Musical Urbanism between Radicalism and Tradition: A Reflection on the Architectural Discourse of the 1920s

Florian Edler
Faculty of Music, Berlin University of the Arts, Berlin D-10963, Germany

Abstract: In the aftermath of the First World War, various compositions emerged that explored the phenomenon of the modern city by translating the clamorous sounds of urban environments and reflecting them artistically in the medium of music. With the rendering of poetic and esoteric moods unrelated to practical life considered outdated, musical preoccupation with modern architecture mostly concerned social aspects, such as people’s circumstances, their emotional rootedness to bygone conditions and the search for orientation in an environment characterized by technology. There is a parallel here with contemporary architectural debates in which tension between modernism and traditionalism also played a key role.

Key words: Modernist architecture, machine music, musical urbanism, 1920s, Antheil, Hindemith, Prokofiev.

1. Introduction

In the 1920s, architectural debates in European countries affected by the destruction and humanitarian catastrophes of the First World War were characterized by the pursuit of modernist approaches on the one hand and traditionalist approaches on the other. Modernist demands for a change in style reflected the widespread perception that the old Europe—which had evolved historically and was bound up in tradition—had ended with the war and that the time had come for social and cultural renewal. They also came out of practical considerations, such as improvements in sanitation and transport opportunities or dealing with the huge requirement for living space [1], however, traditionalist approaches related in particular to the building traditions of the pre-industrial age and often followed initiatives from the media, politics and public against inhumane, unnatural living conditions in modern cities [2]. These kinds of tendencies reinforced a requirement to offer emotional compensation for war experiences. Despite the difference between the two approaches, the idea of a strict division between modernistic and traditionalist concepts can be viewed as outdated, with complex mutual permeation to be assumed instead [3].

This study examines the phenomenon that tension between avant-garde and traditional stylistic devices also characterize contemporary pieces of music that take as their theme the construction of new cities and—related to this—the creation of changed social structures. As a result, the form of such compositions that come within the umbrella term of musical urbanism contrasts with other concepts of machine music in which mechanical elements feature prominently as dominant moments of attraction. The three compositions presented below—examples of the phenomenon of urbanism—differ from one another in terms of their genre and their national and political contexts. With comparative perspectives, it is essential first to examine the country-specific developments in urban construction to which each piece of music is referring, and secondly which predominant characteristics are demonstrated by the musical reflection on contemporary architectural ideas. The era of machine music (a sub-section of musical urbanism)—a caesura in the sense of a break with the traditions of art music—can only be understood by looking at it from a historical perspective. For this
Musical Urbanism between Radicalism and Tradition: A Reflection on the Architectural Discourse of the 1920s

reason, by way of introduction, the challenge to established aesthetic premises that forms the basis of the machine music discourse will be explained.

2. The Aesthetics of the Mechanical as a Prerequisite of Musical Urbanism

In the context of the aesthetics of music in the 19th century—the impetus for which came out of Germany—the concept of the mechanical had, for the most part, consistently negative connotations. It came down to providing proof of music’s artistic merit by separating real music from musical craftsmanship. The special feature of music as an art form was considered to be something that could be felt rather than proved, while the purely skilled side of music became particularly evident in virtuoso pieces frequently compared to industrial production or masterly circus performances. The odium of mechanical music, which in a rather one-sided way was oriented to the effect it had on the senses, also clung to music whose charm essentially consisted of sound effects such as instrumentation. Its positive opposite was the organic associated with the living and the human.

Against this backdrop, theses developed by Italian Futurists on the eve of the First World War were nothing less than a revolution in the nature of art. Filippo Tommaso Marinetti saw the basis of romanticism as the association of “beauty” and “woman”, and by rejecting the traditional cult of love demanded the creation of a positive emotional relationship or “identification” even with machines [4]. His assessment that “a racing car whose hood is adorned with great pipes” is “more beautiful than the Nike of Samothrace” became renowned [5]. Other futurists asserted: “We feel mechanically, we feel made of steel, we too are machines, we too are mechanised!” [6]. The removal of barriers between art and life by aestheticising items of practical use, replacing works with manifestos, including struggles and protest campaigns in artistic performance, aestheticising war, relativising the importance of epoch-spanning works of art and turning away from the culture of the museum shook the foundations of traditional perceptions of art.

In the field of music, such aesthetic approaches to cultural policy were primarily of long-term significance. Although there were isolated attempts at futuristic realizations of noise music, experimental music only developed as a specific area of music and became more widespread from the second half of the 20th century. Noise and aggression tend to be avoided here, instead the inclusion of everyday items and unusual playing guidelines lead to a development of particular aesthetic effects and specific types of communication through music. It is only recently that so called “soundscapes” around people have been examined for how recognizable they are in specific and local terms, and their inclusion in compositions presents a challenge for contemporary music [7].

Immediately after the First World War, however, composers were inspired by the idea of machine music. With many questioning what the culture of the old Europe represented, shared catastrophic experiences also led to radically new forms of musical expression. The change of direction to the mechanical, the everyday and the technical, to architecture and the modern city’s attitude to life was the compositional counterpart to an innovative treatment of rhythm on the one hand by clearly emphasizing percussive elements, shaping machine-like uniform movement and extremely fast tempi, and on the other the replacement of the traditional major-minor tonality by new structures such as modality, free tonality, polytonality, free atonality and dodecaphony.

France and Paris in particular played a key role in the creation of mechanical music. Marinetti’s Manifesto of Futurism was published in 1909 in the “capital of the 19th century” [8] as was Jean Cocteau’s collection of aphorisms Le Coq et l’Arlequin in 1918. The two best known compositions for classical instruments directly referring to machines
were also premiered here: Darius Milhaud’s machines agricoles in 1919 and Arthur Honegger’s pacific 231 in 1923.

The aesthetic stance of these two works coincides with Cocteau’s views. Not only was he a driving force in establishing the “Groupe des Six” (whose members included Milhaud and Honegger), but he also redefined “ars gallica”, differentiating it from impressionism and its literary parallel, symbolism. In Le Coq et l’Arlequin, Cocteau picked up the theme of machine music, but distanced himself from the futurists’ theses on the subject.

“Much fun has been made of an aphorism of mine quoted in an article in the Mercure de France: “An artist must swallow a locomotive and bring up a pipe.” I meant by this that neither painter nor musician should make use of the spectacle afforded by machinery in order to render their art mechanical, but should make use of the measured exaltation aroused in them by that spectacle in order to express other things of a more intimate kind.

Machinery and American buildings resemble Greek art in so far as their utility endows them with an aridity and a grandeur devoid of any superfluity.

But they are not art. The function of art consists in seizing the spirit of the age and extracting from the contemplation of this practical aridity an antidote to the beauty of the useless, which encourages superfluity [9].”

While Cocteau determines the machine as a trigger of feelings to be portrayed musically and not perhaps as an aesthetic object, he continues an argument of autonomy aesthetics which justified concepts of instrumental music in the 19th century related to the subject and the programme. For Cocteau as well, the intellectual and psychological is expressed in artificial music. Consequently, feelings of simplicity, appropriateness, elegance, precision and efficiency are the subjects of a music inspired by machines and the architecture of American skyscrapers—Cocteau mentions both directly in the same context. Such intentions are clearly discernible in Milhaud’s Machines agricoles in particular. The texts used in “Six Pastorales pour une voix et sept instruments”, taken from the catalogue of an agricultural machinery exhibition visited by the composer in 1913, each describe the functions and merits of a particular machine. The effect was not intended to be comical, as was repeatedly assumed [10], rather the composer’s admiration for the elegance and complexity of the exhibited items correlates to a polyphonic and polymodal composition, executed by a chamber music ensemble, that is reminiscent of Arnold Schönberg’s Pierrot lunaire (1912) and Maurice Ravel’s Trois Poèmes de Stéphane Mallarmé (1913) and yet becomes more transparent with the absence of a piano. While the compositions are all well-rounded, they clearly contrast with one another. The restraint with regard to dynamic differentiation and the complete renunciation of variations in tempi (ritardandi, accelerandi and rubati) reflect the regularity of mechanical movement. The most important artificial element comes with the structure that imitates the counterpoint, such as the strict seven-part canon in the middle section of the third composition (La Lieusee).

A locomotive setting off and gradually reaching top speed before finally coming to a halt is portrayed in an obvious way in Honegger’s “mouvement symphonique” Pacific 231. However, the work is not confined to onomatopoeic imitation, but stands out because of its rhythmic, harmonic, contrapuntal and formal complexity. While Honegger mainly talked about the subject of the piece during an explanation given in 1924, in later years, he emphasized its autonomous musical conception, countering the current classification of the work as programme music. As regards tradition, he emphasized both the underlying “figured chorale”, with reference to Johann Sebastian Bach, and the fact that he only added the title in terms of a “romantic idea” once the composition was finished [11].

Neither the locomotive nor even agricultural machinery provides the association between machines and the urban atmosphere in the way emphasized by futurists as effectively as Cocteau. In contrast, piano works which are indebted to an aesthetic of the musical-mechanical, and with which American composer George Antheil made his Paris debut, originate in reflections on modern urban development. In this respect they are examples of musical urbanism. This realization however assumes consideration of the origins of the Airplane Sonata—whose 1923 premiere caused a scandal—as described in his autobiography “Bad Boy of Music” published in 1945. There are doubts as to the authenticity of the inner experiences related and how they are alleged to have preceded the creative process, given the distance in time between when they occurred and when the autobiography was published. However, a letter written during the creative process proves at least that the origin of the sonata was primarily influenced by dreams. Antheil describes the substance of them as follows: “The last sonata, etc. is not yet complete and is the result of a series of dreams I had recently. It seems as if in these dreams I for once caught the true significance and atmosphere of these giant engines and things that move about us” [12]. In contrast the composer in his autobiography emphasises other motives in the detailed account of the first of two dreams which he had one night in early 1922.

“I dreamed, simply, that I was living during some future period, a time of “The Great Peace”. This peace followed a great war, a war even larger than World War I, of which I had once very nearly become a part. The great new war had just concluded, and I remember walking alongside of some European or Asiatic river filled to the brim with corpses. But it was springtime, now, and all-pervading peace filled the air; the river and the corpses had disappeared, and I was back in my homeland”.

Lonely streamlined buildings were built into the hillsides and upon the flat plains, the houses were beautiful, each with its swimming pool, its tennis court, its sheltered garden. Some of the houses were large, others small, but all were handsome. Children were running about in the nearby parks, well clothed, well fed and well educated.

The scene had the atmosphere of Chirico, without the atmosphere of ruins, factories or wars. Except for the music of children’s voices, everything was strangely quiet.

I found myself walking along a pathway of small residential buildings. Out of each of them, as I passed it, came the music of a symphony orchestra playing—my music!

But it was not the music similar to anything I had written or, indeed, to anything I had known. It was not like Holst’s “The Planets” or Stravinsky’s “Sacre” in the sense that it was at once more difficult to catch with the ear, and easier. Its nearest relative was Beethoven and Brahms, but without their chords, harmonies, melodies. It was a sort of “Brotherhood of Man” music, the quadruple essence of nobility and man’s greatest spiritual efforts.

Needless to say, I have never been able to write this symphony awake, although, in many succeeding compositions, I’ve tried.

I woke up, and as I have a very retentive, almost “photographic ear, etc. I immediately snatched a piece of blank music paper and, for the next two hours, wrestled with the problem of getting down as many fragments of the music as I could remember. These, as I discovered the following morning, were very unsatisfactory; they were but chords, pieces of melodies, a few rhythms I had never heard awake, and some rapid orchestral sketches” [13].

It follows the retelling of a second dream in which Antheil sees a “girl with dark short hair” in the “smoking ruins of a European battlefield”, takes her by the hand and leads her away. The beginnings of a psychoanalytical interpretation of dreams follow the
description of how the composition progressed. He had played through the draft notes, “almost unintelligible scratching” on the piano like “hieroglyphics, through which I could escape into my true future—if I could only decipher them in time, etc.. Then, grabbing a piece of music paper, I wrote as if by automatic writing a whole but very difficult piano sonata, the “Airplane Sonata”. I called it that because, as a symbol, the airplane seemed most indicative of that future into which I wanted to escape” [13].

While enthusiasm for a machine, the aircraft engine, is determined in the above reference to have been a motif that inspired the Airplane Sonata, the dream related in the autobiography is about man’s situation in an age shattered by the shock of modern mechanised warfare. Even as an American who had not been called up for military service, Antheil turns out to have been deeply affected by what happened in Europe during the war. Foreboding of a second world war should not be interpreted as him blatantly attributing prophetic abilities to himself since it appears justified in an age of ideological opposites where a nuclear deterrent does not yet exist to curb a willingness to use military force to resolve conflicts between the great powers. A positive vision confronts wartime experiences, given concrete form as urban development in the first dream. Even though the city portrayed is in America, the vision can be transferred to post-war Europe. The cityscape does not at all reflect the kind of outsized skyscraper construction that dwarfs humans, of the kind Cocteau associated with American architecture. Instead single-family houses dominate whose different sizes indicate continuing social difference despite a generally high standard of living. The loose grouping of buildings allows a conclusion to be drawn about a liberal political order. With the link between urban life and living surrounded by greenery, Antheil takes up the concept reminiscent of the “garden city”. The plane symbolizes a prosperous future made possible by technology. At the same time, it stands for the realization of man’s dream of flying which had long been thought unrealizable in an age of undreamt-of possibilities. Correspondingly the music in the dream, the approximate likeness of which is portrayed by the sonata—Plato’s allegory of the cave forms the model for one such relationship between idea and appearance—stands out for being radically new. Antheil compares its effect with composers who personified traditional 19th century German music: Beethoven and Brahms.

This association is astonishing because when it comes to formal design, Antheil largely breaks with classical norms, although it would have been entirely possible here to have a link to tradition. This is evident from the Schönberg school’s contemporaneous reception of Brahms. The “mechanistic quality of Antheil’s sonata” lies however among other things in “the music’s block structure, the ostinato units, etc, the static nature of the harmonic movement and the repetitive melodic structure” [12], and these techniques which contribute essentially to the impression of untouched freshness and apparent naïveté, not shrinking spontaneity, oppose the principles of the organic, the logical and the developing. At the same time, Antheil avoids static insistence on patterns and does not at all reject the shaping of dynamic processes. For example, a phrygian tetrachord F sharp-G-A-B in the “block” used in bar 71 (Fig. 1) of the first movement after a general rest not only forms the melodic starting point, but also the link to the concluding phrase of the previous section (G-A-B). The crab form of the tetrachord leads to its rhythmically shortened repetition, and the repetition of this process introduces the G sharp “tone which prepares the expansion of the tone space to C sharp” (through the fifth-relationship). This high range is emphatically staged by stretching time and being accompanied by the ostinato break of a fourth chord, whose higher position makes it stand out as a brighter sound than the one before. Splitting the second B-C sharp, entirely in a Beethovenian pattern,
achieves a very high degree of condensing, logically resulting in a climax and the transition to a new section. With the second D flat (=C sharp)-B taking over in the middle part in bar 79 and its extension to the minor third D-B in the next, mechanically-shaped percussive section, a motivic, albeit associatively produced connection is made.

In the “block” starting in bar 81 as well—which would match the sonata pattern according to the highpoint of the development and the transition to the reprise—processes occur which Arnold Schönberg describes as condensation (by dissolving the source material) (citation from page 58 in Ref. [14]), as well as a developing variation (by adding new material) (citation from pages 8 and 9 in Ref. [14]) and verified as dynamic moments in classical works. At the same time here, as in other places in the first movement, the alternation of percussive-repetitive and lyrical passages shows a wealth of extreme contrasts to their best advantage, as described as a romantic feature in Beethoven from the early 19th century.

It is also conceivable that when Antheil associates his music with Beethoven and Brahms rather than with Holst and Stravinsky, he generally has in mind his music’s dreamlike and poetic character reminiscent of Romanticism. An example of such an atmosphere comes in the middle part (bars 23-31) of the three-part second movement. With the counterpoint of two syncopatedly interwoven, yet in themselves simple parts positioned closely together, structural complexity is produced by the various combinations of intervals in a repeated group of three notes (lower part) as well as from the polytonal addition of black keys (pentatonic) and white keys (C major) into an eight-note motif at the start followed by a ten-note motif (Fig. 2). Rhythmical compression, trills and the extension of the sound space through

---

Fig. 1  Airplane sonata, first movement, G. Antheil.
Musical Urbanism between Radicalism and Tradition: A Reflection on the Architectural Discourse of the 1920s

Fig. 2 Airplane sonata, second movement, G. Antheil.

Arpeggios increase the tension building up during its rhythmically monotonous beginning. The mechanical and the poetic are not mutually exclusive and achieve a synthesis.

4. Paul Hindemith: Wir Bauen Eine Stadt

With the airplane sonata, Antheil introduced himself as a composer and performer to Paris audiences who were always interested in sensational innovations, and earned himself the reputation of an enfant terrible of music. A closer look at the visionary programme and the composition techniques involving traditional processes makes it clear that modernity was not an end in itself for Antheil, but rather was secondary to the utopian vision of a humane and peaceful social order in which reverting to tradition was by no means suppressed. Unsettling or aggressive moments do not play a dominant role in his music. Conversely, the relationship between tradition and modernity is portrayed in Paul Hindemith’s Wir bauen eine Stadt. Spiel für Kinder. An ethical and social orientation is predetermined through the genre of a dramatic piece for children just as much as it is through the moderate handling of innovative stylistic devices. The innovative aspects of the piece are less obvious however.

In the early 1920s, as Antheil was appearing in Paris, Hindemith was being influenced by the futuristic rebellion against the bourgeois culture of music. The closing ragtime from the Suite 1922 for piano became famous for its “instructions” such as: “Play this piece wildly but in strict rhythm, like a machine”. Towards the end of the decade the composer had moved away from radical stances. Distancing himself from well-established concert activities reflected his decision to dedicate himself to music for ordinary people [15] in which he identified “one of the very few artistic activities worth working for” [16]. He considered artistic encounters with the kind of people who were generally not used to being around the latest music to be fulfilling for a contemporary composer. In this respect a theme concerning the general public such as the construction of the city matched his moral and aesthetic intentions.

Wir bauen eine Stadt premiered on June 21, 1930 at the end of Neue Musik 1930 conference at the Berlin Academy of Music. It had three pedagogical objectives. First is the genuinely didactical objective of introducing children to new music. This was the link with the conference which continued and brought to a close the event tradition established in 1921 with the “Donaueschinger Kammermusikaufführungen zur Förderung zeitgenössischer Tonkunst (Donaueschingen chamber music recitals in
Musical Urbanism between Radicalism and Tradition: A Reflection on the Architectural Discourse of the 1920s

One of the conference topics was children’s games and songs. Hindemith focused heavily on this genre of composition during this period, consciously distancing himself from concert music. Second, it was about designing a work for the stage that allowed scope for further creative arrangement by those performing it. This combined the ideas of Hindemith, who left the instruments involved and number of participants open and expressly intended it to be possible for individual movements to be omitted and others included [18], with those of the librettist Robert Seitz, who argued in favour of “leaving children to play cheerily and happily without having gimmicks from theatre hammered into them” [19]. Consequently, children playing and making music is seen as the primary purpose, with “entertainment”, especially of adult audiences, at best a minor aspect [18]. At the same time, unlike other, more didactic contributions to this genre, the children discuss and agree details of the staging with one another. Humorous elements contribute an amusing and playful tone suitable for children: maggot-ridden cheese (No. 7), the teacher moaning about the stupid boy who eats chalk for breakfast, the washerwoman’s annoyance at filthy washing that is practically impossible to clean and the bloodthirsty actions of an Indian chief (No. 8). A third intention—and the choice of subject is closely linked to this—comes in encouraging “a sense of society” in children [20]. The communality of action is repeatedly emphasized, in particular during the planning and building phases. Hence the title of the piece, which is also the first choir’s first line, and the final line in the second song: “When we all help out, our city is soon built”.

The first three of ten numbers in all deal with planning and building the urban development. The theme of numbers 4-6 is people coming to live there and the new city’s transport connections, numbers 7 and 8 are about everyday life, and numbers 9 and 10 are about order and organization: Thieves out at night are detained and traffic is controlled by a policemn. A moment of political utopia lies in the reversal in the balance of power: “Adults have no say here. Only children rule in this town” [21].

A third person involved in this work published by Schott Verlag in Mainz was Hindemith’s friend, the illustrator Rudolf W. Heinisch. The composer and illustrator discussed the project and Hindemith had an opportunity to take note of Heinisch’s work before finishing the composition [17]. The illustrations combine various aspects of 1920s urban construction. Two-storey houses spaced out in the middle of a green area are in keeping with the “Neues Bauen” housing concept whose objective was to offer residents sun, air and light [21]. However, the cityscape is also characterized by high-rise architecture [21], factories and terraced houses for factory workers [21].

Hindemith’s music combines modern and traditional features solely so that children are able to perform it. Performers had to be musically socialized by folk songs, ignorant of musical notation and have no experience of new music. Bridging the gap between melodic purity and simplicity on the one hand and modern tonality beyond the major-minor system on the other did not happen by drawing on popular 19th century folk songs, but instead on elements of music from the Middle Ages and early modern music. Thus the first cadence of the two-part vocal movement in the second number (Fig. 3) features an arcaic ending common in the 13th and 14th centuries, in which the perfect sound of the pure fifth is achieved by raising the leading note of the previous third. Through the plain sequence structure of the upper part in the first two movements and the equally simple lower part, with a passing note through a fifth adding modal colour (C. Lydian), singing the strange change is not very demanding. The sequence in bars 7 and 8 is based on a canon model (lower fifth canon) which was very common in the renaissance style and the last four bars in unison, with the exposed framework notes of D’-G’-D”, reflect the character of...
Musical Urbanism between Radicalism and Tradition: 
A Reflection on the Architectural Discourse of the 1920s

a plagal melody (in G) in the spirit of the modal system.

The more demanding instrumental piece that follows (Fig. 4), which explicitly depicts building, again combines modal thinking—the overall key is G Mixolydian—with syntactic, tonal and rhythmical elements in the way significant for contemporary machine music. So Hindemith uses polymetre (for example in bars 1-5: $2 \times 5$ crotchets in the upper part against $5 \times 2$ crotchets in the lower part), a very rare momentarily interrupted ostinato figure, a pentatonic scale (upper part, bars 1-5), the rudiments of polymodality in terms of linking characteristics of different modes (bars 7-11: elements of G Dorian, Phrygian and Ionian) and a mixture technique (bars 20-23).

Such processes guarantee the music’s artistic level and polyphonous charm, reflecting the urban world as a human space suitable for children. According to educationalist Schlesinger, who prepared the children for the premiere of Wir bauen eine Stadt at the Berliner Musikhochschule’s music education training school, “city children” reacted particularly positively to such city motifs [17].
5. Sergei Prokofiev: Le Pas D’acier

The depiction of the city as a community providing space for different lifestyles and personal development supported by the solidarity of its citizens and their responsibility for it in its entirety corresponded with a conception of man that was in harmony with the republican form of government introduced in Germany after the First World War. In this respect the removal of Wir bauen eine Stadt from school repertoires under the Nazi dictatorship was consistent with this [17]. The ballet, Le pas d’acier which was first performed in Paris in 1927, emerged from the impression of a change in political system associated with positive expectations. The utopian tendency of the work, the theme of which was Russia’s transition from tsarist rule to the Soviet system, reflects the patriotic spirit of optimism that gripped Russian authors living in exile in Paris during the NEP (New Economic Policy) era (1921-1927). There were lively discussions about the piece initially in the Soviet Union, before the work was dropped from programmes at the start of the Stalin era.

A ballet exploring city living and factory work was an innovation in itself. In addition to this, the constructivist form of the stage design, the tonal abruptness of the music and the positive assessment of machine production corresponded to its strongly avant-garde orientation overall. A closer examination of the objectives and the music shows that here too—within the meaning of urbanism—the question of humane living conditions in a technology-driven environment had a crucial influence on the shape and message of the work.

The idea for the project came from Sergei Diaghilev who suggested to Prokofiev in the summer of 1925 that he write a piece for the “Ballets russes” incorporating Soviet material. The composer, who had emigrated from Russia in 1918 and lived in Paris, was pleased with this commission. He discussed “the ballet’s conception and development” with the “Armenian painter and stage designer Georgii Yakulov” in a small waterside café near Paris. Yakulov was “the only member of the creative team” who was living continuously in the Soviet Union and was familiar with the latest local trends in art [22].

The awareness of taking part in an innovative project is perceptible in Prokofiev’s retrospective description: “We assumed that the important thing at this stage was not to provide mere entertainment but to show the new life that had come to the Soviet Union, and primarily the construction effort. It was to be a ballet of construction, with a wielding of hammers big and small, a revolving of transmission belts and flywheels, a flashing of light signals, all leading to a general creative upsurge with the dance groups operating the machines and at the same time depicting the work of the machines choreographically” [23]. Yakulov, who had—according to Prokofiev—“the idea” for the work, summarized the conception as follows: “The ballet consists of two acts, etc., the first showing the breakdown of the old order, its deterioration, and the enthusiasm of the revolutionaries against the background of the decaying old order and, in contrast, the uplifting influence of organized labour [23].”

The ballet’s plot exhibits two main threads: living and working conditions in the Soviet Union and a love story. The first act deals with the partly chaotic circumstances during the period of political upheaval after 1917. On a market place in the immediate vicinity of the station, which is also visible, traders who were travelling by train arrive to sell their merchandise to hungry citizens. There is a lively hustle and bustle, with officials trying in vain to catch criminals and restore law and order. That is “an acrobatic chase across the stage up ladders, swinging across the stage on a rope to exit via a board leading off into the wings is followed by the Orator making a speech” [22]. The arrival of flirting sailors is followed by a duet between the hero and the heroine, a sailor and a worker girl. The dancers themselves rebuild the stage into the factory scenario shown in the second act.
The sailor changes his clothes on stage and from then on takes on the appearance of an industrial worker [22]. Meanwhile, he searches for his beloved and then participates in the activity of the other workers. Finally, the hero and the heroine meet again, and their coming together on changed premises sets “the whole factory in motion, etc.. The factory comes to life through movement, light and flashing advertisements projected onto the set” [22].

Diaghilev’s vain search for a Soviet choreographer resulted in the first night being postponed. Leonide Massine, who finally took on the job and the part of the hero as well, made drastic changes to the first act. Among other things he introduced national Russian elements such as the “Baba-Yaga and the Crocodile” episode which was incomprehensible without the appropriate costumes. The “arrival of the train” was replaced by a new scene, “The Hawker and the Countess”. This representation of impoverished aristocratic women was considered to be mocking the former elite and was controversially debated in émigré circles [22]. All in all, the 1927 staging took on a more brutal character compared with the original conception which had also included humorous elements.

According to the constructivist aesthetics, the scenes—a station, a market place and the inside of a factory [22]—had not been realistically represented. However, the organization of the scenery as well as the fact that the design activates particular actions make clear the idea of a city characterized both by technical progress and a living space of a modern industrial society. For example “colour wheels” rotated by pedals produced optical effects resembling electric light [22]. The architectural element in the scenery of Le pas d’acier consists in the division of the stage into “three horizontal tracks and on three levels, so utilising the height as well as the breadth of the stage space” [22]. The ballet was capable of demonstrating how man is set in motion by design, and it differs in this point from the treatment of the same subject in other mediums, for instance in Fritz Lang’s silent film Metropolis which was made at the same time.

The music contains mechanical elements which appear stunningly new and whose peculiar degree of hardiness is almost unique in Prokofiev’s oeuvre. This sphere is counterbalanced by the lovers’ music. The love theme, introduced in the final scene of the first act as a B-section within an \( A\rightarrow B\rightarrow A'\rightarrow B'\rightarrow A'' \) conception, already provides a clue to the later synthesis with the machine music in the second act. It corresponds to the cantabile second theme in a symphonic movement, following the sonata scheme, not least because of its construction as a sixteen bar period. Despite of the “dolce” character and quite emotional mood, the tone remains cool and objective and therefore shows a certain affinity to the mechanical music.

Extensions of four-bar groups to five or six bars—a technique which is an important reason for the discursive nature that characterises compositions of the classical period—are not an option here. The uninterrupted accompaniment in quavers, supported by the percussive piano sound, is reminiscent of machine-like ostinatos. With regard to harmony, the simple C major diatonic and traditional chords—the “consequent” [14] (the first eight bars, Fig. 5) is generally based on a mixture of sixth chords (fauxbourdon)—cause a peculiar, modern-seeming sphere. The usual progression from C major to G major actually seems less familiar owing to the third position of both chords. The melodic fourth step removes the feeling of a need to resolve the sub-semitone \( b \). Moreover, because of the lying note \( c \) in the middle voice, the G major harmony is made to appear unfamiliar so that it only partly seems to be an independent harmony.

Due to its affinities with mechanical music, the love theme fits easily with the motor activity of the movement “L’usine” (score number 1311). And in “Les marteaux” as well, the machine music’s
harmonic eccentricities structurally resemble the love theme. So the ostinato (from 141, Fig. 6) is based on the pendulum-like harmonic change between two chords. The triads of E minor and G sharp minor, which are related in so far as they have two common steps (G/G sharp and B), melt together into a tonal space. In a later repetition (147/148) this passage is sequenced downwards, following the fauxbourdon principle, with a succession of the sixth chords of E minor and D minor. The powerful, monumental music with a Russian colour appears threatening and would also suit a prison camp scene.

A mixture of third and fifth related chords, namely A minor, C minor and G major, is also the basis of the especially dissonant passage from 143. This ostinato forms the tonal background of a hymn (145), returning for a moment in the repeated E minor/G sharp minor episode (1492) and afterwards counterpointing in the bass voice a variation of the love theme (152). Here (and from 154) the latter appears for the last time, while the hymn (179), in rotation with the main theme of the opening movement, sets the tone for the work’s conclusion.

The work was mistrusted by Soviet critics due solely to the fact that the ballet was devised primarily by emigrés. The glorification of machines was regarded
as a distortion of the Soviet reality [25]. Le pas d’acier was successfully performed in Paris and London, yet here too it was not regarded as authentically soviet and therefore was not taken entirely seriously as a work of art [22].

6. Conclusions

The three compositions represented here differ in terms of their genre, genesis and national historical background. This makes the agreement in the attitude conveyed towards the phenomenon of the modern city and the musical connection of modernistic mechanical elements, traditional tonality and human gesture all the more astonishing. With regard to musical composition, there is a tendency for a simple, diatonic pitch arrangement to be conspicuous in these works dealing with urban development. Tonal material is dealt with independently of traditional harmonic contexts, and it is Hindemith in particular who updates the melodic and contrapuntal formulas of pre-modern renaissance music which is characterized by modality. In the musical arrangement of the mechanical, the ostinato technique provides common ground. The three works do not explore a love of technology driving out sentimentality, nor do they extol war and violence which was what futurists demanded. Rather the pieces by Hindemith and Prokofiev deal with a peacemaking public order while Antheil’s architectural vision explicitly refers to periods of peace. In detail, the implicit urbanistic ideas differ significantly, due in particular to country-specific factors. Antheil favours large, single-family houses financed by private capital. In the work of Prokofiev/Yakulov, the factory characterises the cityscape and becomes a place of fulfilment from working together and using machines. Only personal happiness (as love) ensouls the collective. Hindemith and Seitz understand the city as both social cohesion and an environment allowing individual lifestyles, combining industrial and high-rise buildings with near-natural house building.

References

Musical Urbanism between Radicalism and Tradition: A Reflection on the Architectural Discourse of the 1920s

Beilage zum Funk 20, May 6, 1930, pp. 77-78.


[22] L.A. Sayers, Re-discovering diaghilev’s ‘Pas d’acier’,

