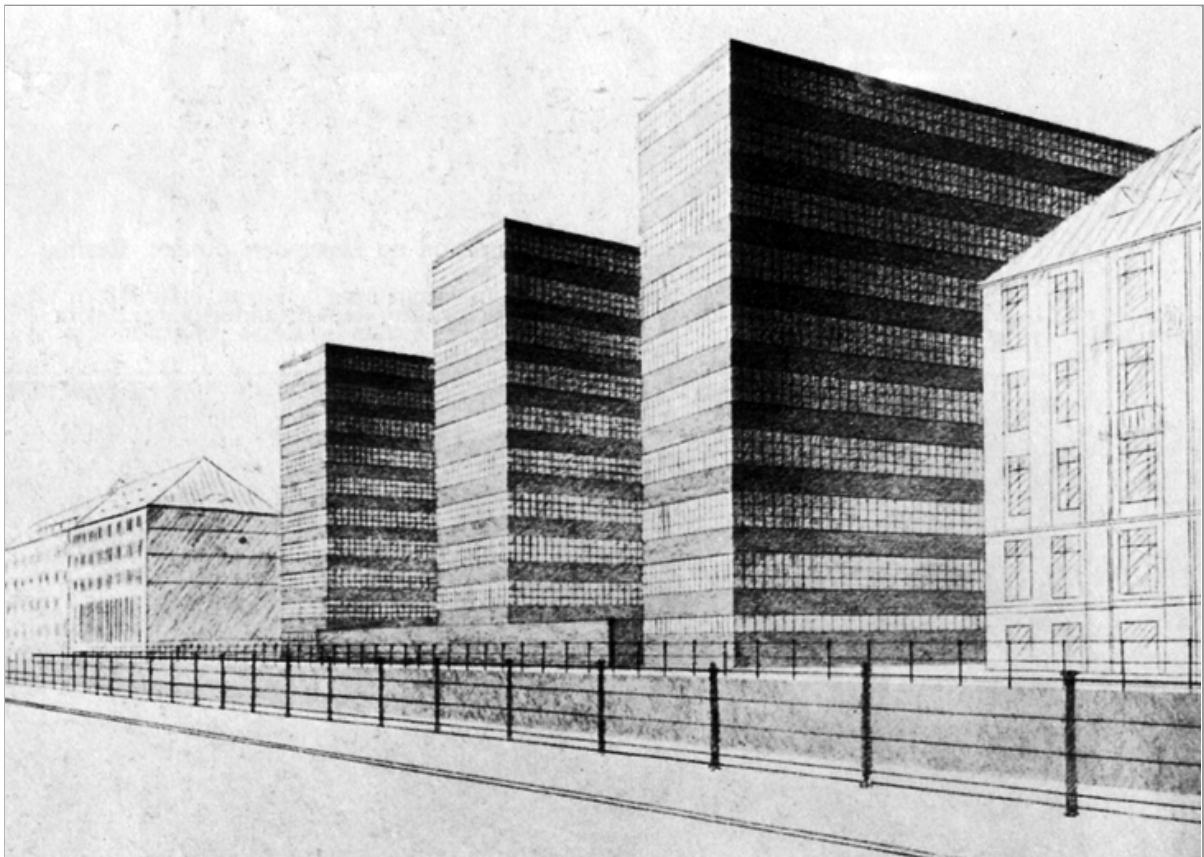
While the *Völkisch* anti-modernist factions were in the ascendancy (from around 1928 until 1934 led by Rosenberg's *KfDK*), the Nazi state was destined to follow the nineteenth century romantic anti-*Technik* direction. For many in the NSDAP however, it became increasingly apparent that in order to achieve their political ambitions of a *völkisch* romantic but technologically equipped modern *Reich*, a *Kultur und Technik* resolution was necessary, one that would provide a new Nazi art as the aesthetic foundation of this ambition.

The NS state had an ambiguous relationship with Weimar era modernism. While the NSDAP publicly condemned the *Asphalt Kultur* modernism of the republic, it continued to support progressive artists and composers who were not *too* tainted by Weimar *Kulturbolschewismus*. 'Modernists' such as Fritz Lang and Thomas Mann were approached to lead the film and literature departments of The Reich Chamber of Culture.⁴⁸⁰ Mies van der Rohe moved the Bauhaus to Berlin in 1932 and attempted to negotiate a settlement with the new administration. van der Rohe himself joined the *RKK* in 1934 and with Walter Gropius was requested to submit designs for the new Reichsbank in Berlin (seen by Hitler as the architectural definition of the new regime)⁴⁸¹

⁴⁸⁰ Petropoulos, *Artists Under Hitler*, 10.

⁴⁸¹ *Ibid*, 3.

see: Fig. 5.1) and designed the *Deutsches Volk Deutsches Arbeit* exhibition in 1934.⁴⁸² Bauhaus commercial products continued to be manufactured and sold throughout the Nazi period, and former Bauhaus teachers and students continued to work in Germany using the Bauhaus name.



*Fig. 5.1 Mies van der Rohe's modernist designs for the 1933 German Reichsbank competition.*⁴⁸³

The musical world experienced a similar incoherent approach to modernism, as Mühlentfeld described:

Since Nazism itself lacked a binding and coherent cultural canon, it defined the limits of allowance by negation: by stigmatising everything that seemed incompatible, un-German, degenerate, or simply 'Jewish' in the most pejorative

⁴⁸² Schulze & van der Rohe Archive, *Mies van der Rohe: A Critical Biography*, 199-205.

⁴⁸³ Welch, *Mies van der Rohe's Compromise with the Nazis*, 102.

way imaginable, what was left over was acceptable as long as it did not conflict with the regime.⁴⁸⁴

Established modern composers such as Stravinsky and Bartok enjoyed continuing success and performance schedules, while younger 'modernists' such as Carl Orff (a former associate of Brecht) and Werner Egk (who had worked earlier with Weill and Hans Flesch on radio compositions) became showcase composers for the Reich. Paul Hindemith was actively courted by the NSDAP as the most likely 'cultural standard bearer' for German Music.⁴⁸⁵ Schönberg, the Nazi's *bête noire* of atonal, 'Jewish' modernism had emigrated to the U.S.A. in 1933, but his student Paul von Klenau had his twelve-tone operas performed until 1940, and another student, Winfried Zillig, received commissions from the *Nationalsozialistische Kulturgemeinde* (NSKG) and held a position in a local office of the Reich Music Chamber.⁴⁸⁶

The Nazi acceptance of aspects of modernism can be grasped by understanding the Nazi revolution as a temporal event – an 'end of history'. Goebbels' 'modern sense of time' in Nazi ideology was a '*Stunde Null*', a zero hour where previous politics and schools of thought coincided. As Michaud put it, 'The *Gleichschaltung* was not just a synchronisation of bodies in movement: it was also a synchronisation of temporalities: the future marching with the past, in the eternal present of the race.'⁴⁸⁷ Modernism within this ahistorical timescape was an aesthetic form that, alongside others, existed to provide a political service. On a visit to a factory in Linz, Albert Speer recorded that Hitler was 'won over to the modern architecture of glass and steel', arguing that modernism had a place in architecture alongside 'classical' monumental and *Volkisch* vernacular styles.⁴⁸⁸

⁴⁸⁴ Mühlenfeld, 'Cinema, Art, and Music', 386.

⁴⁸⁵ Especially 'Mathis der Mahler' (1934) which 'conformed very precisely to the official expectations for modern music in the Third Reich'. Kater, *The Twisted Muse*, 179, and Petropoulos, *Artists under Hitler*, 96.

⁴⁸⁶ Potter, 'Visual and Performing Arts in Nazi Germany', 62.

⁴⁸⁷ Michaud, *The Cult of Art in Nazi Germany*, 212-13.

⁴⁸⁸ Speer, *Spandauer Tagebücher*, 170.

Classical architecture's function was to supply 'grandeur and nobility'; where a *Volkisch* vernacular was appropriate for farms, youth hostels and private dwellings, modernism had the task of representing 'spiritual monuments, using new materials such as steel, iron, glass and concrete and so-on'.⁴⁸⁹ This functional distinction also applied to folk, classical and modernist music. Rabinbach identifies 'three domains' of Nazi culture: the sacred, the aesthetic (traditional and non-traditional), and the popular – categories which correspond to what Hitler in *Mein Kampf* described as the three pillars of state authority: popularity, power, tradition (*Volkism*, modernism, classicism).⁴⁹⁰ In a thousand-year Reich, where previous schools of politics and art had come to an end, the culture of the Nazi state was planned to be a supreme *Gesamtkunstwerk* where none of the components (*Volkism*, modernism, classicism) held supremacy, and all were submissive to the service of the German race and the *Volksgemeinschaft*.

The NSDAP's negative opinion of Weimar musical modernism therefore, was not fundamentally due to its 'modernity' i.e. its break with tradition. Instead they criticised it as an arrogant, decadent, foreign (i.e. Jewish), stylistically bourgeois fashion which aimed to supplant true German culture. Weimar musical modernism's decadence was, according to the NSDAP, found in its encouragement of moral laxity and betrayal of racial and cultural purity, rather than its aesthetics or musical philosophy. In short, the NSDAP's opposition to modernity was essentially a populist position which gained them support from those of a conservative disposition; however, beyond its racial and stylistic urbanity, they had little argument with it. Despite the Nazi antipathy to it, modernism shared many of the core principles of Nazism. Chief amongst these was the concept of a national spiritual rebirth: as Gentile wrote, 'the modernist avant-garde . . . proposed a spiritual revolution that, starting from a philosophy or art, should affect all areas of life, including the world of politics'.⁴⁹¹ A utopian spiritual transformation of society by art was

⁴⁸⁹ Adolf Hitler in Michaud, *The Cult of Art in Nazi Germany*, 122.

⁴⁹⁰ Hitler, *Mein Kampf*, 579-80.

⁴⁹¹ Gentile, 'The Myth of National Regeneration', 31.

central to the works of Busoni, Mager, Kestenberg and Gropius' Bauhaus, amongst many others covered in this study. Gropius wrote in 1919:

Together let us desire, conceive, and create the new structure of the future, which will embrace architecture and sculpture and painting in one unity and which will one day rise toward heaven from the hands of a million workers like the crystal symbol of a new faith.⁴⁹²

This form of spiritual utopianism was closely aligned with the Nazi interpretation of the *Volksgemeinschaft*. The concept of a unity of technology, art and politics as a type of modernist *Gesamtkunstwerk* informed the ideology of 'reactionary modernists' such as Feder, Todt etc. (see Chapter 2.3) as well as the attempts to fuse modernism and romanticism by the Nazi 'aesthetic modernists', leading to a much more nuanced approach to modernism than is generally accepted.

At the time of the *Machtergreifung* during what Petropoulos calls the 'summer of art' (the short period in 1933 when the direction of Nazi culture remained undecided) Joseph Goebbels made numerous comments in support of modernism and freedom of artistic expression.⁴⁹³ For instance, he declared: 'we not only support modern art, we also want to be its driving force'. Similarly: 'The National Socialist *Weltanschauung* (worldview) is the most modern thing in the world today, and the National Socialist state is the most modern state. There are thousands of motifs for modern art in the spirit of this *Weltanschauung*'.⁴⁹⁴ And, highlighting the importance of the freedom of creative expression: 'art in itself can only flourish if it is given the greatest possible freedom of development';⁴⁹⁵ 'No matter how tightly a government keeps the inner-discipline of its

⁴⁹² Gropius, *Programm des Staatlichen Bauhauses in Weimar*, 1.

⁴⁹³ Petropoulos, *Artists Under Hitler*, 15.

⁴⁹⁴ Quoted in: *Münchener Neueste Nachrichten*, 1 July 1936.

⁴⁹⁵ Goebbels, 'Moderne Kunst Und Politik Von Reichsminister Joseph Goebbels', 707.

people in check, it has to let go of the reins all the more loosely when it comes to artistic and intuitive activities!⁴⁹⁶

Goebbels, a connoisseur of expressionist art (particularly Barlach and Nolde), was one of the most high-profile members of the 'modernist' faction of the NSDAP and an embodiment of the NSDAP's contradictory relationship with modernism. Interpretations and individual standpoints on the issue of modernism was a defining issue in the NSDAP. The primary characteristic of NS politics was, as political positions were during the Weimar era, defined by attitudes to modernism.⁴⁹⁷ Goebbels' pro-modernist position put him in direct conflict with his rival Alfred Rosenberg, a vociferous opponent of all forms of modernism – a bitter rivalry that was encouraged by Hitler's 'divide and rule' habit, and the general incoherence and vagueness of Nazi *Kulturpolitik*. Tensions between 'modernist' factions and Volkisch cults within the NSDAP culminated in the 1934 *Röhmputsch* ('night of the long knives') that saw the subjugation of the SA and 'left-wing' Volkisch and Strasserite factions. This was followed by a rapid 'de-ideologisation' of Nazi culture in 1936: Rosenberg's Volkisch cult was sidelined and the *Thingspiel* project, discussed later in this chapter, cancelled.⁴⁹⁸ Goebbels, as the representative of the pragmatic 'modernist' faction in the NSDAP, was by 1935 in the ascendancy and attempted to consolidate this victory over *Volksim* by establishing a coherent, functional Nazi aesthetic – what he called *Stählerne Romantik* or 'steely romanticism'. *Stählerne Romantik* promised a reconciliation of the contradictions between a racial *Volks-utopia* and euphoric, technical modernity; it symbolised the simultaneous cultivation of the Volkisch myth without losing sight of a technological National Socialist future.

⁴⁹⁶ Joseph Goebbels, *Zeitschrift für Musik*, Heft 9 Sept 1934, 925.

⁴⁹⁷ Brenner. *Die Kunstpolitik des Nationalsozialismus*, 169.

⁴⁹⁸ Fischer-Lichte, *Theatre, Sacrifice, Ritual*, 146. And Rabinbach, *Staging the Third Reich*, 63.

Goebbels' concept of *Stählerne Romantik* was highly influenced by the techno-romanticism espoused by the *Konservative Revolution* group of the early 1920s, particularly the technological utopianism of Ernst Jünger (see Chapter 3) and also by the proposed unity of *Kultur und Technik* proposed by Spengler in *Der Mensch und die Technik* and the 1930s 'reactionary modernists' of *Deutsche Technik*. The attempted synthesis of art, technology and nature into a single form by *Deutsche Technik* is one of the few examples where the techno-romantic ideas were realised. Arguing that technology must move 'away from pure materialism towards an emphasis on the creative and a close reliance on the artistic' *Deutsche Technik* led the construction of the German autobahn network – a technological triumph that they saw as a monolithic manifestation of the German *Geist*.⁴⁹⁹ Similar spiritual-technological ideas were proposed by Goebbels at the opening of the *Reichskulturkammer* in 1933:

Today we live in the age of technology. The rapid pace of our century affects all areas of our life. There is hardly a process that can escape the strong influence of modern technology. This undoubtedly creates the danger that modern technology will render people soulless. And that is why it was one of the main tasks of National Socialism to internally animate and discipline technology, which we do not deny or even oppose, but consciously affirm, and to use it in the service of our people and their high culture and to set living standards.

We live in an age that is romantic and steely at the same time, that has not lost its depth of soul, but has also discovered a new romanticism in the results of modern invention and technology. The bourgeois reaction to technology was to see it as alien and incomprehensible, if not hostile, while modern sceptics believed they should see in it the cause of the decay of our European culture,

⁴⁹⁹Fritz Todt quoted in: Guse, 'Nazi Ideology and Engineers at War', 153.

National Socialism understands how to take technology away from its soulless character, and with it to fulfil the rhythm and the hot impulse of our time.⁵⁰⁰

Modernity was equated to 'steeliness' (*Stählerne*), representing a romantic concept of physical strength and determination but also shiny modernity (approximate to Weimar *Fascadenkultur*), military power and industry. It was in essence a way of fusing premodern sentiments with modern machines:

The *Stählerne Romantik* of our time manifests itself in intoxicating actions and restless deeds in the service of a great national goal, in a feeling of duty raised to the level of an unbreakable principle. We are all more or less romantics of a new German mood. The Reich of droning motors, grandiose industrial creations, an almost unlimited and unenclosed space which we must populate to preserve the best qualities of our Volk —is the Reich of our romantics.⁵⁰¹

[*Stählerne Romantik*] is a kind of romanticism that has made German life worth living: a Romanticism that does not try to escape and hide in the blue distance from the hardness of existence – a Romanticism which rather has the courage to confront problems and stare into their pitiless eyes without flinching. This new attitude gives Germany tempo and power for its constructive work...only the pure artistic and cultural striving, willingly and wholeheartedly filled with it, will last to conquer the future.⁵⁰²

With its valorisation of objectivity ('stare into their pitiless eyes without flinching' etc.), its Marinetti and Jünger-esque celebration of speed and power ('the Reich of droning

⁵⁰⁰ Joseph Goebbels, Speech at the opening of the Reich Chamber of Culture, November 15, 1933. Rabinbach, Gilman, *The Third Reich Sourcebook*, 458-9.

⁵⁰¹ Joseph Goebbels, Speech in Heidelberg Stadthalle, 9 July 1943, in: Heiber, *Goebbels-Reden*, 253.

⁵⁰² Joseph Goebbels, 'Die Deutsche Kultur von neuen Aufgaben, Berlin, Großer Saal der Philharmonie, Eröffnung der Reichskulturkammer', 15 November 1933. In *Goebbels-Reden*, 137.

motors, grandiose industrial creations') and its focus on the future instead of the 'permanence' of NS tradition, Goebbels *Stählerne Romantik* encapsulated the tenets of modernism, and particularly rationalised, objective modernism. It was, of course, also in direct conflict with 'bourgeois' reactionary, anti-technological attitudes and conservative ideas of technologically driven 'decay' (see Chapter 2). *Stählerne Romantik* promised to resolve these concerns and 'animate and discipline' technology by 'filling it with soul', suggesting that the moral, spiritual and cultural crises of German recent history would be ended by a technological future. It was at this point, by suggesting that technological-economic advances could overcome a cultural crisis, that *Stählerne Romantik* radically departed from the mainstream of conservative nationalist and *Volkisch* Nazi thought.⁵⁰³

Stählernen Romantik became a familiar catchphrase at Nazi cultural gatherings, often repeated by Goebbels and dutifully discussed in the pages of music journals. However the specific character of *Stählernen Romantik* when applied to music was unclear. For Goebbels, the art of *Stählernen Romantik* was an art of the present; although 'romantic', it was one that was responsive its own era rather than the past:

If art wants to shape time, then it must also deal with its problems. The German art of the next decades will, with great pathos, be heroic, steely-romantic [*Stählernen Romantik*], non-sentimental, objective and nationalist, it will be both compulsory and cohesive - or, it will not be at all.⁵⁰⁴

The reconciliation of *Kultur und Technik* promised by *Stählernen Romantik* opened the door for a type of Nazi musical modernism and, with it, a reassessment of *Technik* in music – a concept that would have been anathema to the conservative adherents of *Volkisch* Nazism. Goebbels' notion of romantic, nationalist modernism is perhaps best

⁵⁰³ Herf, *Reactionary Modernism*, 32.

⁵⁰⁴ Joseph Goebbels, *Die Musik*, xxv/9 (juni 1933), 642.

represented in the works of two composers: Werner Egk and Carl Orff, who both became the acceptable face of a type of 'modernism' during the Nazi period. Before 1933, Carl Orff was known as a minor 'modernist' composer, a collaborator with Brecht who moved in Weimar *Neue Musik* circles.⁵⁰⁵ Highly influenced by Stravinsky, Orff incorporated jazz and rhythmical elements into his 1930 *Lehrstück*-style pedagogical *Schulwerk* for children.⁵⁰⁶ After the 1933 *Gleichschaltung*, Orff found favour with the Nazi elite following Hitler's personal approval⁵⁰⁷ of his cantata *Carmina Burana*, composed in 1935 and first performed on the 8th June 1937, that was to become a popular and regular fixture of concert programming during the Nazi period. The modern, sometimes jazz-like ostinato rhythms and phrasing⁵⁰⁸ combined with a repositioning of German romantic *Volkisch* myth through 'rediscovered' mediaeval text, *Carmina Burana* manifested the core themes of the *Stählernen Romantik* aesthetic. Orff's work, which particularly impressed the musically aloof Goebbels, was perhaps the most successful example of an amalgamation of monumental modernism and *Volks-myth*, an achievement that satisfied both the *Volkisch* factions and 'reactionary modernists' inside the NSDAP.

Egk, a student of Orff and a former associate of Schönberg, Eisler and Weill, composed music for film and worked with Hans Flesch and Weill on a number of *Hörspiel* radio-art commissions (see Chapter 3). Egk's first opera, *Die Zauberflöte*, which by then had abandoned most of his earlier modernist Schönberg and Stravinsky influences, was premiered in 1935 and caught the attention of the NSDAP who were searching for a racially and politically clean young composer to represent the 'steely' new spirit of Nazi German Music:

⁵⁰⁵ Kowalke, 'Burying the Past: Carl Orff and His Brecht Connection', 60.

⁵⁰⁶ *Musik für Kinder* (1930–35), *Tanzstück* (1933), *Gassenhauer* (1930). Orff's early enthusiasm for jazz in: John, *Musikbolschewismus: Die politisierung der musik in deutschland 1918–1938*, 325.

⁵⁰⁷ Kater, *The Twisted Muse*, 114.

⁵⁰⁸ Kater, *Culture in Nazi Germany*, 212. Orff also included parts for the saxophone in the score, an instrument 'banned' by Goebbels for its associations with Weimar period jazz. See: Cottrell, *The Saxophone*, (2012).

The music for this was written by the Munich composer Werner Egk, a very contemporary, aggressive musician who builds his music in the sense of a new concentration of melodic and rhythmic substance with a scarcity of form and precision of expression and a steely diatonic harmony. It is Egk's confession that this style, through its clarity, aggressiveness, emotional dynamism and activist power, will grab and inspire the people in which it has its roots.⁵⁰⁹

Egk went on to write the music for the opening of the Berlin Olympic games (*Olympische Festmusik* August 1st 1936) performed at the vast Dietrich Eckart Bühne *Thingspiel* arena. The Olympic music performances were intended as an international showcase of Nazi music and featured Orff's *Olympische Reigen*, Egk's *Olympische Festmusik* and Richard Strauss *Olympische Hymne* as well as the some of the 'greats' from German Music: Beethoven, Handel, Wagner, military music and a rendition of the ever-present Nazi anthem, the *Horst-Wessel-Liedes*.

Concurrent with the political imperative to create a popular alternative to Weimar culture, Nazi ideology also required a vehicle to present the mythic politics of National Socialism.⁵¹⁰ Nazism was an ideology of 'emotion' rather than 'intellect', a form of politics that relied on immediate emotional response (the *Lebensphilosophie* concept of *Erlebnis* or truth revealed by a 'lived experience') and therefore could only be expressed, in symbolic form, i.e the Michaud and Mosse's 'myth image' or Benjamin's 'aestheticised politics'. This new form of aestheticised, symbolic politics could not occur – as Hitler himself had pointed out – under the traditional political discourses of democratic debate: the unstable assemblage of concepts that made up Nazi philosophical 'myth' formed an incoherent whole that could not sustain intellectual rational analysis. This 'new politics' was instead, an ideology of *Geist* that sought a reactivation, it was believed, of the dormant, mythopoetic faculties of the individual. A 1936 article in the Nazi newspaper *Völkischer*

⁵⁰⁹ Erich Dörlemann, 'Musikleben: Köln', 226.

⁵¹⁰ Michaud, *The Cult of Art in Nazi Germany*, 212-13.

Beobachter highlights the important role of *Geist* in differentiating National Socialism from other ideologies:

National socialism is not an intellectually constructed principle, or a rational program like Marxism, but a spiritual movement born of the innate formative powers of the soul of the people, a *Weltanschauung* born from a total spiritual conception.⁵¹¹

Many of the dominant concepts within Nazism originated from marginal sources beyond the orthodox repertoire of philosophical and institutional thought. Prominent amongst these marginal concepts were ideas about the political manipulation of 'the masses' through inspired leadership and the use of symbolic imagery. The NSDAP's perception of 'the masses' and mass-culture was highly influenced by popular theories of mass psychology which emerged in Europe in the late nineteenth century – particularly Gustave Le Bon's *The Psychology of Peoples*⁵¹² and George Sorel's 'Reflections on Violence'. Both Sorel and Le Bon, despite pursuing contrasting political aims, combined a concern with the reduction of linguistic concepts to 'motivational images' and a view of the masses as a manipulable organic entity – concepts that became central to the mythic ideology of National Socialism. Le Bon's pioneering bio-political 1895 work 'The Crowd: A Study of the Popular Mind', was a major influence on fascist ideology of the twentieth century (particularly Goebbels, Mussolini and Hitler who reinforced his arguments with a selective reading). Encompassing elements of biocentrism, racial Darwinism and Nordau's bio-political ideas of 'decay' (see Chapter 2.1), Le Bon argued that the 'crowd' was a fundamentally irrational and unreasonable biological entity: 'a new body possessing properties quite different from those of the bodies that have served to form it'.⁵¹³ Additionally, the crowd was, he argued, a demonstration of the rationalism of science

⁵¹¹ N.A., 'Kunst als Grundlage politischer Schöpferkraft', 1.

⁵¹² Le Bon, *The Psychology of Peoples*, xiv.

⁵¹³ Le Bon, *Crowd: A Study of the Popular Mind*, 27.

over the folly of popular democracy – a concept revived by the ‘reactionary modernist’ *Nazi-Sachlichkeit* thinkers of the 1930s:

Certain philosophers . . . propounded the idea of the equality of individuals and races. This idea, which would naturally be most attractive to the masses, ended by firmly implanting itself in their mind, and speedily bore fruit. . . . And yet science, as it has progressed, has proven the vanity of the theories of equality and shown that the mental gulf created in the past between individuals and races can only be filled up by the slowly accumulating action of heredity.⁵¹⁴

Le Bon and Sorel proposed methods for the control and unity of the amorphous mass by appealing to its ‘crowd-nature’. Le Bon argued that a crowd would submit to the charm and will of an inspired leader, while Sorel emphasised the organisational function of the ‘myth’ through symbolism (text and images) as an essential element in mobilisation and unification of the masses. Sorel’s approach, while positioning mass-psychology as a future blueprint for political action, gave the role of art as a ‘system of images’ a central role in the revolutions to come.⁵¹⁵ As the 20th-century ‘age of ensoniment’ shifted the focus of mass communication from the visual to the audible – particularly with the predominance of the radio in 1920s Germany – Sorel’s ‘system of images’ also became a symbolic ‘system of sounds’ – see Chapter 2.2 on the early concerns of technological manipulation and suggestion.

In ‘The Work of Art in the Age of Mechanical Reproduction’ (1936) Benjamin commented on this myth-tendency. Fascism, he argued, aimed to organise the masses while distracting it from any real social change, a process that he called the ‘aestheticisation of politics’ – politics expressed as symbolic imagery that distracted the masses to ‘such a

⁵¹⁴ Le Bon, *The Psychology of Peoples*, xiv.

⁵¹⁵ Gentile, ‘The struggle for Modernity’, 36. and: Braun, ‘Mario Sironi’s Urban Landscapes’, 101.

degree that it can experience its own destruction as an aesthetic pleasure of the first order'.⁵¹⁶ Kopenick's recent critical studies of aestheticised politics describes Benjamin's concept as denoting a synthesised distraction – a type of constructed experience that manipulates perception from social realities to focus instead on the surface quality of the image (or sound) in promotion of a national myth:

Fascism happens whenever post-auratic cultures manufacture aura synthetically with the intention to discipline distraction, coordinate perception, and mystify power[...] fascist aestheticization exploits modern mass culture in order to consolidate the state against the ever increasing diffusion of power, to decouple political action from normative debates, and to undo the emasculating effects of procedural politics. It seeks to redefine the political as the site at which nothing less than authenticity comes into being.⁵¹⁷

Under Nazism, the 'decoupling of political action from normative debates' was epitomised by a combined symbolism of sound and image: the swastika, mass gatherings, amplified music, radio, the deification of Hitler – reinforced by appropriated forms of classical Greek culture, the sublime or monumental architecture, and borrowings of modernity found in Nazi mass production (*Volksprodukt*, uniformity, standardisation) and industrial design.⁵¹⁸

Both Mosse and Michaud argue (in brief) that National Socialism succeeded because it was a 'new form of politics' which, in their interpretation, assimilated a 19th-century liturgical and ritual tradition – a symbolic rhetoric that appealed to popular concepts of spirituality and assuaged anxieties about the technologically driven societal changes in

⁵¹⁶ Benjamin, *The Work of art in the age of Mechanical Reproduction*, Epilogue.

⁵¹⁷ Koenick, 'Aesthetic politics today: Walter Benjamin and post-Fordist Culture', 96.

⁵¹⁸ For a detailed study of the Nazi approach to industrial design, see: Betts, *The Authority of Everyday Objects: A Cultural History of West German Industrial Design*.

the early twentieth century.⁵¹⁹ While Michaud and Mosse's concepts of the myth-image provides a convincing explanation of the success of Nazism, by concentrating solely on traditions of the nineteenth century Michaud and Mosse's theories fail to take into account the impact of more recent technologically driven concepts that developed during the early twentieth century – particularly the appropriation of elements of post-1918 technological modernism. Michaud and Mosse's theories tend to suggest that NS support came solely from a techno-pessimistic rural demographic. However, I will argue that because the rise of Nazism coincided with the rise of audio technologies and mass consumer cultures, Nazism crucially also found a receptive mass-audience habituated to interpreting the type of 'symbolic' emotional-response messages of mass consumer culture: advertising, popular music, film etc. and an audience receptive to the totalitarian tendencies of rationalisation. This audience was found in the techno-positive *Angestellten* white-collar urban middle classes hit hard by the financial collapse of 1930.⁵²⁰ The success of a post-1933 'nationalisation of the masses' (i.e. the unification of the nation under a single objective: the establishment of the *Volksgemeinschaft*) therefore, could only occur if the NSDAP reconciled its relationship with technological modernity and subsumed the methods and characteristics of mass consumer culture.

In this chapter I will describe how the NSDAP adopted mass-culture techniques to reach this wider audience, arguing that the 'new politics' of Nazism was constructed from 19th-century traditions *and* from a symbiotic relationship with technological modernity – in other words, Nazism was not just coincidental with the rise of mass cultures, but a product of it. I will argue that because audio technologies were central to the dynamics of mass cultures, they consequently played a pivotal role in the Nazi's objective of a unified and politically homogenised nation. I will also demonstrate that, as well as *visual* symbolism, the 'myth image' had an equally important audible component. Nazi

⁵¹⁹ Mosse, *The Crisis of German ideology: Intellectual Origins of the Third Reich*, and Mosse, *Mass Politics and the Political Liturgy of Nationalism* 38-54 and: Michaud, *The Cult of Art in Nazi Germany*.

⁵²⁰ Peukert, *The Weimar Republic*, 158.

broadcast policy in particular, resulted in an omnipresent audio 'symbol' of the state through ritualised listening, audience participation and the technological colonisation of domestic space. In tandem with Goebbels's *Stählernen Romantik*, the construction of the myth image was a de-facto resolution of the *Kultur und Technik* dichotomy combining as it did, the politics and imagery of romanticism with the apparatus and techniques of technological modernity.

Section 5.2: The Myth-image as Music and Sound

5.2.1: Music and Erlebnis

The Nazi 'myth image' can be seen as a *Gesamtkunstwerk* – a combination of all artistic genres in pursuit of a political ideal. As Goebbels put it 'politics is the highest and most comprehensive art there is and we who shape modern German policy feel ourselves to be artists' – in other words, politics under the Nazis appropriated the rhetoric of art rather than art being subordinated to political need.⁵²¹ On the whole Nazi aestheticised politics has been understood as a visual form: architecture, monolithic sculpture, borrowings from classical Greek art and the symbolic imagery of swastikas and runes – hence the 'myth image'. This section aims to emphasise the audible aspects of the 'myth image' that manifested in the all-encompassing, unique sonic environment of Nazism. In this chapter I will concentrate on several audible components that contributed to what Birdsall called the 'Nazi Soundscape': the cultic theatre of *Thingspiel*, technologically co-ordinated mass rallies, the new aesthetic of *Stählerne Romantik*, and the changing political use of radio broadcast.

Music held a central role in Nazi *Kulturpolitik*. The 'most German of the arts'⁵²², it was argued, had a powerful but intangible, transient character that engaged the emotion and not reason, its temporality emphasised the primacy of the shared collective experience

⁵²¹ Sontag, *Under the Sign of Saturn*, 92.

⁵²² Potter, *Most German of the Arts*, I.

above considered individual examination, qualities that made it the ideal agent for an ideology that relied on the emotional response rather than analysis. Goebbels wrote in 1938:

Music is the most sensual of the arts and for this reason appeals more to the heart and the emotions than to the intellect. But where does the heart of a nation beat more strongly than in the masses, where the heart of a nation is truly at home? It is therefore the unavoidable duty of our musical leaders to let the people share in the treasures of German music.⁵²³

The sublime aspects of music – its ability to express the inexpressible by overwhelming the senses – allowed it to become the primary vehicle for the Nazi ‘myth-image’, a symbolic form that was intended to be experienced rather than understood. Through musical *Erlebnis*, the critical faculties could be overturned, revealing to the masses the (apparently) irrefutable truth of the mystic and mythic power of the German *Volk*. The importance of anti-intellectualism and the concept of *Erlebnis* is emphasised in an article in *Die Kunst Im Dritten Reich* magazine (1942):

The authentic work of art addresses the forces of the heart (*Gemüt*), not those of the intellect. It is not what the intellect seizes upon when faced by a work of art, but solely whatever the heart feels that, rising above fleeting impressions, becomes the *Erlebnis* that fashions the spectator. It is upon this relationship that concentrates upon the *Erlebnis* that a true rapport between art and the people can be founded.⁵²⁴

⁵²³ ‘Ten Principles for the Creation of German Music’ 28 May 1938 Joseph Goebbels quoted in: Huener and Nicosia, *The Arts in Nazi Germany*, 184.

⁵²⁴ Scholz, ‘Kunst Und Gemeinschaft Zur Großen Deutschen Kunstaussstellung 1942’, 200-4.

The 'Erlebnis' alluded to in this article is the *Lebensphilosophie* notion of the 'lived experience', an anti-intellectual appeal to the spirit rather than reason, but also a communal experience that, in Nazi terms, unites the *Volk* in collective witness (see Chapter 2). The cultural goal of the National Socialist project, at least until 1939, was a national spiritual reawakening of the *Volksgemeinschaft* brought about through the collective experience of *Erlebnis*. Whether through mass gatherings or the collective experience of radio broadcast, technologically mediated music was central to the construction of the Nazi 'myth-image'.

5.2.2: Nazism as Performance: Mass Gatherings

The ultimate expressions of this diversionary, mythic spectacle were the Nazi mass rallies of the 1930s. Building on the mass cultures and youth movement gatherings of the 1920s, the Nazi mass gatherings were highly choreographed and ritualised events where the insubstantiality of Nazi ideology was literally given body by mass participation. Mass rallies were the stage for displays of mythic performance, where, as Mosse described, individuals participated in collective 'self-worship',⁵²⁵ reinforcing Nazi mythic values, the reality of which were irrelevant as long as its efficacy could be demonstrated through collective performance.⁵²⁶

⁵²⁵ Mosse, 'Mass politics and the political liturgy of nationalism', 46.

⁵²⁶ Michaud, *The Cult of Art in Nazi Germany*, xiii.

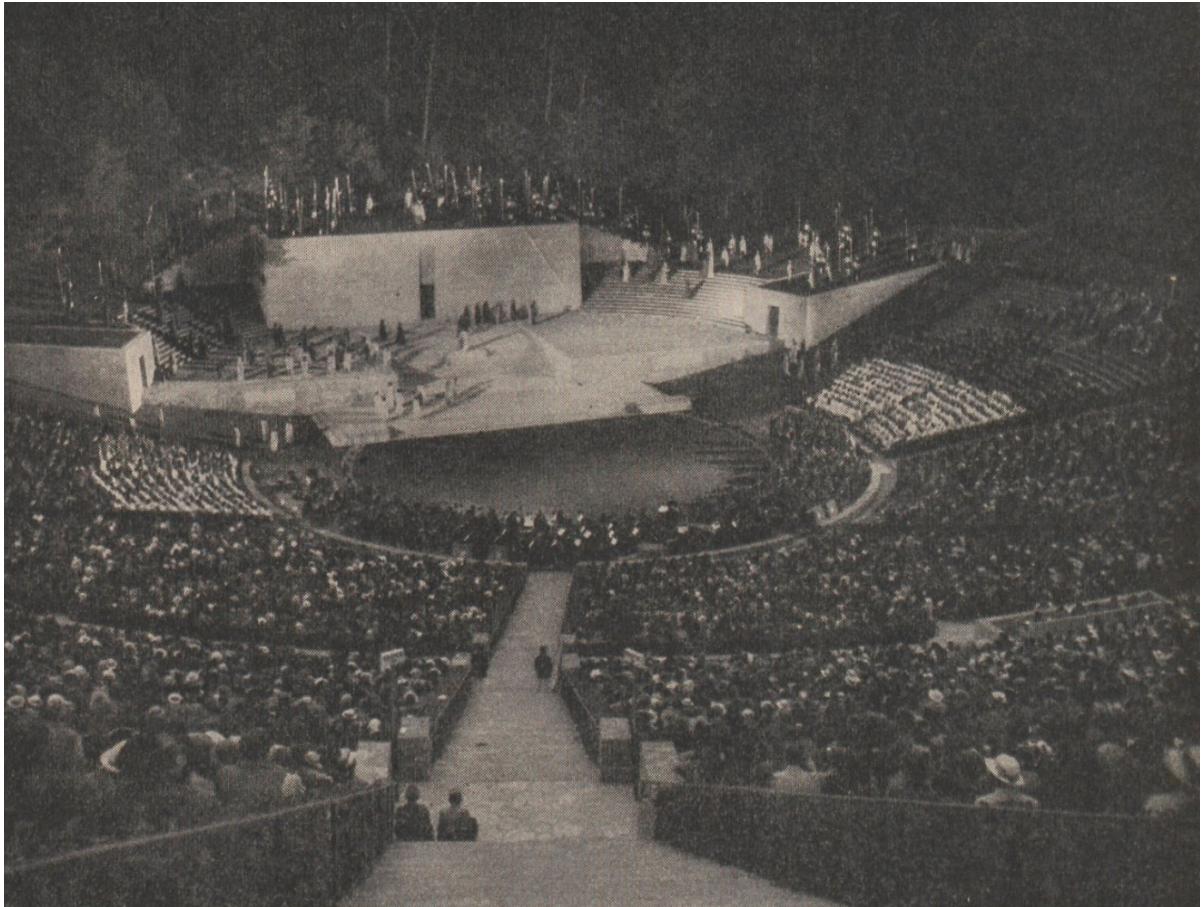


Fig. 5.2. The Dietrich Eckart Bühne Thingspiel arena at the Berlin Olympic park, 1936. Image: Programme for Olympic performance of Herakles – Georg Friedrich Händel. Dietrich Eckart Freilichtbühne, Reichssportfeld 17 Aug 1936. Staatliches Institut für Musikforschung, Preußischer Kulturbesitz, Berlin SM 70 Ber 26b.

The most important expression of Nazi collective performance, and the precursor to the mass rallies of the NSDAP can be found in the *Thingspiel* movement. Predating the *Gleichschaltung*, *Thingspiel* was a Weimar era nationalist-*Volkisch* cultural movement that promoted the performance of German *Volks* culture in *Thingstätte*: large, outdoor, specially constructed amphitheatres with a capacity of around 10,000 to 30,000 people.⁵²⁷ These open buildings, referencing classical Greek culture, were purported to be based on places for ancient Germanic tribal gatherings and were constructed in areas of historical, magical or mythical significance – trees, water, rocks and mountains – or what one of the movement’s founders, Rainer Schlösser, called ‘Cult sites of the nation’.⁵²⁸ In a

⁵²⁷ Hagen and Ostergren, *Building Nazi Germany*, 260.

⁵²⁸ Schoeps, *Literature and film in the Third Reich*, 153.

manner similar to the medieval mystery plays of the Christian church, *Thingspiel* provided a mythical underpinning for the ideology of new Nazi state. They were, as Goebbels described them, the 'political churches of National Socialism'.⁵²⁹

Thingspiel, perhaps the purest cultural expression of the Nazi myth, had its origins in *Volkisch* neo-pagan open air performances that began in Germany as early as 1903. The movement was then adopted and transformed by the NSDAP into the *Reichsbund der deutschen Freilicht und Volksschauspiele* (Reich League for German Open Air and Volk Plays 1934-36) and became closely associated with Rosenberg and the *Volkisch* 'blood and soil' mystical wing of the NS party. Building on pre-existing traditions of amateur performance and outdoor music from youth movements, *Thingspiel* performances were intended to be immersive, multidisciplinary events that involved the audience directly in the performance: 'An absolute and invariable bond between the people as spectators and the people as actors'.⁵³⁰ Integral to the concept of *Thingspiel* was the communal experience of *Erlebnis* that would wipe out all class and generational conflict that had divided it in the past.⁵³¹ Involving the audience in the performances, it was hoped, would through a kind of *Volks*-dialectical process educate and enthuse them with the values of the utopian concept of *Volksgemeinschaft*. In this way the objectives of the *Thingspiel* performances draw a direct comparison to the *Lehrstück* experiments of Brecht, Weill, Hindemith and others in the mid 1920s, and it is possible that Schlösser, Laubinger and others intended *Thingspiel* as a nationalist response to Brecht's overtly socialist *Lehrstück* project.⁵³² Potter argues that the *Thing* movement also appropriated many Weimar theatrical innovations – theatre architecture and lighting techniques – and many former

⁵²⁹ Hagen, *Building Nazi Germany*, 262.

⁵³⁰ N.A. 'Entwicklung der Thingspielarbeit', 174.

⁵³¹ Michaud, *The Cult of Art in Nazi Germany*, 64.

⁵³² Rainer Schlösser was the *Reichsdramaturg* of the *Thingspiel* movement and Otto Laubinger the head of the theatre division of the RKK. Pan, *Developing a Theater of the Collective*, 307-23.

associates of Reinhardt, Brecht, and Piscator continued their artistic vision under the new regime, even at times creating productions critical of the Nazi system.⁵³³

Thingspiel performance could include oratorio, pantomime, procession, and dance elements fused together by *Volkisch* ideology with the intention of producing a single Wagnerian style *Gesamtkunstwerk* – ‘a drama that intensifies historical events to create a mythical, universal, unambiguous reality beyond reality’.⁵³⁴ Typically a *Thingspiel* was structured around a broad dialectical narrative (a formula that is strikingly similar to Brecht’s 1930 *Lehrstück, Die Jasager*): a hero gets into a conflict situation in which he has to decide between complying with formal laws or following his inner voice, where the inner voice allows him to redeem himself in favour of the nation and race. As Vellguth describes it: ‘the protagonist decides to obey the values of the fathers (or blood, the race) and to represent self-sacrifice as the highest value’.⁵³⁵

In 1932 – a year before the *Machtergreifung* – the construction of four hundred *Thingstätte* was planned, but by the end of the movement only approximately 40 were built, the most well known being the *Dietrich Eckart Bühne* (now known as the *Waldbühne*) constructed within the Berlin 1936 Olympic games site and venue for the musical performances of opening ceremonies – see: Fig. 5.2 – *Thingspiel*, it was suggested, would become *the* dominant form of German theatre.⁵³⁶ However, despite the initial enthusiasm, the *Thingspiel* movement was short lived; it proved logistically difficult to build so many sites in remote locations and the expected commissioned *Thingspiel* works failed to materialise. The amphitheatre type constructions on such a monumental scale, while visually impressive, proved acoustically ineffective for the type of performances envisaged – meaning that electronic amplification had to be brought in increasing cost and impacting on the choreography and orchestration of the event.

⁵³³ Potter, ‘Visual and Performing Arts in Nazi Germany’, 30.

⁵³⁴ *Ibid*, 153.

⁵³⁵ Vellguth, ‘Kult und Opfermythos’, 87.

⁵³⁶ Hagen, *Building Nazi Germany*, 260.

However, the final blow was political; *Thingspiel* came into competition with the more controlled form of mass rallies favoured by the NSDAP, the leadership of which had become suspicious of the mysticism of the 'blood and soil' faction of the party. *Thingspiel* was officially prohibited by Goebbels in 1935: 'I just wish that we can remove mystical words like 'cult' or 'Thing' from our vocabulary for at least ten years'.⁵³⁷

Despite Goebbels' suppression of the practice, in an era characterised by cultural appropriation, *Thingspiel* represented the sole example of nationalist and Nazi cultural innovation. Schoeps suggests that the *Thingspiel* 'as political and cultural mass theatre, represented the most important contribution that the National Socialists made to the artistic form of theatre and literature'.⁵³⁸ Plays such as Eberhard Wolfgang Möller's *Frankenburger Würfelspiel* (Frankenburg Dice Game, 1936) which attracted an audience of 20,000 to the Dietrich Eckart Bühne in Berlin were, not surprisingly, completely erased from the German cultural repertoire post-1945. The lessons learnt from the application of audio-technology during *Thingstätte* construction and mass musical performances directly influenced the direction of the Nazi party mass rallies. While reducing the 'dialectical' element of *Thingspiel* to a form of ritualised participation, this new form of mass gathering retained the core element of *Erlebnis* – the 'lived experience' of the *Volk-myth*. However, it was now presented in a more efficient, controlled way, and on a much larger scale.

5.2.3: Mass Rallies: Electronic Erlebnis

The iconic mass rallies held by the NSDAP in Nürnberg from 1923 to 1938 originated in the mass political movements and cultural gatherings of the 1920s, a tendency which in turn emerged from the demographic shifts in 20th-century Germany. As rural populations migrated to new urban centres during the 19th and early 20th Centuries, a new type of

⁵³⁷ Vellguth, 'Kult und Opfermythos', 191-206.

⁵³⁸ Schoeps, *Literature and Film in the Third Reich*, 158.

politics was born that relied on the mobilisation of urban populations through mass gatherings. The character and scale of these mass gatherings was driven primarily by advances in audio technology and subsequent development of mass media.

Before the use of amplification at mass gatherings, the figure of the inspirational speaker had to rely on visual, theatrical gesticulation more than audible rhetoric. These acoustic speakers relied on a number of tactics to make their argument understandable; speeches were broken up into short sentences so that hired 'repeaters' (or the audience themselves) could echo-repeat phrases to the crowd beyond the short audible range of the speaker, and speeches tended to be based on simple repetition shouted in all directions with musical fanfares for sonic emphasis.⁵³⁹ Yet despite this, the size of these gatherings had an organic limit determined by the visible and audible distance from the speaker.

The immense scale of Nazi gatherings only became possible when the development of the microphone, amplifier and loudspeaker coincided, allowing the size of gatherings at this point to be limited only by geographic and logistical constraints. The effect of this technological leap can be seen in the growth of supporters at Nazi rallies which, despite variable political success, grew throughout the 1920s to around 1,000,000 people at the 1933 Zeppelin field gathering. The promotion and logistical management of the event on this scale was made possible only through the development of new types of technological media ecosystems comprising radio, gramophone and public audio amplification which, when combined, could reach larger mass-audiences much faster and more efficiently than traditional media.

The growth of mass rallies and the ascendancy of the myth-image coincided with the growth of mass culture. Ross suggests a causal relationship between technological mass

⁵³⁹ Wijfjes, *Spellbinding and Crooning*, 151.

cultures and mass gatherings: 'it seems that the encouragement of new desires and patterns of perception (via new media and forms of cultural consumption) helped to root political mobilisation in the imagination and expand the "emotional register of politics" during the early decades of the twentieth century'.⁵⁴⁰ By the mid 1920s mass rallies and mass-media formed a self-reinforcing, virtuous cycle of behaviour that defined the character and form of the Nazi myth-image. As the potential of rally size grew and exceeded urban settings, rallies relocated to purpose-built arenas. Mass rallies became not just a form of political communication and solidarity but also a form of territorial occupation and a 'visible threat to bourgeois society'.⁵⁴¹ Paradoxically, the NSDAP saw the mass rally as an expression of the individual against the 'tyranny of the majority', i.e. the dangerous, atavistic forces of Le Bon's undisciplined mob, and a demonstration (again, following Le Bon's model) of enlightened leadership over the imposed rule of chaotic mediocrity of Weimar democracy.⁵⁴² The NSDAP brought the development of the mass spectacle to an ultimate conclusion with the construction of Speer's vast Nürnberg Party Stadium in 1935/8. This neo-classical arena was intended to be a physical manifestation of NS power, a ritualistic spectacle of political indoctrination but also a continuation (now brought under control and stripped of its dialectical aspirations) of the tradition of cultic performance pioneered by *Thingspiel*: a venue for the collective performance of the Nazi myth-image where music, symbolic architecture and amplified speech combined to form a mythic *Gesamtkunstwerk*.

Speer's designs, as well as being a visual statement, were a stage for audible 'aestheticised' politics. The Nazi leaders, mostly invisible to the massed audience, were magnified to superhuman size by the amplifier and loudspeaker. Synchronised singing and marching was coordinated by hidden underground loudspeakers and amplified music was broadcast through enormous amplification towers.

⁵⁴⁰ Ross, *Media and the Making of Modern Germany*, 192.

⁵⁴¹ *Ibid*, 238.

⁵⁴² Ross, *Media and the Making of Modern Germany*, 214.



Fig. 5.3. 1934 Telefunken brochure showing the deployment of microphone, amplification and loudspeaker technology: The Telefunken M301 'Hitler Bottle' Microphone and Ela 206 'Pflzlautsprecher' (1934 . Image: © Siemens historical Institute Berlin.)

The technological research and development required to meet the demands for this new acoustic environment were assigned to the private company Telefunken, at the time the largest manufacturer of domestic and commercial audio equipment in Germany. After hopes for a thriving new German consumer electronics market were dashed by the economic collapse of 1930, this new state market provided a vital revenue source for Telefunken and other consumer technology companies (see Chapter 4). Telefunken, with state funding, adapted and augmented its range of consumer electronics (speakers, radios, microphones, gramophone players and even electronic musical instruments, such as Trautwein's *Trautonium*, described at the end of this chapter) with new acoustic

equipment specifically designed to resolve the complex sonic problems of mass gatherings, in effect, putting the technology developed for the consumer market at the service of the Nazi state (see Fig. 5.3).

A particular acoustic problem for Telefunken was the 'marching band effect': the phenomenon of sound, due to its relatively slow speed, moving progressively out of synchronisation depending on the distance from the sound source. For the new culture of vast mass rallies, which relied on audio synchronisation for marching, gymnastics and choreographed movement, this presented a significant problem. Telefunken's approach to solving this problem was to create a decentralised grid of '*Pilzlautsprecher*' (Ela 206): mushroom shaped speakers that projected sound downwards to the listener to provide a localised, synchronised sound source (rather than from a distant loudspeaker – see Fig. 5.4). The new speakers could be augmented with Telefunken's '*Bodenlautsprecher*' (Ela S110): hidden underground speakers projecting sound up to the listener to achieve a similar effect. In a promotional brochure, Telefunken describe the success of the '*Pilzlautsprecher*' in synchronising the movements of the Reich's labour service at the Nuremberg Reich Party Rally 1934:

From afar we hear the huge voice of the loudspeakers, which let the first commands sound in the cloudy morning sky. The groups are being aligned, and at 8pm 52,000 men of the German labour service are standing in front of their leader. Thousands of spectators hurried up the gallery and on the ramparts that surround Zeppelin Field to see this demonstration of National Socialist will. The leader arrives and gives a short command through the speakers: "spades up!"- and 52,000 spades whiz-up under the lively applause of the audience to their shoulders. One can see that the leader is pleased by the discipline of German youth. And then, he himself goes to the microphone, invisible to thousands, but

his voice, amplified a thousandfold, emanates from 42 *Pilzlautsprecher* to every single man in a grey coat.⁵⁴³

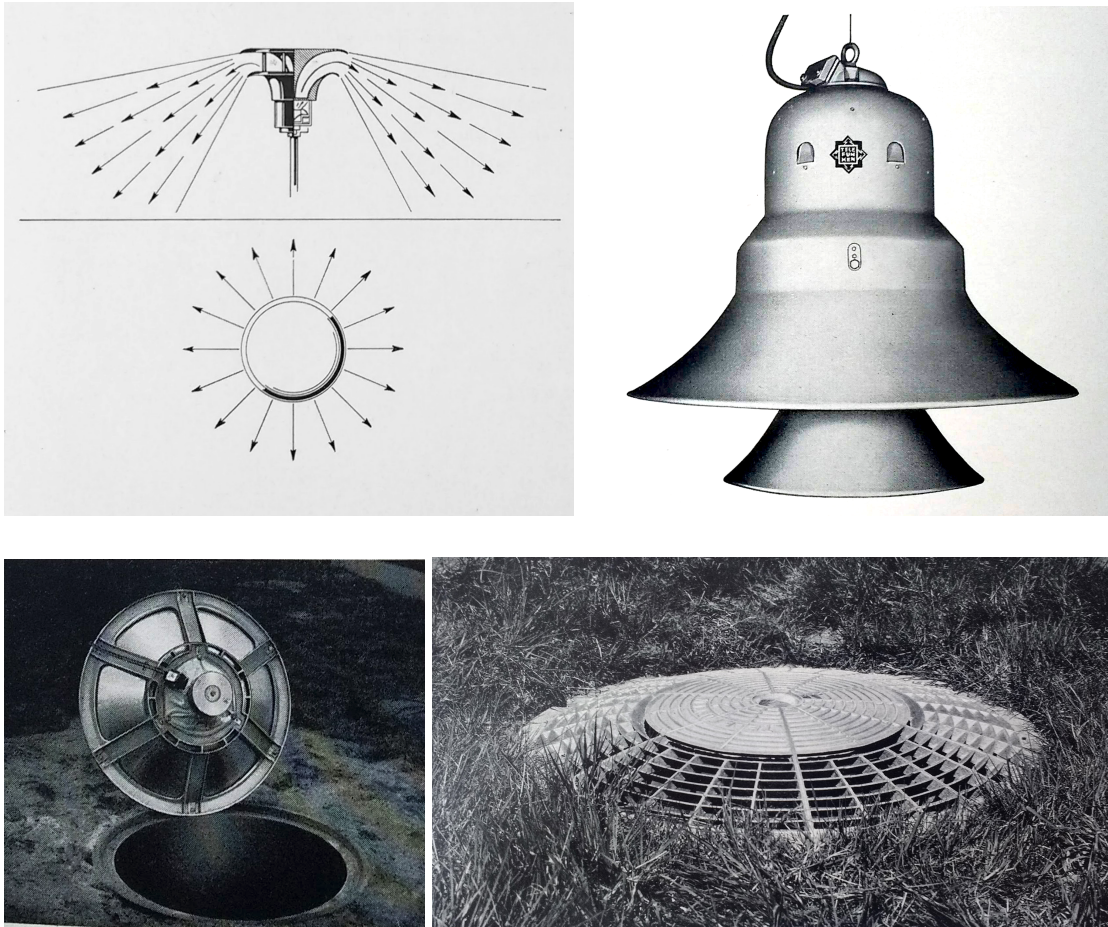


Fig.5.4. Telefunken 'Pilzlautsprecher' and 'Bodenlautsprecher', Images:Telefunken Siemens historical institut, Berlin.

The technologically enabled synchronisation of mass gatherings – founded on the rituals of religious assemblies: call and response, synchronised movements, communal singing etc., but also influenced by the machine-like rhythms of Kracauer's 'Tiller Girls' (see Chapter 4) – became a striking feature of Nazi mass gatherings. Audio synchronisation became a technological-political practice that was employed to reinforce a sense of belonging, organisation, unity and purpose – a visible and audible demonstration of power, a mass confirmation of the Nazi myth and an analogue of social coherence.

⁵⁴³ N. A. 'Nachrichten aus der Elektro Akustik', Folge 7, 1934.

Synchronisation was a physical manifestation of rationalisation (see Chapter 4. 0), the application of 'scientific' methods of improving and standardising human movement first applied to the factory floor in the 1920s with the ideas of Taylor and Ford, then to society in general as a method of social reorganisation, and now to the choreography of the Nazi mass spectacle.

The principal content broadcast through amplification at mass rallies was music interspersed with political speeches. Music was used to synchronise the crowds of dancers, athletes and marching troops and to entertain the waiting masses during the day long events. However, as we have seen, music was seen primarily as a spiritual medium; the very exposure to German Music, it was thought, would awaken the *Volks-geist* in the audience and prepare them for the construction of the *Volksgemeinschaft*.

If the inspirational technological-romanticism of Nazi music (i.e. *Stählernen Romantik*) is embodied in one musical instrument, it is in the pipe organ. Kater describes the repositioning of the pipe organ as a Nazi symbol through the rise of the German Organ Movement: a 'combination of polyphonic reformism, Hitler adoration, dogmatic and liturgical restoration and anti-Romantic crusading reached its apex' in the form of the 'Organ Movement' in 1933.⁵⁴⁴ The movement was originally a religious and musical campaign that aimed to reclaim the organ, returned to its original design, to its rightful position as the central instrument of German and devotional music (in opposition to the modern 'corruption' of light entertainment and the type of technically over equipped cinema organs produced by Wurlitzer). However, co-option of the movement by the NSDAP shifted the emphasis of the use of the organ from liturgical to a political role. In keeping with the *Stählernen Romantik* aesthetic, direct connections were drawn between the tradition, community, power and volume of the pipe organ and the power of the state

⁵⁴⁴ Kater, *The Twisted Muse*, 172.

– specifically, state power embodied by the figure of the *Führer* and the *Volkgemeinschaft*. According to the NS musicologist Joseph Müller-Blattau, the organ was 'the total instrument for the total state' and Hitler the 'omnipotent organist'.⁵⁴⁵ He argued that the organ movement's aim was now to remove the organ from church use and to return it to the *Volk*: 'Which instrument could better serve a total *Weltanschauung* and the will expressed in its festivities than the organ, which is, at the same time, the symbolic instrument of the community?'⁵⁴⁶

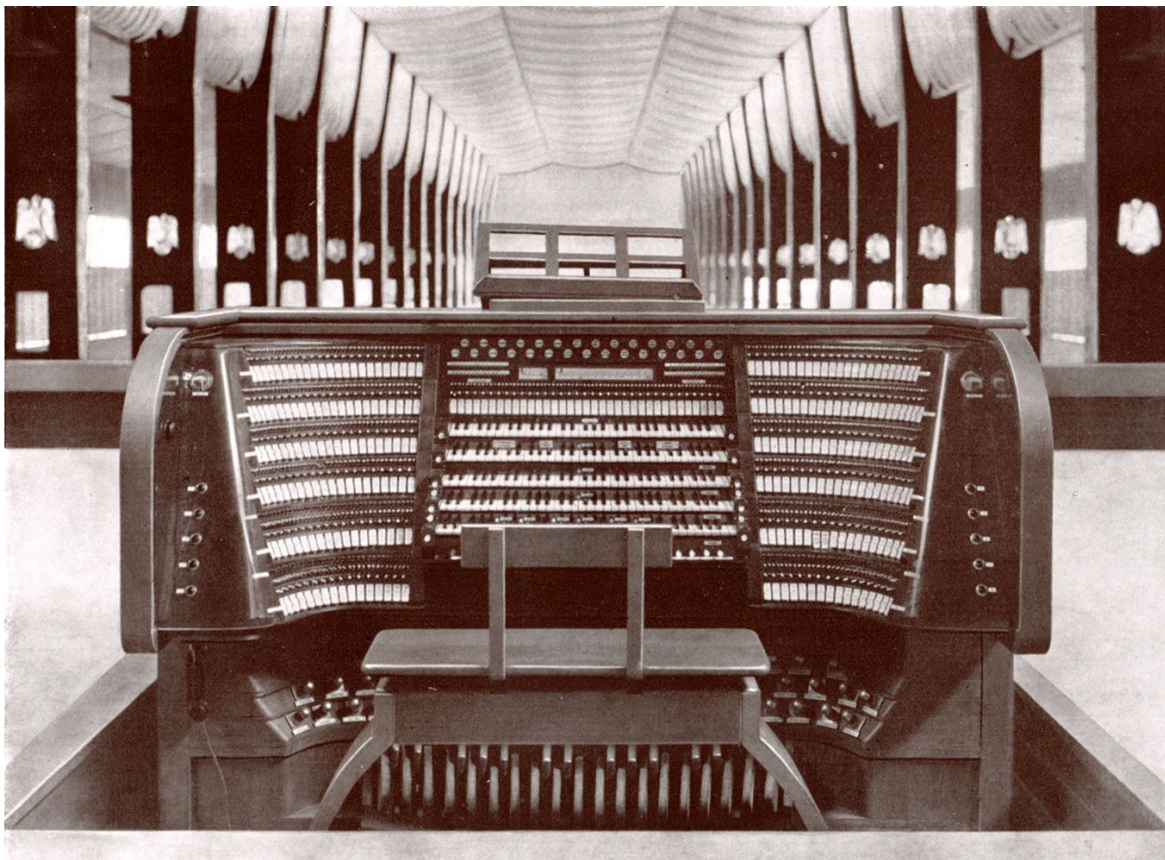


Fig.5.5 The 'Total instrument' of National Socialism, The Walcker 'Opus 2550 Diabolo' pipe organ installed at the LuitpoldHalle for the 1935 NSDAP Nürnberg rally.

As if to reinforce this concept, Hitler commissioned the Walcker Organ Company to build Europe's largest organ – The *Opus 2550 Diabolo* installed in the Luitpold Halle at the Nuremberg rally grounds for the NSDAP annual party rally (see Fig. 5.5). This colossal new 'total instrument' was equipped with 16,000 pipes, 220 registers, 5 manuals and

⁵⁴⁵ Kater, *The Twisted Muse*, 173.

⁵⁴⁶ *Ibid*, 172-3.

amplified by giant loudspeakers – an unsubtle, technically complex instrument whose features were, ironically, in direct conflict with the aims of the 'back to Bach' simplicity of the original 'Organ Movement'. The organ, it was declared, was a quintessentially 'political instrument' and absolutely necessary for instilling the quasi-religious *Nationalsozialistische Fei ergestaltung* ('spirit of Nazi celebration') essential to the new era of the mass gathering. The organ became a fixture of indoor party events, playing excerpts from Bach and accompanying specially-composed choral pieces venerating the virtues of National Socialism and the *Führer* (Heinrich Spitta's *The Führer has Called us* and *Heilig Vaterland* for example).



Fig. 5.6 Joseph Goebbels plays the 'KdF Grosstonorgel' electronic organ after its use in Egk's 'Olympische Festmusik' in August 1936.⁵⁴⁷

The size of the *Opus 2550 Diabolo* meant that it was a static instrument, fixed to an indoor location and of limited use for the larger outdoor Nazi mass rallies. To resolve this issue, the KdF commissioned the HHI to design a moveable but powerful electronic organ

⁵⁴⁷ Funkstunde, Nr 10, 8 March 1936, 398.

for mass rallies. The resulting instrument, christened the *Kraft durch Freude Großtonorgel*, was an innovative, portable, polyphonic electronic organ designed specifically for mass gatherings and *Thingspiel* events (see Fig. 5.6) For the first time, a synthesised, amplified, pipeless church organ could be used in an outdoor arena.⁵⁴⁸ The instrument debuted with Egk's 1936 performance of the *Olympische Festmusik* at the Dietrich Eckart Bühne *Thingspiel* arena, amplified through a 200-watt sound system and given extra reverberation using electro-magnetically controlled piano frame resonators hidden under the *Thingstätte* stage.⁵⁴⁹ Amplification gave the music a previously unheard-of power through increased volume and bass response – characteristics directly associated with Goebbels's *Großem Pathos*, the sublime musical properties of *Stählernen Romantik* and the promise to fill technology with 'soul' and the 'rhythm and hot impulse of our time'.⁵⁵⁰

Section 5.3: Radio and the Myth-image

When the NSDAP came to power it inherited a functioning, increasingly centralised and censored radio network that had from the outset been designed as an instrument for social engineering. In contrast to the accepted view of radio as an instrument of modernity, radio broadcast had, beginning in the Weimar period, an established history as a tool for consolidating reactionary bourgeois culture and maintaining the establishment hierarchy (see Chapter 4.2.2). In 1932 the state under the politically reactionary Reichs Chancellor von Papen effectively nationalised the RRG – via the new Reich radio law – leaving the path open for the NSDAP to assimilate the radio network. A conspicuous and fundamental change introduced by the Nazi regime was the

⁵⁴⁸ Designed at the *Heinrich Hertz Institut* by Oskar Vierling and Winston Koch and sponsored by the KdF organisation. The *KdF Großtonorgel* is clearly heard on the *Waffentanz* section of Egk's *Olympische Festmusik* recorded in 1936 by Orchester der Staatsoper, Berlin, conducted by Werner Egk. Telefunken E 2030. The *HHI* was renamed the *Institut für Schwingungsforschung* in 1936 because of Heinrich Hertz's part Jewish family lineage.

⁵⁴⁹ Designed by Oskar Vierling of the *HHI*: Donhauser, *Elektrische klangmaschinen*, 156.

⁵⁵⁰ Goebbels, 'Speech at the opening of the Berlin Auto Show', 105-6 .

reorganisation of radio broadcasting from a passive state voice of the Weimar period (promoting an aspirational example of bourgeois nationalist *Kultur*), to an overt and active tool for state propaganda. The radio became *the* most high profile and ubiquitous example of the 'myth-image' in terms of broadcast content, but also, in the manipulation of the geo-spatial character of broadcast (time, place, togetherness) reinforced a sense of collective national responsibility and destiny.

5.3.1: National Socialist Radio and Propaganda

Propaganda in the 1920s was generally considered in positive terms as a modern, scientific method of combating ignorance, aligned to new, 'scientific' theories of social engineering, rationalisation and racial hygiene. Indeed, the title of Goebbels's ministry, the *Reichsministerium für Volksaufklärung und Propaganda* ('Reich Ministry of Public Enlightenment and Propaganda') made no secret of its function. The modern concept of propaganda had its origins in the early 1920s in theories of mass psychology of Le Bon and others but became popularised by the ideas of the Austrian-American pioneer of Public Relations, Edward Bernays. In his two major works – 'Crystallising Public Opinion' (1923) and 'Propaganda' (1928) – Bernays argued for the benevolent use of propaganda to make society more efficient (in tandem with concepts of social rationalisation): that the shaping of opinion informed by theories of mass psychology was essential for maintaining a stable, modern, economic and political system.⁵⁵¹ Propaganda, and specifically propaganda over technological networks such as the radio, was seen not as a threat but as a way to tame Le Bon's '*Psychologie des foules*' to achieve the social cohesion necessary for a mass society. Propaganda was adopted by both sides of the Weimar political divide as a valid vehicle for social change. But it was during the NS era that a number of social and technological factors combined in a way that allowed propaganda to become such a powerful amplifier of the 'myth-image'.

⁵⁵¹ Ross, *Media and the Making of Modern Germany*, 217.

The rise of Nazi propaganda was synchronous with the rise of mass media: radio, at the sole service of the state, catalysed the transition of propaganda from a benevolent form of 'education' to a subjective form of manipulation. This transition occurred under Nazi control primarily because, by 1933, the number of radio listeners had reached a critical mass for effective dissemination of propaganda, and, the radio audience, habituated to the emotional language of mass media and consumption, were predisposed to the interpretation of the 'myth image' of the Nazi message. Mass media shared a dynamic of emotional manipulation; as Ross puts it, 'Modern propaganda, like the bulk of commercial entertainments on offer, was thus concerned primarily with the manipulation of emotions'.⁵⁵² Nazi ideology, based on an appeal to the emotions rather than the intellect, had found its audience.

The historical development of the German radio network delivered to the NSDAP an ideal propaganda tool. It was wholly owned and controlled by the state (unlike the press and cinema which was owned by press and film barons of varied political allegiances) and had a long history of 'ambient propaganda' and social engineering.⁵⁵³ The NSDAP's domination of radio was characterised by the content of the broadcast – predominantly music as well as drama and speech – but also the geo-spatial qualities of radio. For the Nazis, the radio network represented a '*Volksgemeinschaft* of the airwaves', a 'national community of listeners united across time and space', one that involved the entire nation in the simultaneous, collective participation of national events, creating a novel sense of 'being there'.⁵⁵⁴ Goebbels suggested that because of radio there would be 'no events of political and historic importance in the future in which the people do not take part'.⁵⁵⁵ The sense of collective simultaneity was emphasised by novel innovations in programming. Beginning in the first months of the war *Sondermeldungen* were special announcements that deliberately interrupted daily radio programming for dramatic effect (the same

⁵⁵² Ibid, 220.

⁵⁵³ Ibid, 224.

⁵⁵⁴ Ibid, 330.

⁵⁵⁵ Heiber, *Goebbels-Reden*, 93.

disruptive tactic used by Hans Flesch's Hörspiel 'Zauberei auf dem Sender' in 1924 and short-format radio adverts on non-German broadcasts). Following a ritualised formula, *Sondermeldungen* were introduced with a fanfare and an announcement 'We shall now have total air silence', followed by a piece of news and military music, religious hymns and patriotic songs from the First World War, sometimes augmented with sound effects of machine guns, marching, diving Stukas and the sighs of wounded soldiers.⁵⁵⁶ The formulaic structure and repetition of familiar repertoire of recognisable musical motifs and styles made the *Sondermeldungen* an audible symbol of the omnipresence of the regime.⁵⁵⁷ Broadcasts were listened to at home, in the workplace or in outside spaces through loudspeakers or especially designed mobile radio vehicles. In order to ensure the widest possible listening audience, local Party branches were encouraged to organise community listening aided by an army of *Funkwarte* ('Radio wardens'). Local councils were encouraged to install public address systems (supplied by Telefunken – see: Fig. 5.7.) in schools, factories, sports arenas, town halls, police stations and village squares – a policy driven directly by Goebbels and the RMVP: 'I profess to see the day when every factory, every cinema, theatre, marketplace and square, railway station and every home will be within range of the Führer's voice'.⁵⁵⁸

⁵⁵⁶ Birdsall, *Nazi Soundscapes*, 114.

⁵⁵⁷ 'One of the most frequent sounds heard in radio broadcasts was a short sound clip between programmes (*Pausenzeichen*) from Mozart's melody *Üb' immer Treu und Redlichkeit* [...] which had strong associations with Prussian nationalism': Birdsall, *Nazi Soundscapes*, 114.

⁵⁵⁸ Goebbels quoted in: O'Shaughnessy, *Marketing the Third Reich*, 198.

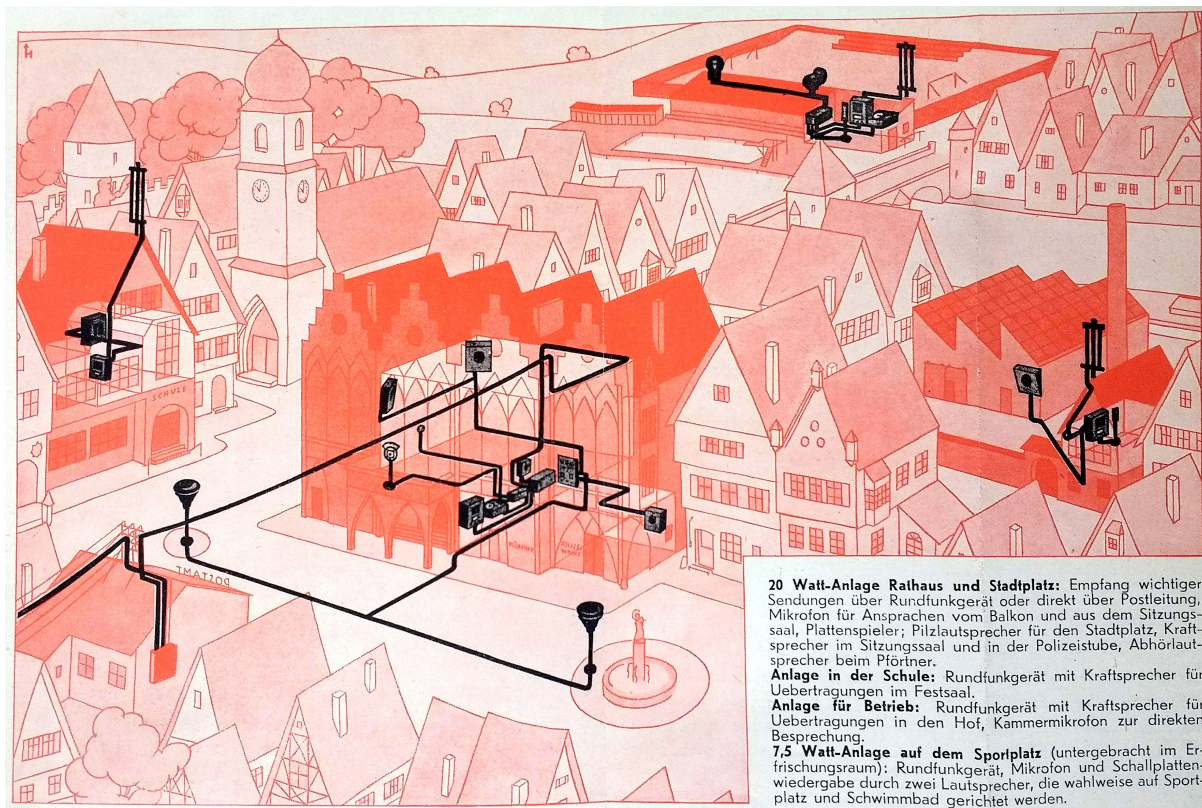


Fig. 5.7 Telefunken's 1933 brochure for municipal audio networks for the factory, school and town council controlled centrally by the town authorities and linked to the radio network. Telefunken brochure 1933, Siemens Historical Archive.

5.3.1: National Socialist Radio – Control and Censorship

The Nazi control of the radio network was, for the mass of Germans, the primary, audible example of NS *Musikpolitik* and the Nazi 'Myth-Image' – a carefully curated audio presence as a manifestation of Nazi ideology. One of the earliest and most conspicuous victims of *Musikpolitik* was jazz and popular music. The proscription of jazz under the Nazis was the culmination of decades of conservative animosity to cultural modernity (see Chapter 3). Legal sanctions against jazz had begun as early as April 1930 when the newly-elected Nazi Minister of the Interior and Education for Thuringia, Wilhelm Frick, issued a 'Decree against Negro Culture – For Our German Heritage' (*Erlaß wider die Negerkultur für deutsches Volkstum*).⁵⁵⁹ Frick's new laws and Thuringia in general, were seen by the rest of urban Germany as extreme and laughably provincial: 'reactions in the

⁵⁵⁹ Wipplinger, *The Jazz Republic Music*, 134.

press elsewhere regarded these anti-modernist measures as ludicrous and probably short-lived,⁵⁶⁰ they were, however, consistent with conservative opinion across the country. Anti-jazz articles and polemic had been a fixture of the right wing press since the mid 1920s, but post-1933 were incorporated into the racially determined Nazi panoply of hate-symbols of modernism and 'cultural bolshevism'. Jazz was not just 'Negermusik', 'modern' and 'American', it was now also a 'political weapon of the Jews'.⁵⁶¹



Fig. 5.8. Unwanted jazz music flooding the German people's countryside: 'Mistakes on Deutsche Welle's devices.' *Simplicissimus*, 40 nr 32 November 1935.

⁵⁶⁰ Potter, *Art of Suppression*, 2.

⁵⁶¹ Wiplinger, *The Jazz Republic*, 110.

The NSDAP's disapproval of jazz music was less a policy of dictatorial prohibition but more one that followed a shift in opinion that had begun in the late 1920s. For instance, Hans Bredow, director of the newly founded RRG, stated in 1924 that radio would 'gradually eradicate Negro music and, through the elevation of tastes, both deepen and widen the sense of repulsion against poor foreign music'.⁵⁶² Right-wing propaganda regarding the '*Schwarze Schmach*'⁵⁶³ had found a fertile audience, the press reflecting an increase in xenophobic sentiment shared by many Germans at this time: being exotic and foreign was no longer new or 'cool'⁵⁶⁴ (see: Fig. 5.8). The journalist Sacher-Woенckhaus in a 1932 article titled 'Our modern dances are not nigger dances anymore' for the popular satirical magazine *Uhu*,⁵⁶⁵ urged listeners to boycott records that contain the 'gaudy rubbish' and 'idiotic poetry' of jazz and to return to pre-1918 dance styles: 'Records are defenseless, but dancers are not; they have the means of advocating and boycotting as buyers and as reviewers [...] Demand unanimously, records without this idiotic singing'.⁵⁶⁶ Sacher-Woенckhaus went on to argue that the dangerous, primitive aspects of jazz had become civilised by its incorporation into German culture. Jazz was no longer 'black', meaning that, as for many other foreign products ('chess, potato, tobacco smoking, gunpowder, the "pleasure epidemic" (*Lustseuche*), Skiing, kayaking, jiu-jitsu and much more') it has become a 'cultural property through and through, recreated, perfected to a degree that the original owners of this property could not dream of' and that therefore, the word jazz is now meaningless'.⁵⁶⁷ That a popular mainstream magazine could include such a racially charged article illustrates the extent of the acceptance of the type of racial concepts espoused by the Nazis even before they 'seized' power.

⁵⁶² Lenk, *Die Erscheinung des Rundfunks*, 186.

⁵⁶³ The 'Black Horror' of the occupation of the Rhineland by French African troops used in Nationalist propaganda to inflame racist attitudes in 1920s Germany.

⁵⁶⁴ Weiner, *Urwaldmusik and the Borders of German Identity*, 476.

⁵⁶⁵ Sacher-Woенckhaus, 'Unsere modernen Tänze sind keine Nigger-tänze mehr...' *Ein Mathematiker Verteidigt den Jazz*, 83.

⁵⁶⁶ *Ibid*, 83.

⁵⁶⁷ *Ibid*, 83-89.

Conservative disapproval of jazz during the early 1930s was followed after the Nazi *Gleichschaltung* by a full legal ban of jazz and 'Negermusik' music across all German national radio in 1935.⁵⁶⁸ This was followed in 1938 by the notorious *Entartete Musik* exhibition in the Düsseldorf *Kunstpalast* which ridiculed the works of the modernists of the Weimar period – Schönberg, Weill, Krenek, Schreker, Berg, Toch, Hindemith, Stravinsky and others. Again, *Entartete Musik* was not an example of a new Nazi totalitarian view of art but an event that reflected commonly-held conservative opinions formed in the 1920s which to a German audience (and even international audiences) would not have seemed shocking or surprising. Reactions within the NSDAP illustrate the divergent nature of Nazi *Kulturpolitik*. The exhibition, organised by Hans Severus Ziegler, the 'Reich culture Senator' and former associate of Wilhelm Frick in Thuringia (responsible for the initial prohibition of jazz), was seen by some in the NSDAP leadership as a somewhat embarrassing provincial Thuringian import. Ironically, after the 1938 *Entartete Musik* exhibition and the outbreak of war, jazz enjoyed a period of renewed popularity⁵⁶⁹ – a circumstance that illustrates the *Kulturpolitik* divisions between the 'old school' factions of the *Kampfzeit* period (represented by Raabe, Rosenberg, Frick, Severus-Ziegler and others) and the new direction of the pragmatic 'modernists' (led by Goebbels). The growing popularity of jazz and schlager music was driven both by a demographic shift in the listener audience (towards a more working-class and younger demographic provided, ironically, by the success of the *Volksempfänger* campaigns) and a change in RMVP broadcast policy, begun in 1935, from one of education and propaganda to a new found pragmatism of appeasement and distraction in a drive towards militarisation. As Greenberg pointed out, the Nazis, 'when it came to a question of preserving power, were as willing to sacrifice their culture as they were their moral principles'.⁵⁷⁰ Germans could now hear works by Louis Armstrong, Duke Ellington, Benny Goodman, Fats Waller and so on, but un-named and described as 'relaxed, strongly

⁵⁶⁸ Schröder, 'Zur Kontinuität nationalsozialistischer Maßnahmen gegen Jazz und Swing in der Weimarer Republik und im Dritten Reich', 176.

⁵⁶⁹ Potter, 'Visual and Performing Arts in Nazi Germany', 28.

⁵⁷⁰ Greenberg, 'Avant Garde and Kitsch', 34–49.

rhythmic music' rather than jazz. Goebbels' even went so far as to create an RMVP approved jazz band 'Charlie and his Orchestra' who performed versions of jazz hits rewritten to support Nazi ideology and wartime objectives.⁵⁷¹

In contrast to Goebbels's earlier attacks on the corrosive effects of popular but frivolous *Asphalt-Kultur*, light entertainment was now recognised as a vital factor for maintaining morale and influencing popular opinion. The time allotted for popular music radio programming increased and scheduling changed to move it from late evening airtime to replace classical music during prime time slots.⁵⁷² Music and radio was now aimed at the masses and the idea that music should serve the interest of the cultural elites was seen, at least by the Nazi 'modernists', as out of date. Goebbels wrote in 1936:

Special emphasis should be placed on relaxation and entertainment, for the vast majority of radio listeners lead lives of unceasing toil and therefore have a right to genuine relaxation and recuperation in their few hours of leisure. In contrast, the small minority who want to subsist on Kant and Hegel are hardly of consequence.⁵⁷³

And after the high profile resignation of the conductor Wilhelm Furtwängler in 1934 from the Berlin Philharmonic, Goebbels continued in the same manner:

What does this Furtwängler want with his pitiful 2,000 listeners in the Philharmonic? What we need are the millions and we have them with the radio.⁵⁷⁴

⁵⁷¹ Potter, 'Visual and Performing Arts in Nazi Germany', 28; Ross, *Media and the Making of Modern Germany*, 333.

⁵⁷² Ross, *Media and the Making of Modern Germany*, 335.

⁵⁷³ Ibid, 333.

⁵⁷⁴ Goebbels quoted in: Ross, *Media and the Making of Modern Germany*, 335.

Shortly after the outbreak of war in 1939 a new format of weekly programme was devised by the actor Heinz Goedecke to connect the home listener with the frontline, and raise funds for *Winterhilfswerk*⁵⁷⁵ through donations. This became an extraordinarily successful series of *Wunschkonzert für die Wehrmacht* ('request shows for the army') programmes, broadcast from 1 October 1939 until April 1945, which also resulted in a spin-off blockbuster film musical *Wunschkonzert* and numerous books and magazines. With the slogan 'the front line reaches out to the home front, the home front reaches out to the front line', the programme aimed to reinforce a 'sense of togetherness' with a two way connection between the troops and home (echoes here of Brecht's proposal of a network of asynchronous transceivers⁵⁷⁶). Broadcasts consisted of a potpourri of material: operettas, folk songs, march music, overtures, love ballads, children's lullabies, military music, jazz and pop songs and classical music interspersed with request messages:

The soldiers marched in the east. By tomorrow their current location will be out of date. The quarters changed with the battlefields - and in the fresh footsteps of the regiments, in the wide tracks of the armoured car, in the swirl of the flying-weapons, marched, rolled and swam the radio, the youngest child of our military technology.⁵⁷⁷

The pretence of spiritually uplifting and educational musical content had by this time been almost completely removed (apart from occasional brief selections of popular classics): *Wunschkonzert* was a celebration of mass-culture, indistinguishable from Weimar *Asphalt-Kultur* and aimed at a mass audience – see: fig. 5.9⁵⁷⁸ The programme

⁵⁷⁵ *Winterhilfswerk* was a Nazi era annual campaign to help the needy during the winter months.

⁵⁷⁶ Brecht 'Der Rundfunk als Kommunikationsapparat', (1932).

⁵⁷⁷ Goedecke & Krug. *Wir Beginnen Das Wunschkonzert Für Die Wehrmacht*, 30.

⁵⁷⁸ Werner Krauss, Hans Albers, Willi Birgel, Zarah Leander, Gustav Gründgens, Katharina Söderbaum, Jenny Jugo, Hans Söhnker, Grethe Weiser, Paul Hörbiger, Willy Fritsch, Heinz Rühmann, and Marika Röck were amongst the well known film and music stars to take part.

was the antithesis of the hectoring voice of Nazi propaganda and the cold, *Stählerne Romantik* of Riefenstahl's films; instead *Wunschkonzert* presented a nation united in *Volkisch* sentimentality, domesticity, and *Gemütlichkeit*. Each Sunday edition was programmed around a repeated formula that gave the weekly *Wunschkonzert* an air of communal expectation and ritual. Requests were customised as much as possible to emphasise realism, bridging the space between the sitting room and the frontline: ex-road workers serving at the front requested sounds of their pneumatic drills in Berlin and train drivers serving in Poland requested the sounds of their German trains. Announcements of births were accompanied by recordings made on the maternity ward and recorded to shellac discs:

The response from home and from the front that accompanied this current express message service was indescribable. It was expressed in the touching letters of thanks from the mothers, in the avalanche-like increase in donations and in the various reports of the soldiers who suddenly received the news at the front, on land and on the water that a child had been born to them at home.⁵⁷⁹

⁵⁷⁹ Goedecke and Krug, *Wir Beginnen Das Wunschkonzert Für Die Wehrmacht*, 74.



Fig. 5.9. Cover for the 1940 book 'Wir Beginnen Das Wunschkonzert Für Die Wehrmacht' featuring an illustration of a saxophone playing popular music band and caricatures of well known light entertainers and film stars. Image: cover of Goedecke and Krug, *Wir Beginnen Das Wunschkonzert Für Die Wehrmacht*.

By simultaneously connecting millions of listeners, the *Wunschkonzert* was designed to create a sense of *Erlebnis*, the communal 'lived-experience' that radio was said to destroy. This time however, the objective of the collective was to distract the people from hardship and an ever worsening military situation rather than a spiritual reawakening. 'You really felt like you were part of something with everyone else. When radio programmes had soldier requests for songs from different regions, it was like everyone's father was fighting in the war: that you were all the same'⁵⁸⁰

⁵⁸⁰ Ursula S. (b. 1928), personal interview, 28 Apr. 2004 in Birdsall, *Nazi Soundscapes*, 113.

Bathrick suggest that the combination of light entertainment, jazz, classical music, film, theatre and sports woven into an ambient narrative of state propaganda in the form of the *Wunschkonzert* (and its many media permutations: books, magazines film, radio) was 'one of the most successful productions of the Nazi public sphere, a *Gesamtkunstwerk* that would anticipate developments for years to come.'⁵⁸¹ It was certainly the most effective piece of Nazi propaganda: By involving the individual directly and simultaneously in the political-military actions of the state, *Wunschkonzert* sought to legitimise the new Germany defined by the expanding borders of 'Lebensraum' and by proxy, complicity in the racial politics of occupation – ethnic cleansing and genocide.

Goebbels' officially sanctioned return to the mass cultures of audio technology and the attendant disengagement with elite art, returned Nazi Germany to the popular cultures that dominated the Weimar period. What could be interpreted as an ideological u-turn was in reality a continuity with earlier nineteenth century concepts of music as a tool for social transformation, and, with the '*Volksgemeinschaft* of the airwaves', Goebbels was repeating the utopian concept of radio and music as a definition of the national *Geist* established during the Weimar period. These types of continuities will be explored through the life and work of Friedrich Trautwein in the following case study.

Section 5.4: Case Study: Technological Continuity and Disruption: Friedrich Trautwein during the Weimar and Nazi periods

Friedrich Trautwein (b. Würzburg, Aug 11, 1888; d. Düsseldorf, Dec 20, 1956) was a German physicist, amateur organist and an important figure in the development of electronic musical instruments and amplification for mass gatherings during the Weimar and Nazi periods. Trautwein is a pertinent musical-technological example of Herf's 'reactionary modernism', but one left out of a historical discourse dominated by

⁵⁸¹ Bathrick, 'Making a National Family with the Radio: The Nazi Wunschkonzert', 115-127.

technicians and architects (see Chapter 3). Having worked closely with both the Weimar modernists and the Nazi regime (and the experimental post-war WDR *elektronische Musik* of Eimert and Stockhausen), Trautwein's life and work during the 1920s and 1930s serves to illustrate many of the topics central to this dissertation: the continuity of nineteenth century utopian romantic concepts in twentieth century German thought (the idea of music as a socially transformative medium, *Erlebnis* and the *Volks* utopia etc.), the contradictory and conflicting position of *Technik*, and the politicisation of music in German society. Trautwein sided with the Nazi's before the *Gleichschaltung*, a choice influenced by his innate conservatism but also a choice made to further his career and achieve his ideological-cultural ambitions. During the early Nazi period Trautwein rose to become a prominent champion of audio technologies and specifically electronic musical instruments and used this establishment position to advance his theories on the resolution of *Kultur* and *Technik* – theories that I will examine later in this section. Trautwein's position was essentially that of a conservative, utopian 'reactionary modernist': a supporter of the bourgeois definition of *Kultur* but simultaneously, a proponent of the resolution of *Kultur und Technik*. Although he would never have acknowledged it due to the association with modernism, Trautwein's view of music technology closely followed Busoni's utopian concepts of 'Ur-Musik' - namely the view that, by providing an expanded sonic palette, audio technology had the potential to radically and rapidly transform German Music – in Trautwein's case this was intended as a musical transformation in keeping with the demands of the new National Socialist Germany. Ultimately Trautwein's ambitions for a new type of Nazi music failed to make any significant impact: the inertia of German *Kultur* proved to be too substantial to shift and his instruments were relegated to a supporting role in an increasingly immobilised musical culture. But more significantly, the political role of German Music (and Trautwein's ideas) was itself sidelined in favour of a culture that valued the political power of mass distraction over the high, spiritual qualities of German Music – in effect a

final resolution of the *Kultur und Technik* dichotomy that had dogged German thought for the first half of the twentieth century.

Trautwein's career followed the development trajectory of audio technology in Germany, studying electrical engineering (1906-8) and law (1908-11) at *Technischen Hochschule Karlsruhe* (doctorate 1921) and Physics at Heidelberg University. Trautwein's life spans the invention of radio until the establishment of Elektronische Musik in 1950s Germany. Involved in the instigation of the first German Radio Broadcasting station at the *Telegraphentechnische Reichsamt* in Berlin in 1920, an early centre for experimentation with electronic sound,⁵⁸² Trautwein later became the chief engineer at the Berlin radio manufacturer, Loewe AG.⁵⁸³ In the early 1920s Trautwein was one of several European inventors who realised the musical potential of radio vacuum tubes.⁵⁸⁴ Trautwein was probably aware of Termen's similar vacuum tube discovery with his 'Theremin' published in Moscow in 1921 and would certainly have been familiar with Lee De Forest's invention of the Audion tube and his experiments with sound and the 'Audion Piano' (USA 1915).⁵⁸⁵ Both of these instruments were based on the Heterodyne principle of creating audible sounds from the sum of two high frequency tones emitted by triode radio tubes, the same principle used in all electronic instruments until the advent of the semiconductor in the 1960s.

In 1929 Trautwein was appointed as technician and lecturer at the *Rundfunkversuchsstelle* at the Musikhochschule in Berlin. The RVS became the centre of the *Neue Sachlichkeit* pursuit of technical and musical unity, inspired by the ideas of the radical utopian socialist Leon Kestenberg and the composer Ferruccio Busoni. Trautwein, as a conservative 'reactionary modernist', supported the RVS's ambition of *Kultur und*

⁵⁸² Trautwein filed his first patent in 1922 (DE 462980) for a resonance filter.

⁵⁸³ Exact date unknown but probably around 1923-4.

⁵⁸⁴ Patent 462980 'Einrichtung zur Schwingungserzeugung mittels Elektronenröhren' 05 12 1922.

⁵⁸⁵ Introduced by Termen at the '8th All Soviet Electrotechnical Congress' at the Moscow Polytechnic Museum in October 1921.

Technik reconciliation but aspired to very different political and cultural objectives. After the Nazi's seizure of power in 1933, Trautwein continued many of the RVS's objectives, reframed within a nationalist context.

At the RVS, Trautwein became involved with Paul Hindemith in the development of an electronic musical instrument for use in teaching 'electric music', eponymously named the *RVS Trautonium*. Trautwein's original vision for the instrument was to produce a conventional polyphonic organ with multiple oscillators, played using a standard, fixed-intonation keyboard.⁵⁸⁶ However, the viola-playing Hindemith's insistence on a string-like non-standard fingerboard (allowing glissandi and microtonal playing), combined with financial constraints caused by the deepening financial crisis, led to the production of a much cheaper and experimental instrument. Oskar Sala, a composition student and Trautwein's assistant on the project, recalled:

One day, the master (Hindemith) asked us to visit the *Rundfunkversuchsstelle* up on the top floor under the roof, because up there recently, Dr Friedrich Trautwein had constructed preparatory preliminary studies for an electrical musical instrument. This was the first time that I saw the playing control; a metal rail and above it a thin resistance wire. Doctor Trautwein probably felt that this was a bit of a joke, because he really wanted to build a beautiful electric organ, but there was no money for that; after all, the world was in an economic crisis at that time.⁵⁸⁷

The *RVS Trautonium* consisted of three components: a sound generator, amplifier and speaker and a single manual controller made of a wire stretched over a steel rail, marked with a five-octave chromatic scale. By pressing the wire, the performer touched the rail

⁵⁸⁶ Almost certainly inspired by the large multi-tube polyphonic electronic organs designed by Coupleaux & Givelet in France during the early 1920s.

⁵⁸⁷ Oskar Sala interview: 'Ein weiteres Interview mit Oskar Sala, 1992 von Matthias Becker'.

below and completed a circuit generating a pitched tone. This tone was produced from a single glow lamp oscillator giving a monophonic, rough sawtooth wave (with accidental colouring caused by non-linearities in the tubes core) – But perhaps the most important innovation discovered by Trautwein was that by passing the tone through a resonant circuit, he was able to produce vowel-like formants and complex tonal timbres beyond the capability of traditional instruments.

The *RVS Trautonium* first came to public attention at Hindemith's '*Neue Musik Berlin*' festival on 20th June 1930 – perhaps the apogee of *Neue Musik*'s experiments with musical technology. Through his association with the *RVS*, Trautwein became a recognised published authority on music technology, publishing the book '*Elektrische Musik*' through the *RVS* in 1930 (see: Fig. 5.10.) This recognition led to a commercial licensing deal with Telefunken to manufacture the *Trautonium* as an 'instrument for everyman', an affordable, universal instrument for the practice of *Hausmusik* (see Chapter 4).



Fig. 5.10 Friedrich Trautwein's 'Elektrische Musik' published by the RVS in 1930. Image: Universitätsarchiv, Universität der Künste, Berlin.

In 1933, the RVS *Trautonium* was renamed the *Volkstrautionium*' (Ela T 42) by Telefunken and redesigned to stylistically and technically integrate with their range of domestic radio products. The mass-consumer aspect of the instrument was signified by the 'Volks' appendage, positioning it as a *Volksprodukt* – a concept that described a family of new mass-consumer products that encapsulated both utilitarianism, modernity and national duty.⁵⁸⁸ The central idea of the *Volksprodukt* was that a specifically National-Socialist affluent society could be built on a new form of centrally-planned, mass-consumption based, mass-produced goods – goods that included, amongst others, the *Volkswagen* (car), *Volksempfänger* (radio), *Volkskühlschrank* (fridge), *Volksklavier* (piano), *Volksgasmaske* (gas mask), *Volksfernseher* (TV), *Volksmotorboot* (pleasure boat) and even the *Volksflugzeug* 'people's aeroplane'. The *Volksprodukt*, under the

⁵⁸⁸ The term *Volksprodukt* originated during the Weimar period but was adopted and exploited by the NSDAP, most famously with the *Volkswagen*.

direction and sponsorship of the DAF, opened the door to a type of technological utopia where cars, aeroplanes, domestic appliances and electronic music would be available to everyone. During the NS period, the *Volksprodukt* gained a secondary meaning where the product itself became a form of propaganda: 'such upscale goods as a *Volkswagen* or people's refrigerator, were also aimed at the formation of a national community'.⁵⁸⁹ The *Volksprodukten* would lift national morale, unify the public, and drive economic improvement leading to the establishment of the *Volksgemeinschaft*.

Inspired by the ubiquity of Ford's Model 'T' automobile, the *Volksprodukt* was an effort to harness 'good technology' – an example of the nationalist reading of rationalisation, the deployment of the 'dictatorship of the fact' across the economy and society. NS rationalisation, it was argued, removed the (Jewish inspired) chaos of Weimar laissez-faire capitalism and replaced it with a scientifically managed economy based on 'perfect' goods. This type of 'anti-capitalist' capitalism was championed by the 'reactionary modernists' of *Deutsche Technik* and *Amt Todt* in the pursuit of a technologically, spiritually and culturally united Volks-Germany. It was this type of nationalist 're-souled modernism', rather than the 'chaotic' socialism of *Neue Musik's* proponents, that inspired Trautwein.

However, as we have seen in Chapter 4.2, the attempted commercialisation of the *Volkstrautionium* in 1933 ended in failure. Additionally, the RVS, representing the apogee of Weimar *Musikbolschewismus*, was at the top of Goebbels' list for retribution during the *Gleichschaltung*.⁵⁹⁰ The RVS was immediately suspended in 1933 and finally closed in 1935. Trautwein, however, had avoided political blacklisting by joining the NSDAP in 1932 (such an early date marks Trautwein out as an enthusiastic Nazi) and becoming the NS regional leader for his home suburb of Berlin Zehlendorf. This show of loyalty allowed Trautwein to maintain a technology research group at the Hochschule, renamed

⁵⁸⁹ See: König, *Volkswagen, Volksempfänger, Volksgemeinschaft*, (2004).

⁵⁹⁰ Schenk, *Die Hochschule für Musik zu Berlin*, 271.

(1.4.1935) the '*Fachgruppe Musik und Technik*', which he equipped with the most recent electronic instruments of the day (Bode's *Melodium*, Vierling's *Elektrochord* and the *Trautonium* alongside sound film, gramophone and *Tefifon*⁵⁹¹ recording equipment from the RVS).⁵⁹²

After the foundation of the Third Reich, Trautwein focussed on solving the audio-technical problems of the new Nazi art-form of mass gatherings. The technological research and development required to meet the demands for this new acoustic environment were assigned to the private company Telefunken, at the time the largest manufacturer of domestic and commercial audio equipment in Germany.

But in addition to Telefunken's work, the *KdF* independently commissioned Friedrich Trautwein and Oskar Vierling⁵⁹³ to research solutions for improved acoustics for music amplification at mass gatherings. In a 1937 article '*Dynamische probleme der musik bei feiern unter freiem himmel*' ('dynamic problems of music in open air celebrations') Trautwein wrote about his research findings but, going further, proposed that technology offered the possibility of a radical synthesis of music and technology. Trautwein argued that the new epoch of National Socialist mass gatherings necessitated a new type of Nazi music:

Today we are experiencing a huge cultural revolution: Ecclesiastical, courtly and bourgeois culture lie behind us, we stand at the beginning of a culture of the *Volksgemeinschaft*. [...] The Führer has emphatically emphasised that this National Socialist art will be an independent art and that it must exclude the

⁵⁹¹ A domestic tape based recording device developed in Germany from 1936. The *Tefifon* used a multitrack looped tape cartridge which recorded sound to physical grooves in a manner similar to a gramophone.

⁵⁹² N.A, 'Die Abteilung Film-Musik der Staatl. Akadem. Hochschule für Musik', 189.

⁵⁹³ Former researcher at the HHI and pioneer of electronic instrument design, particularly the *KdF Grosstonorgel* and *Elektrochord*. Vierling joined the NSDAP while a student c1935.

concepts and forms of a liberalist era. For music, this task means, among other things, the creation of a new form of music for the National Socialist rallies. [...] It is more than a new form of *Gebrauchsmusik*.⁵⁹⁴ 'Mass rally music' (*Grosskundgebungsmusik*) is suitable to form the starting point for the reorganization of all German music into a music of the *Volksgemeinschaft*.⁵⁹⁵

Trautwein coined the term *Grosskundgebungsmusik* or 'Mass Rally Music' not just to describe this new form of music but to define a new Nazi musical genre that would replace the old Weimar era genres such as the detested *Gebrauchsmusik*. He argued, somewhat heretically against the NS concept of spiritual, organic and traditional cultural development, that the evolution of German Music (folk music, chamber music and orchestral music) was led by their respective historical acoustic environments (homes, rooms and concert halls). Trautwein proposed that acoustic scientists could accelerate the musical evolutionary process and create the next step in German Music, suitable for the new epoch of the microphone, amplifier and loudspeaker.

According to Trautwein, the standard Telefunken *Pilzlautsprecher* arrays, while affordable and suitable for speech, were of insufficient sound quality required by *Grosskundgebungsmusik*.⁵⁹⁶ Trautwein, prioritising sound quality over the demands of audio synchronisation, goes on to suggest that only large loudspeaker units could provide sufficient quality for music amplification, and, that the *Pilzlautsprecher* should be replaced by colossal loudspeaker towers ('whose dimensions and power are limited only by cost') that could broadcast amplified music clearly over huge distances:

⁵⁹⁴ By negatively referencing *Gebrauchsmusik*, Trautwein was distancing himself from the modernist Weimar concept of *Gebrauchsmusik* or 'utility music' explored by Hindemith, Weill and other high profile modernists – a genre that was anathema to the NS cultural ideologues.

⁵⁹⁵ Trautwein, 'Dynamische Probleme der Musik bei Feiern unter freiem Himmel', 33–44.

⁵⁹⁶ *Ibid*, 38.

For a maximum distance of 600m a tower height of about 40m should be necessary, the speaker power would have to be at least 2000 watts, in order to achieve dynamic effect [...] a fortissimo should still be heard at a distance of 600m even in a headwind.⁵⁹⁷

Trautwein's proposed loudspeaker tower design (fig. 5.11), though primarily driven by technical requirements, were clearly influenced by Jörg Mager's earlier (1924) much publicised idea of *Sphärophon* towers.⁵⁹⁸ Mager planned to relay microtonal electronic music over Berlin via large towers, the experience of which, he hoped, would inspire the populace to come together as a utopian community (see Chapter 3.4.2).

Here the *Sphärophon* will have revolutionary effects! With its ability to create hurricane-like swellings of tones, it will enable thousands of people at once to share a single musical experience. Thus will entirely new compositions come about by themselves; for whenever masses gather, there stirs a need for the musical expression of a powerful communal feeling, *human sentiment!*⁵⁹⁹

Trautwein proposed a similar utopian outcome for his *Grosskundgebungsmusik* towers, one, however, shaped by Nazi ideology: the experience of the power of this new form of music was the springboard for the formation of the *Volksgemeinschaft* and the spiritual rebirth of the German nation.

⁵⁹⁷ Trautwein, 'Über Die Bedeutung Technischer Forschung', 456.

⁵⁹⁸ Mager, whom Trautwein detested, was well known to Trautwein as a competitor in the field of electronic musical instrument design. Trautwein in a 1932 letter denounced Mager as a communist fantasist: 'Mager, whom I have known since 1928, is undoubtedly to be judged personally only as a psychopath: a self-centred fantasist.' brief von Dr Ing. Friedrich Trautwein am Fritz Stein 1932 Archive of the UdK Berlin.

⁵⁹⁹ Mager, *Eine Neue Epoche der Musik Durch Radio*, 15.

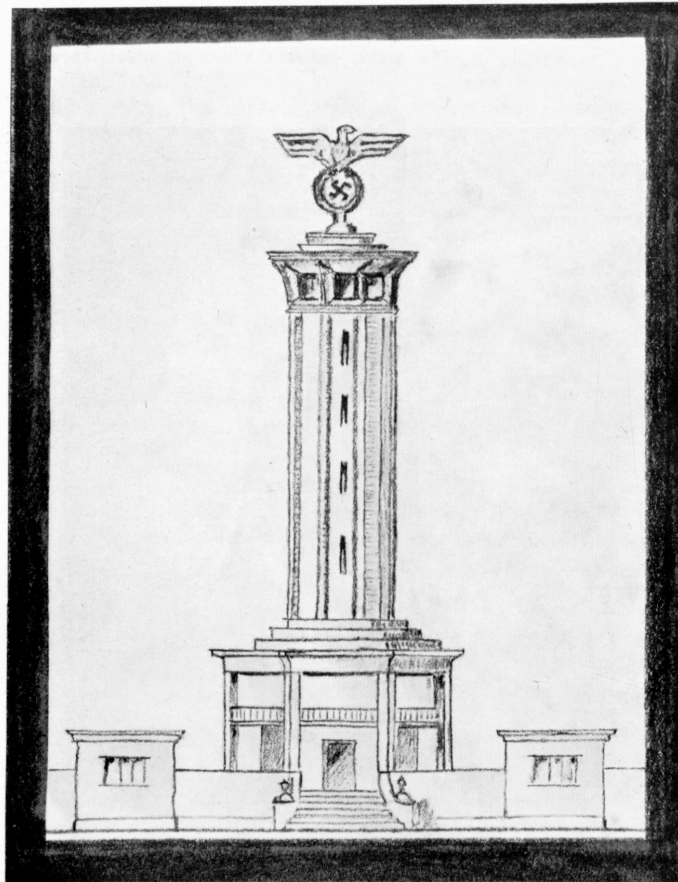


Fig.5.11 Trautwein's design for a mass-rally amplified music loudspeaker tower. The base of the 600m high tower holds a concert hall studio for an orchestra⁶⁰⁰

According to Trautwein, electronic musical instruments were an inherent component of the technological musical synthesis of *Grosskundgebungsmusik*; at the same time as resolving the physics of mass-rally acoustics he enthusiastically promoted them as the new instruments for the new age of German Music. Quoting Maurice Martenot,⁶⁰¹ Trautwein argued that it was necessary for music to respond to modern technology: 'Electricity that has revolutionised our century has so far been unable to give musicians anything. Their instruments remain the same as in the age of candlelight and the stagecoach'.⁶⁰² Using strikingly similar language to Busoni and Mager, Trautwein argued that the call for new tones and sounds by composers such as Wagner, Richard Strauss

⁶⁰⁰ Trautwein, 'Dynamische Probleme der Musik bei Feiern unter freiem Himmel', 33–44.

⁶⁰¹ Pioneering French Inventor of an early electronic instrument the 'Ondes Martenot' patented in 1928.

⁶⁰² Trautwein, 'Über Die Bedeutung Technischer Forschung', 456.

and Bruckner must be met by technological instruments. In a lengthy article for the *Neue Zeitschrift Für Musik* in 1936, Trautwein proposed that the reason that this had not already occurred and why there was a lag between technology and music was both a cultural and a political problem. Musicians (in their 'hundred-year long slumber of instrument technology') were ignorant of technology and afraid of being replaced by 'machines'. Trautwein suggested that this ignorance and fear of technology was, to an extent, justified: Feder's *Deutsche Technik* had around the same time proposed a distinction between two types of technology, one that represented 'authentic Volks-economic improvements' (the automobile, radio and electrification for example) and the other that only pursued profit and caused exploitation, unemployment and misery. Trautwein used a similar distinction for electronic instruments, which, driven by artistic and spiritual need, for collective benefit rather than individual profit, and placed at the service of the Nazi state, had to be distinguished from the soulless products of the Weimar era where technology was 'missued for capitalist purposes'.⁶⁰³

Citing the recent failure of the Neo-Bechstein Piano as an example of this capitalist misuse, 'electric music', he argued, was in the Nazi era finally freed from the materialist tyranny of capitalism and the pursuit of profit ('In the age of National Socialism [...] the economy is not ruler but servant of culture'⁶⁰⁴) and would now blossom under the enlightened patronage of the Nazi state:

It must be remembered that the ruthless exploitation of technical ways of distributing music took place in a time of individualistic capitalism. Today, like any technique and art, the technical ways of distributing music are at the service of the people as a whole.⁶⁰⁵

⁶⁰³ Feder's ideas regarding the differentiation of technology were laid out in a radio interview in 1932 and published in *Deutsche Technik*: 'Funkzweigespräch über die Zukunftsaufgaben der Technik zwischen Staatssekretär Gottfried Feder und Dr. Carl Westphal', 283-284.

⁶⁰⁴ Trautwein, 'Über Die Bedeutung Technischer Forschung', 458.

⁶⁰⁵ Trautwein, 'Wesen und Ziele der Elektromusik', 698.

Proof of the spiritual efficacy of audio technology when used in the correct way was, he argued, the National Socialist revolution itself: an event put in motion when 'all radio and loudspeakers were placed in the service of the spiritual elevation of the German nation'. In the same way, Trautwein proposed that the final resolution of musical *Kultur und Technik* would be brought about by the 'souling' of technology, where the new music would become the vehicle for a spiritual re-awakening of the German *Volk*. Adopting Goebbels' neo-romantic language and citing Hitler's call for 'German artists to use all their strength and fanaticism for National Socialist cultural development' Trautwein concluded that it was the duty of the artist to 'boldly advance into new territory' and 'creatively bring about the fertilisation of art through technology' in 'loyal companionship with technicians'⁶⁰⁶ – a relationship that was, he argued, firmly under the control of the artist:

The task of art today is to deepen and maintain the spiritual elevation of the people. To do this, the artist is dependent on the technical means of the new age and he violates his task if he rejects it in whole or in part without valid reasons. Technology is not a demon, but it is also supported by responsible comrades with whom the artist can and should work with in the best of comradeship for the new Germany.⁶⁰⁷

The *Trautonium*, he argued, had a distinct advantage over acoustic instruments when used at mass rallies due to the ease of amplification and lack of distortion, a benefit which Trautwein demonstrated at the opening of the 1936 Berlin Olympics. Because of its impressive dynamic range, Goebbels had ordained the *Trautonium* as 'the instrument of *Stahlerne Romantik*'⁶⁰⁸ an endorsement that opened up its use by some of the more

⁶⁰⁶ Ibid, 699.

⁶⁰⁷ Ibid, 698.

⁶⁰⁸ Donhauser, *Elektrische Klangmaschinen*, 189.

progressive composers of the Nazi period. Harald Genzmer composed several works for the *Trautonium* including a *Trautonium* quartet amplified through a 600w loudspeaker system previewed at the Dietrich Eckart-Bühne before the Olympics event in 1935:⁶⁰⁹

The Dietrich Eckart-Bühne: Berlin's mighty *Thingstätte*, was recently the scene of a quite remarkable experiment. Dr. Trautwein, the inventor of the electrical musical instrument [called the] "Trautonium", demonstrated the instrument to a number of experts and invited guests on Berlin's huge open-air stage. The experiments were based on two objectives: on one hand, to clarify the technical requirements for the use of this electric musical instrument at the *Thingstätte*, but also to give a sample of the compositions that have been created by musicians for the "Trautonium". Dr Trautwein demonstrated the sound of the "Trautonium" through the virtuoso [Oskar] Sala, accompanied by a group of musicians from the Reichs-army. An amplifier system was used for the transmission, which was adapted to best demonstrate the varied sounds of the 'Trautonium'. The significance of the task set by Dr. Trautwein, is best understood if you imagine that the tones conjured up by the 'Trautonium' must sound unadulterated and true to nature on an open-air stage for more than 20,000 people even up to the most distant rows of seats.⁶¹⁰

Weimar-era electronic instruments such as the *Hellertion* and the *Trautonium* as well as equipment developed for commercial and domestic use –microphones, loudspeakers and amplifiers – were re-defined and repurposed to fit within the new technological *Weltanschauung* defined by Goebbels's *Stählernen Romantik* aesthetic and the new era of mass rallies. An illustration of the NSDAP's change in attitude to technology and music is provided by the occasion of a meeting between Friedrich Trautwein, Joseph Goebbels and state Secretary Walther Funk in April 1935. Trautwein, seeking a sponsor for the

⁶⁰⁹ Trautwein, 'Dynamische Probleme der Musik bei Feiern Unter freiem Himmel', 40.

⁶¹⁰ N.A, 'Elektrische Musik auf der Thingstätte', Radio-Helios, 1294.

ongoing development of his instrument, brought *Trautonium* virtuoso (and ex-Hindemith pupil) Oskar Sala, accompanied by pianist Rudolph Schmidt (Piano professor at the Hochschule who had previously performed with the *Trautonium* at the distinctly modernist *Neue Musik Berlin* festival in 1930) and cellist Herbert Lehmann to perform a selection of Beethoven and Reger at Goebbels's *Propagandaministerium* in Berlin. The discussions during the long meeting concluded that the *Trautonium* was (technically, aesthetically and ideologically) appropriate for the performance of classical music and that the *Trautonium* was particularly suited for use at mass gatherings. At the end of the meeting Goebbels gave official consent for ongoing development. This remarkable volte-face amounted to a tacit approval from the regime for the use of electronic instruments in new German Music and represented a repudiation of past and present techno-pessimistic ideology.⁶¹¹ After this meeting, Goebbels took a particular interest in electronic musical instruments and declared the *Trautonium* the 'instrument of Stählernen Romantik'. Oskar Sala in 1989, reminisced about the meeting:

[during this period] everything became a little more critical, but it didn't become that critical either, because with this famous performance at Goebbels' [*Propagandaministerium*] we were actually knocked out of our difficulties with a little clap of thunder. The complaints from Graener⁶¹² and the other musicians were suddenly quiet; they couldn't do anything against us. When the minister [Goebbels] said, "Carry on," that [criticism] was finished.⁶¹³

The positioning of electronic instruments in a romantic setting, and why Goebbels crowned the *Trautonium* 'the instrument of *Stählernen Romantik*, can perhaps be best explained by a 1942 article on electronic instruments by the journalist W. Hambach:

⁶¹¹ *Elektromusik im propagandaministerium* Deutsches Museum, Archiv, Nachlass Sala.

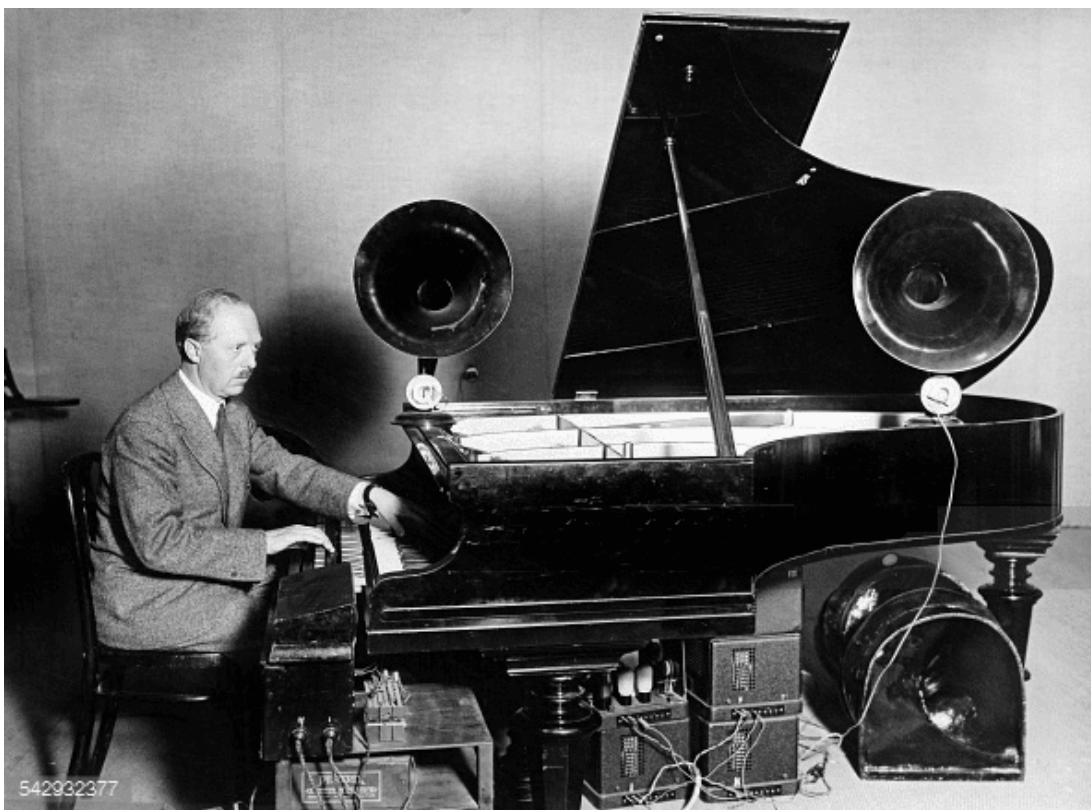
⁶¹² Paul Graener: Vice-President of the *Reichsmusikkammer* from 1934 (after the resignation of Wilhelm Furtwängler) and vociferous opponent of music technology.

⁶¹³ Oskar Sala, Gespräch vom 1. September 1989.

www.klangspiegel.de/trautonium/trautonium-nach-1933#footnote_1_892

[electronic instruments] touch the tonal-spheres of the romantic imagination. The reason is because literary romanticism was looking for its ideal in a clear, intangible, supernatural sound. This would not be dissimilar to the glass harmonica (although the technical solution was completely different). Several times people said that the future belongs to the 'instrument of Stählernen Romantik'. ... we greet it with a passionate heart.⁶¹⁴

Hambach here returns to the 'supernatural' and 'unearthly' (*überirdischen*: unearthly, celestial) qualities of electronic sound first perceived in the early 1920s. The dichotomy of *Kultur und Technik* is resolved by resurrecting the irrational and spiritual traditions of *Lebensphilosophie* and Vitalism: The *Trautonium* is a product of science but powered by an unknown and unknowable power (see Chapter 2.3).



⁶¹⁴ Donhauser, *Elektrische Klangmaschinen*, 190.

Fig. 5.12 Weimar period technology repurposed for the Nazi era: Bruno Helberger's Hellertion (used here as a grand piano attachment). Image: Südwestdeutsche Rundfunkzeitung, 1932.

A similar argument was offered by Bruno Helberger, the inventor with Peter Lertes of the *Hellertion* electronic instrument, who also tried to find a new life for his instrument through Nazi sponsorship. Helberger and Lertes had originally licensed their instrument to Schneider-Opel in Frankfurt ('a light, transportable polyphonic instrument that can be connected to any radio with sound reinforcement' – see: Fig. 5.12) but their commercial ambitions were dashed with the collapse of the company during the financial crisis in 1932.⁶¹⁵ Appealing directly to Goebbels (April 30 1936) and arguing the 4-voice polyphonic superiority of the *Hellertion* over the *Trautonium*, Helberger received a similar approval for the use of the instrument in mass gatherings, an endorsement that led to the use of the instrument at the 1936 Nazi Party Congress in Nuremberg and many other subsequent NSDAP mass gathering. In a self-penned article in the *Frankfurter Zeitung* (1936) Helberger, with his new found enthusiasm for National Socialism, proposed that electronic instruments were the musical voice of the new regime:

It can be claimed that our present worldview, with its commitment to the community of blood and work, finds its commensurate instrumental expression neither in the dogmatically static sound-world of the organ nor in the military instruments such as drums and horns, nor again in the virtuosic instruments of our classical music. Instead we seek, in the organic connection of all things, a sound material that has grown out of the new practical possibilities of our technology and social organisation and that is, so to speak, biologically connected to the present state of our culture and our worldview.⁶¹⁶

⁶¹⁵ After the collapse of the Schneider-Opel company, the *Hellertion* licence was acquired by Telefunken. Trautwein used the *Hellertion* as inspiration for the *Trautonium* and paid a licensing fee to Helberger & Lertes. Donhauser, *Elektrische Klangmaschinen*, 190.

⁶¹⁶ Helberger in: Patteson, *Instruments for new music*, 137.

Here, Helberger quite radically dismisses the type of military and orchestral music that was used in mass rallies and enshrined in German Music tradition and instead argues – along similar lines to Hambach in the earlier passage – that electronic sound had a mystical, ‘biological’ connection to the *Volk*. Helberger’s argument aligned with the type of *Volkisch* biological-technical synthesis of *Deutsche Technik* and Goebbels’s *Stählernen Romantik* aesthetic. The electronic instruments of *Stählernen Romantik* therefore, would provide a spiritual ‘sublime’ quality through their unusual, unearthly sound, as well as the heroic ‘pathos’ described by Goebbels, enabled by their clarity and ability to produce previously unheard, powerful bass tones through amplification.

The reality of the music composed for these instruments did not, however, generally live up to the heady rhetoric that surrounded them. In the autumn of 1935 Sala played the new Trautonium composition ‘Capricio Trautonico’ by the young composer Harald Genzmer at the Dietrich-Eckart Bühne, Berlin, in preparation for the opening of the 1936 Olympic games in what was planned to be the showcase of German Musical talent and technology. Grenzmer, Sala’s former Hochschule colleague under Hindemith and Sachs, had followed the development of the Trautonium since its inception at the Rundfunkversuchsstelle in 1928 and was one of the first to write compositions for the instrument.⁶¹⁷ Despite winning several prizes⁶¹⁸ and being promoted by the RMVP, Genzmer’s music lacked the ‘heroic pathos’ that the *Stählernen Romantik* aesthetic required: his music was acceptable but unremarkable – as Patteson put it: ‘His concerto provided Nazi impresarios with a politically acceptable alternative to Hindemith’s earlier works, filling the demand for original music and conferring a certain artistic legitimacy on the instrument [the *Trautonium*] by ensconcing it in the symphony orchestra.’⁶¹⁹ Despite

⁶¹⁷ Genzmer’s pre-1945 Trautonium compositions include: 1935: Capricio Trautonico, 1938: Concerto for Trautonium and Orchestra, 1938: Bass Solo in F major (arrangement with orchestra), 1940: Konzert Nr. 1 für Trautonium und Orchester.

⁶¹⁸ Der Läufer earned the bronze medal at the 1936 Olympic Games in the music category ‘Compositions for Solo or Chorus.’

⁶¹⁹ Patteson, *Instruments for New Music*, 141.

the exotic flourish supplied by the Trautonium, Genzmer's work rarely strayed beyond the confines of the German late-romantic symphonic tradition.

Following Goebbels' approval, Sala took over the development of the *Trautonium* (while Trautwein concentrated on musical amplification for mass gatherings) and created a 3-voice *Rundfunktrautonium* in 1934-35 followed by a portable *Konzerttrautonium* in 1937-38. With these instruments Sala began (1938) a regular series of *Trautonium* radio concerts *Musik auf dem Trautonium* on the Deutschlandsender station in Berlin. The regular performances (up to 47 in number consisting of a repertoire of mostly classical favourites interspersed with new works by Genzmer) made the Trautonium a household name in Germany.⁶²⁰



Fig. 5.13. Oskar Sala performing on the piano-styled Konzerttrautonium at the Deutschlandsender studio Berlin June 1938. Image: Oskar Sala Fonds am Deutschen Museum. Munich.

Equipped with the new *Konzerttrautonium* which was styled in the fashion of a concert piano (see Fig. 5.13), Sala, often accompanied by Genzmer, performed numerous *Trautonium* concerts around Germany and the military occupied areas – almost fifty

⁶²⁰ Ibid, 184.

appearances are documented between 1940 and early 1944, performing arrangements of works by Handel, Beethoven, Paganini and Busoni as well as new compositions by Josef Ingenbrand, Georg Haentzschel, Gustav Adolf Schlemm and Harald Genzmer – who became the most prolific composer for the instrument.⁶²¹ During this period Sala also began what was to be a lucrative post-war career in movie soundtracks and sound effect design.⁶²²

In 1935 Friedrich Trautwein and Oskar Vierling⁶²³ were commissioned to develop electronic sound reinforcement and amplification techniques for musical use in the mass rallies. Oskar Sala made several Trautonium performances, alongside Trautwein and Vierling at the Dietrich-Eckart Bühne, Berlin in the autumn of 1935. Yet at the same time this popular success symbolised also the end of Trautwein's dream of electronic musical instruments ushering a new age of German Music, as the outbreak of war ended the culture of mass gatherings and with it, Trautwein's '*Grosskundgebungsmusik*' project.⁶²⁴ NS cultural ideology switched from a 1930s era of *Stählerne Romantik* driven by the *Lebensphilosophie* concept of spiritual elevation through mass gathering, to a period of pragmatic appeasement and distraction in support of mobilisation for total war.

⁶²¹ Oskar Sala Fonds am Deutschen Museum. Munich. Retrieved 16-01-21.

<http://www.oskar-sala.de/de/oskar-sala-fonds/oskar-sala/biografie/1935-1945/>

⁶²² *Stürme über dem Mont Blanc* Arnold Fanck 1930, *Armer Hansi*, directed by Frank Leberecht (1943) and *Die Abenteuer des Baron Münchhausen - Eine Winterreise* – directed by Hans Held, Music; Hansom Milde-Meissner 1944.

⁶²³ Early assistant to Jörg Mager on the development of the *Sphäraphon*, PhD student at the *HHI* and inventor of the *Elektrochord* (1930) and with Winston Koch, the *KdF Grösstonorgel* (1936). During the war formed a secret military high frequency research organisation that specialised in navigation, detection and encryption.

⁶²⁴ Trautwein continued working closely with the NS regime through the war and spent time in Paris working on military aviation detection technology. After the war Trautwein tried to resume his activities with 'Electric Music' but his association with the Nazi regime prevented him from playing any major role, instead he took a position at the *Düsseldorfer Konservatorium* (now the Robert Schumann Conservatory school of composition) teaching acoustics and electronics. In 1952 he created a stripped down version of the *Konzerttrautonium* called the 'Electric Monochord' for the WDR Studio for Electronic Music in Köln used by a new generation of German electronic musicians including Eimert, H. Heiss, K. Goeyvaerts, p, Gredinger, H. Pousseur and K. Stockhausen. See: Trautwein, *The Electronic Monochord*, (1956).

Section 5.5: Conclusion

As we have seen in Chapter 4, audio technologies, particularly audio technologies driven by commercial interest, played a key role in the development of mass consumer cultures during the Weimar period. The ability of audio technologies to spread and dominate cultural interaction engendered hopes in both the progressive left and the conservative right to limit the advance of popular mass cultures: the left identifying the democratic potential of technology to establish a universal people's art, and the right hoping to preserve *Bildungsbürgertum* hegemony by turning the efficacy of technological culture against itself with the practice of defensive modernism. However, the unifying tendencies of audio technologies - particularly radio - anticipated by both factions failed to materialise: the popular 'high art' of the modernist left failed to find a mass audience and its evolution was cut short by the accession of the NSDAP in 1933. The defensive modernism policies of Bredow's RRG, which attempted to maintain the Bildung status-quo by broadcasting a diet of *Volks und Heimat* 'improving' content, was also largely rejected by the masses in favour of commercial cultures resulting in a gulf between the state's broadcast content (driven by a paternalistic policy of social stability) and the wishes of 'the masses' who increasingly saw the Weimar government as out of touch with the people. Commercial audio cultures themselves exacerbated the existing geographical and social divides in Germany. The prohibitive cost of radio and gramophone equipment combined with accessibility limited by geography meant that participation in mass consumer cultures was restricted to wealthier city dwellers. Technological modernism and all of its surface gloss and audible novelty increasingly came to be seen by the 'left-behind' agrarian Germans - the majority of the population - as the definition of urban moral and social 'decay' reinforcing the nineteenth century dichotomy between *Kultur und Technik* and the human and the machine.⁶²⁵

⁶²⁵ 'By 1925 one German in three was a city-dweller. A further one-third lived in smaller towns, and the remaining one-third in the country.' Peukert, *The Weimar Republic*, 10.

Audio technologies therefore, on balance, had an overall disruptive and divisive role in Weimar Germany. Not only did they amplify existing divisions between those who benefited from modernity and those who were alienated from it, but they also created an easy target for exploitation by fringe ideologies who were by and large disenfranchised from mainstream politics. The NSDAP specifically took advantage of a rich seam of discontent that rejected both urban modernity and *Bildungsbürgertum* reactionary paternalism. In addition to this, support for the NSDAP was crucially bolstered by an influx of urban white-collar support – the former proponents of *Neue Sachlichkeit* consumer culture – when *Angestellten* hopes of increased wealth and security were finally dashed by the economic crisis of the 1930s.

Through the process of exploiting this division, the NSDAP developed a form of political aesthetics that evolved outside of established political discourse, one that eschewed modernism *and* bourgeois conservative protectionism. Instead the 'new politics' of Nazism was, in the tradition of Le Bon and Sorel, constructed around a language of visual and audible mythic-symbolism, designed to provoke an immediate emotional response: in short a form of technologicised *Erlebnis*. The combination of the *Lebensphilosophie* notion of *Erlebnis* and modern audio technology was in a sense, a resolution of the *Kultur und Technik* dichotomy. The NSDAP ideologues argued that the Nazi use of tainted Weimar technology was only made possible through a re-souling of technology, by taking it from the hands of materialist profiteering (often expressed as Jewish 'big finance') and returning it to the service of the *Volk*. The Nazi *Weltanschauung* defined two types of technology: 'bad', meaning those that existed only for profit, and 'good', meaning those that were at the service of the people. The development of technology would not be left to the vagaries of capitalism but controlled by the enlightened diktat of the state where the economy was a 'servant of the people not the ruler':⁶²⁶ the days where German culture was determined by the profit motive of

⁶²⁶ Trautwein, 'Über Die Bedeutung Technischer Forschung', 458.

consumer mass culture were over. This dichotomous interpretation of technology was applied in general to the attempts by the NSDAP to develop their own Nazi *Kultur* – a culture that was intended to embody the spirit of the new Reich and distance it from what the NSDAP saw as the modernist elite-intellectualism of the Weimar period, as well as from Wilhelmine era bourgeois sentimentalism. This new Nazi art was formed from an amalgamation of concepts appropriated from German history, and subsumed ideas from modernist concepts as well as romanticism and *Lebensphilosophie*. Alongside *Volkisch* vernacular and classical Greek motifs, modernism was incorporated into NS art as an aesthetic that possessed both modern and romantic allusions: modernism became a passive symbol of newness, a sublime, awe-inspiring emblem of technological and military progress designed to elicit an emotional reaction.

The eclectic nature of Nazi ideology was evident in the most prominent manifestation of Nazi culture, the cult of mass gatherings, a ritualistic form of political 'self-worship' that evolved from the post-1918 *Volkisch* theatrical, dialectical genre of *Thingspiel*. The resolution of 'good' *Technik* with 'good' *Kultur* resulted in a mass *Gesamtkunstwerk* of amplified music, political speeches and technologically choreographed movements made possible only by the coincident development of the microphone, amplifier and loudspeaker. While the mainstream of German Music was unable to come to an agreed definition of Nazi music, Friedrich Trautwein proposed that a form of amplified mass-rally music using a combination of electronic and acoustic instruments – *Grosskundgebungsmusik* – would form the basis of the new National Socialist music. Trautwein argued for the 'souling' of *Technik* by combining 'good technology' with German Music to create a new utopian musical movement. The communal witness of this new music, Trautwein argued, would be a socially transformative experience – in essence a mass, electronic *Erlebnis* that would transform the unruly 'masses' into the *Volksgemeinschaft*.

By harnessing the power of 'good technology' to create a technologically evolved form of utopian German Music, the type of resolution of *Kultur und Technik* proposed by Trautwein was designed to ensure the supremacy of the German Music tradition. German Music in Trautwein's mind retained the nineteenth-century spiritual connotations championed by Pfitzner and others, but was closer to Busoni's concept of a spiritual music achieved through an expanded instrumentarium. Trautwein's vision however, ended abruptly in 1939 with the termination of the mass gathering project and the NSDAP's simultaneous adoption of mass cultures as a distraction in anticipation of total war. Ultimately, the NSDAP was willing to abandon *Kultur* in exchange for social compliance and military expansion.

Chapter 6: The Role of Audio Technology in the Transition From the Weimar Republic to the Nazi State

Conclusion

My research set out to investigate the nature of audio technologies and the impact they had on German society and music during the Weimar and Nazi periods. By following the development of ideas formulated during the nineteenth century and their later evolution and collision with modernity during the periods of crises following the defeat of the First World War, I have demonstrated that audio technology had a disruptive effect on German Music and on German society: audio technologies catalysed, amplified and polarised existing anxieties regarding technological modernity, anxieties that originated in the traumatic societal transformations during the German industrial revolution. The effect of this technological disruption was felt more profoundly in Germany than other nations due to a number of coincident factors that combined at this point in history: these include the political polarisation and instability of the Weimar republic during a period of experimentation with modernity; the dawn of the 'ensoniment' era in which audible cultures powered by commerce became dominant; and the persistence of 19th-century mystical and Romantic concepts that framed the reception of audio technology, notably the utopian aspirations for German Music, Romantic ideas about perception (*Erlebnis*), and the *Kultur und Technik* dichotomy. This composite set of factors, unique to Germany, meant that the influence of audio technology extended beyond artistic and commercial sectors to have a profound impact on German society: audio technology – and music with it – had become a political agent whose nature was determined by its ownership, control and access. The growth of technologically-powered musical cultures, therefore,

were not solely a product of the socio-political crises of the Weimar republic, but a contributory factor in their development.

The arrival of audio technology followed in the wake of German industrialisation, an event that gave rise to a dichotomous discourse that placed material, technological modernity in seemingly eternal and irresolvable conflict with the organic spiritual-human, tradition and the German *Geist*. The post-1918 era of audio technologies began, therefore, defined by new ideas that put the human in conflict with the machine in what became known as the *Kultur und Technik* dichotomy. This polar discourse however, through the gradual acceptance of technology into everyday life – particularly through the expansion of audio technology, began to loosen and converge allowing for the possibility of a progressive machine-human future as well as antithetical conflict. This *Kultur und Technik* schism had a profound impact on the direction of German thought during the first half of the twentieth century, manifesting as a primary theme in the literature, art and music of the period.

In the chaotic political vacuum that followed the 1918 collapse of the Wilhelmine empire, new utopian ideas emerged promising national salvation, ideas that reimagined the human – as individuals and en-masse – in relation to technology. This utopian preoccupation, shared by both left and right factions, was again defined by *Kultur und Technik* and either aligned the human with technology: rationalisation, classical modernism and Jünger's techno-dystopia for example, or in contrast, proposed a retreat from modernity through a return to a mythic, organic past: *Lebensphilosophie*, the youth groups, Vitalism, *Volkisch* nationalism and so-on.

The particularly uncontrollable, invasive and intrusive nature of audio technology further polarised this conflict: by crossing the boundary between the economic necessities of industry to transform culture and art and from the utilitarian world of work to colonise

the home and everyday life, audio technology disrupted the very core of German *Kultur*. The technological commodification of music undermined the economic basis of German Music (the concert hall and the domestic practice of *Hausmusik*) and in doing so fuelled *Bildungsbürgertum* resentment towards Weimar modernity. This commercial disruption resulted in new forms of mass culture that wrested control of German Music from the elites by gradually eroding the traditions of German Music and replacing them with more profitable forms of electronically reproduced music whose character was directed largely by a virtuous cycle of consumer demand and commercial profit. Commercialised musical technology found a new mass audience, created by capturing the interest of existing 'traditional' music audiences but also by developing a new class of musical consumer. The adoption of audio technology was further accelerated by the defensive anti-technological attitudes of the *Bildungsbürgertum* who increasingly redefined German Music in conservative and romantic terms and rejected the new audio formats of gramophone, radio and sound-film as materialist mediation. The consequence of this defensive position was that German Music and *Kultur* became increasingly ossified and irrelevant to its intended audience, the German *Volk*, who rejected the elite cultures of romanticism and instead adopted the mass cultures of rationalisation.

Ultimately however, the hostility of the *Bildungsbürgertum* towards audio technology was gradually eroded due to the concerted efforts of the gramophone and radio industry in promoting the new technologies. As Taylor describes it, this was a lengthy procedure: 'convincing people that to purchase recorded music was preferable to making it themselves was a slow and arduous process'.⁶²⁷ The new technologies of the gramophone and the radio were aggressively marketed as symbols of social status and of cultural refinement, directly appealing to the social-hierarchical sensibilities of the *Bildungsbürgertum* with the result that the middle classes, the former defenders of *Bildung*, became the first demographic group in German society to adopt commercial

⁶²⁷ Taylor, *Music and capitalism*, 35.

technological cultures. The idea that technology was new, 'better' and continually improving (i.e. the progressive tenets of modernism rather than the static hierarchies of German tradition) was further emphasised by the symbolic replacement of 'old' technology by new: most significantly in the middle-class household, this involved the replacement of the *Bildung*-oriented status symbol (and bulwark of *Kultur* through the practice of *Hausmusik*) of the domestic piano by the radio and gramophone (and, in some cases, electronic musical instruments). Through this process, audio technologies became the vanguard for a changing relationship towards technology: for the first time technology was accepted into the everyday lives of German people (or at least those that could afford them) in the form of the radio, gramophone and sound-film, a paradigm-shift that transformed the perception of technology from a workplace necessity to a domestic, aspirational symbol of social status.

Catalysed by the simultaneous decline in the influence of *Kultur* and the rise in consumer cultures, elements of German society (predominantly urban) began to coalesce around cultures beyond *Bildungsbürgertum* control, a process that resulted in the emergence of a new class-demographic: the 'modern', urban *Angestellten*. This new class celebrated their liberation from the oppressive structures of family, church and village through newly evolved forms of popular music and cultures of consumption. At the same time however, they exchanged their previous certainties for a precarious existence removed from traditional support structures, isolated from conventional political discourses and reliant on a social-rationalisation belief in exponential consumer led growth. It was this demographic that provided the NSDAP with crucial urban support following the financial collapse of 1929, support that allowed the NSDAP to extend their power base beyond their rural constituency and 'seize' power in 1933.

The rapid and unexpected success of the Nazi party was to a great extent also due to their ability to successfully co-opt the techniques and apparatus of technological mass

media. The capacity of mass media to connect the new-politics of National Socialism directly with an audience complemented Nazism's mythic ideology founded on *Lebensphilosophie* concepts of *Erlebnis* (the 'lived experience'), *Unmittelbarkeit* ('immediacy') and *das Ganze* ('totality'), rather than the type of intellectual inquiry required by mainstream political discourses. In this way the NSDAP established both a new method of communication and a new mass audience habituated to the interpretation of symbolic images (the *Angestellten* class as a primary example). This new type of mythic 'aestheticised politics' evolved from a combination of sources: crowd psychology (Le Bon and others), *Volkisch* myth, the German liturgical tradition and advertising techniques, all now united through the new political space of the microphone, loudspeaker, sound-film, electronic musical instrument and the radio.

The visual symbolism of the Nazi myth-image in art, film and architecture has been widely researched and documented; however, the sonic aspects of what became a combined 'total culture' have been largely overlooked – or at least examined only in isolation as music, propaganda, speech, censorship etc. This study demonstrates that a significant part of the Nazi's myth-image was built around the medium of audio technology. The aural components of this myth-image created a combined 'soundscape': a distinctive sonic environment constructed from radio broadcasts (the *Sondermeldungen* and *Wunschkonzert* explored in this study), amplified music, speech, sonic audio symbols (short, repetitive thematic fanfares used in film, newsreels, radio idents and call-signals), electronic musical instruments, nationalist popular songs (distributed as gramophone recordings designed to replace jazz and schlager music) and a carefully curated and controlled repertoire of traditional and new classical music. This new sonic language became the most prominent, ubiquitous and emblematic expression of Nazi ideology and formed the primary attributes of Nazi culture: propaganda, theatrical and musical events (*Thingstätte* and musical performances) and the ritualised cult of mass gatherings. Although Nazi ideology superficially rejected technological

materialism, its symbolic form of 'new politics' had evolved through technology and was disseminated via technology – an outcome that could only have occurred through a technological resolution, a fusing of premodern sentiments with modern machines, following the adoption of technology established during the Weimar era. This resolution with technology was in essence an attempted resolution of the *Kultur und Technik* schism that had dogged German thought since the beginning of the twentieth century. The NSDAP under direction of Goebbels retained the pragmatic approach to *Kultur und Technik* adopted by the *Bildungsbürgertum* earlier in the Weimar period; in other words, they defiantly upheld the *Bildungs* ideal of the inviolable nature of *Kultur* in public, but in practice they were willing to adopt elements of *Technik* (and the 'modern' cultures associated with it) in order to secure their political objectives.

The destruction of Germany following the total defeat of the Nazi regime brought about a complete reassessment of the nation's relationship with technology. In the case of West Germany, embracing technology, American finance (in the form of the Marshall plan) and western culture in general, meant that West Germany was able to rapidly construct a new state in the western liberal-democratic mould and distance themselves from their Nazi past. West German new music was showcased through the government and US-sponsored *Internationale Ferienkurse für Neue Musik* in Darmstadt and the *elektronische Musik* studios of NDR – dominated by the innovations of Stockhausen, Eimert, Beyer, Eppler amongst others – which were specifically presented as representing as an audible break with the Nazi past and a musical manifestation of liberal modernity. Although the now discredited and outdated restrictions of *Bildung*, *Kultur und Technik* and 19th-century romanticism had been erased, the use of music as a political agent remained, forming a cold-war version of Weimar and Nazi *Kulturpolitik*. A tenuous link with earlier Weimar electronic music instrument innovation continued through the post-war designs of Trautwein and Harald Bode, who were commissioned to

equip the NWDR studios (Köln 1951) with new instruments,⁶²⁸ and Carl Orff's involvement with the Siemens Electronic Music Studio (München 1959). However, the techno-utopian social-revolutionary ideals of Busoni, Mager and Trautwein were now replaced with the rather austere credo of 1950s serialism which required a dense polyphony of simple sine tones rather than the dynamic *Ur-Musik* imagined by the Weimar electronic music pioneers.

Weimar experimentation in audio technology was generative in more narrowly stylistic and technical ways upon later generations of musicians. Busoni's former student Edgard Varèse, who left Germany for New York, quickly discarded Busoni's utopian romanticism but retained and extended his ideas of a new sonic universe, incorporating electronic and natural sound into his compositions which had a decisive influence on a generation of later 20th-century modern composers. Toch and Hindemith's 1930s experiments with the gramophone as a compositional and sound creation device paved the way for the use of the tape recorder as an instrument in the *musique concrète* of Pierre Schaeffer and Pierre Henry and later experiments with digital sampling and 'turntablism'.

The Weimar period debates concerning the relationship between the human and the machine have a continuing unresolved resonance in the present day: the 'aestheticised politics' initiated in the Weimar and NS eras, now powered by search algorithms and symbolic soundbites, has become the default form of political communication, relying not on debate but on emotional response in a 21st century variant of *Erlebnis*. The forces of technological consumer-led economic growth continue to be opposed by a back-to-nature ecological movement that emphasises the spiritual and organic nature of the human in relation to the machine. Meanwhile, digital listening and music production, while opening up previously unimaginable access to new music and global audiences, perpetuate the musical homogenising and decompositional effects that concerned the

⁶²⁸ Trautwein's *Elektronische Monochord* and Bode's *Melochord*.

Weimar *Kulturkritik* of the 1930s: the 'Spotify-core'⁶²⁹ practice of engineering music to specifically exploit discovery algorithms and satisfy the listeners machine-determined choices (ultimately to be delivered by A.I. applications without any human intervention at all), directly reflect the Weimar period anxieties of soulless machine music and the intrusion of technology into the core of our culture and society. My aim, therefore, in conducting this study is ultimately to present the debates and concerns of the Weimar and Nazi periods not purely as historical events but to highlight their ongoing resonance in the continuing unresolved relationship between society and technology.

⁶²⁹ A genre of music with an increasingly homogenous character driven by the twin algorithmically powered factors of limited attention span and almost infinite choice – named after Spotify the (current) leading global internet music platform.

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