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THE MUSIC OF MOTORS: MEANS OF A TRANSPORT

СЕМИОТИЧЕСКИЕ И ЭСТЕТИЧЕСКИЕ АСПЕКТЫ ИМИТАЦИИ ТРАНСПОРТНЫХ СРЕДСТВ В МУЗЫКЕ (НА МАТЕРИАЛЕ АНГЛИЙСКИХ И АМЕРИКАНСКИХ ПЕСЕН КОНЦА XX ВЕКА)

В статье рассматриваются семиотические и эстетические аспекты звуков транспортных средств, таких как поезд, машина, мотоцикл, самолет, на примере музыкальных произведений английской и американской музыки конца XX века. С появлением и развитием транспортных средств возросла их популярность в музыкальной среде. Так, например, песни, в которых присутствует тема поезда и его звуковая репрезентация, впервые появились в США в 1828 г. и остаются популярными до настоящего времени. Во многих музыкальных произведениях песенного жанра имитация звуков транспортных средств является одним из ярких невербальных выразительных средств наряду с различными лингвистическими, визуальными и музыкальными выразительными средствами. Эффект аутентичности при имитации звуков транспортных средств достигается либо путем внедрения в музыкальное произведение записи реальных звуков, издаваемых транспортными средствами (см. The Beatles "Back in the USSR", Johnny Cash, альбом "The Rambler", Kiss "Detroit Rock City"), либо посредством имитации звуков транспортных средств при помощи музыкальных инструментов (см. Johnny Cash "Orange Blossom Special", Led Zeppelin "Poor Tom", Willie Nelson "On the road again" (звук поезда), Arkie Shibley "Hot Rod Race, George Jones "The Corvette song" (звук автомобиля), Meatloaf "Bat out of hell", Motley Crue "Kickstart my heart" (звук мотоцикла), Slade "Wheels ain't comin' down", The Animals "Sky Pilot", The Ibanez "Airplane flanger" (звук самолета)). С точки зрения семиотики звуки транспортных средств являются знаками-индексами, так как звук указывает на присутствие транспортного средства. Если же звук воспроизводится музыкальным инструментом, то он является иконическим знаком. С точки зрения стилистики звуки транспортных средств являются метонимическими комплексами, ассоциирующими звуки с различными транспортными средствами. Включение звуков транспортных средств в музыкальное произведение придает последнему большую выразительность, передает эмоциональное состояние восторга, ассоциирующегося с ощущением движения, ритма и скорости.

Имитация звуков транспортных средств в популярной музыке является современным примером эстетики возвышенного (в концепции Эдмунда Берка), которая является предтечей романтизма в литературе. Эстетика возвышенного заключается в осознании мощи, грандиозности, исключительности предмета или явления, которые не представляют непосредственной угрозы созерцающему

его человеку. В противном случае разрушаются сами условия эстетического восприятия. Романтик XIX столетия испытывал чувство возвышенного на вершине горы, глядя на бесконечную линию горизонта или на штормящее море. Транспортные средства в равной степени могут выполнять данную функцию, выступая в качестве источников возвышенного и грандиозного. Их внушительные размеры вызывают восхищение и страх. И несмотря на то, что со временем транспортные средства стали повседневным явлением, их техническое усовершенствование, скорость, мощь продолжают вызывать восхищение и эстетическое наслаждение, которое становится частью музыкальных композиций.

As one of the means by which transportation is experienced, the sound of vehicles is a constitutive element of numerous works in English and American popular music of the late 20th century. Through either reproduction or various forms of imitation, the sonic evocation of vehicles is as much a creative process in itself as a component in more complex semiotic structures: it functions concomitantly with verbal and/or visual discourse to augment narrative or the expression of emotional states, notably the exhilaration associated with speed. The representation of vehicles in popular music thus appears as a modern example of Edmund Burke's aesthetic of the Sublime.

КЛЮЧЕВЫЕ СЛОВА. Транспортные средства, мимесис, популярная музыка, эстетика возвышенного.

KEY WORDS. Transport, mimesis, popular music, the Sublime.

An essential dimension of the human experience of vehicles, sound constitutes in itself a metonymical means of evocation. A perfunctory consultation of sound recording archives meant for use in audiovisual compositions makes this clear, with information as specific as “Sound of a 1906 Corpet-Louvet steam locomotive — preparation for departure + release of steam + train whistle + halt of the locomotive”. In this example [1], the succession of sounds suggests a narrative progression and even an approximate chronological inscription. Commercialised as early as the 1950s as 78 RPM records [2], the sound of vehicles has power such that even artificial means are turned to in order to render it: for example, this modern electronic circuit which generates sound effects for railway scale modeling.

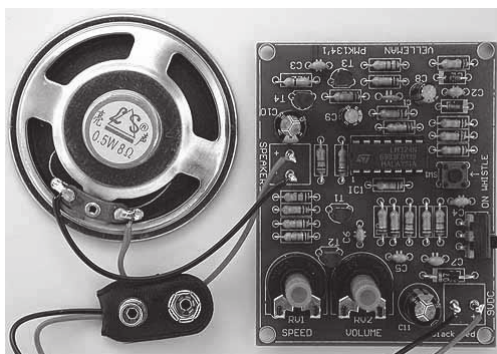


Fig. 1: Velleman “Steam Engine Whistle Kit”.

It is common knowledge that means of transport are a fertile topos in popular music. In the United States, the heritage of train songs, for example, can be traced as far back as 1828 [3]. A number of studies are devoted to the place of such works in the cultural history of a country whose mentalities they reflect as they contribute

to shaping them. One might mention *The Railroad in American Folksong* by Norm Cohen, or *Trucking Country* by Shane Hamilton [4]. Much could be said, naturally, of the textual representation of vehicles, or their poetics; but here it is their musical transposition that will be addressed, from the point of view firstly of technique and then of aesthetics.

Sound immediately raises questions concerning its representation. From a Peircian point of view, sound is an index of a vehicle, and the musical representation of this sound, an icon. As in radio drama, the aim is to provide the listener with signifiers which, combined with verbal discourse, become part of a reciprocal relationship of contextualization, where each means of signification results in selection within the symbolic potential of the other [5]. In verbal discourse, a trope is often more economical than a technical description: one may speak of the “high-pitched, strident sound” of an aircraft turbine, or of its “scream”; but as in the case of the “buzzing” of a helicopter or the “panting [6]” of a steam train, the choice of metonymy inevitably positions the speaker with regard to the subject of the enunciation, with words often mediating the otherness of the machine by investing it with animated traits. Some of these tropes become lexicalised, such as the “Detroit whine”, which designates the characteristic timbre of the motors built in the town in the second half of the 20th century. The approximate adequation between a sound and its verbal representation is self-evident; as Guillaume Apollinaire wrote in 1918, «When a modern poet notes in several lines the throbbing sound of an airplane, it must be regarded above all as the desire of the poet to accustom his sensibility to reality [7]». In terms of representation, Apollinaire saw greater potential in music for «noises chosen with art and lyrically mixed or juxtaposed [8]».

For the musician, the simplest means of evocation of vehicles, a re-presentation in the etymological sense of the term, is of course the inclusion in a song of genuine recordings. Such sound effects contribute to character creation or setting within the song, as is the case of the car which can be heard at the beginning of Kiss’ “Detroit Rock City”. It is recorded from the point of view of the driver; music is first introduced in the song through the car radio. A more elaborate variant on this approach can be found on *The Rambler*, the last concept album by Johnny Cash [9], where the sounds of the street and the road form a thread which links together the work’s songs, dialogues and monologues. But a sound effect can also form part of a musical arrangement, like the aircraft which opens “Back in the USSR [10]” by the Beatles and whose regular apparitions announce transitions within the progression of the song. It is even possible to use sound samples as elements of composition in their own right, as do Ministry on “Jesus built my hotrod [11]”; this is comparable to *musique concrete*, which considers the art of music outside of the usual parameters of composition and execution. It is these parameters, however, which suggest the hypothesis of musical discourse evocative of means of transport. This hypothesis will now be explored, with the aid of a few examples.

The origins of the drum rhythm known as the “train beat” are uncertain (perhaps Bill Monroe, one of the first to introduce drums into bluegrass music), but it is named by analogy with the sound of a steam locomotive [12]. The latter’s characteristic sound is that of pressurized steam entering the cylinder before being evacuated after each horizontal movement of the piston, of which one cycle results in one revolution of the driving wheels. As the locomotive begins to move, for each

revolution of the wheels can thus be heard two loud, dull impacts of steam against the cylinder, alternating with two more high-pitched evacuations. At higher speed, the alternation becomes proportionally faster, and the impacts less pronounced. The mechanism of the locomotive thus generates a series of sounds of variable timbre, volume and speed, but always rhythmized in the same way.

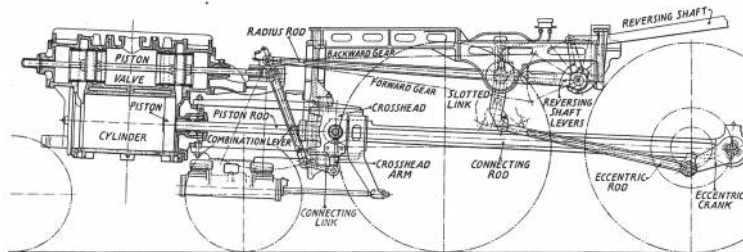


Fig. 2: Walschaerts valve gear mechanism.

In the “train beat”, this regularity is rendered by four semiquavers on the snare drum. The third is accentuated and the first is also played on the snare drum, creating alternation. Often used on train songs such as “Orange Blossom Special [13]” by Johnny Cash or “Poor Tom” by Led Zeppelin [14], this rhythm also lends itself to the evocation of the road (“On the road again” by Willie Nelson, “Radar Love” by Golden Earring) and its vehicles: “The General Lee [15]”, also by Johnny Cash, or “Hot Rod Lincoln” and “Kickstart my heart”, which deal, respectively, with cars and motorcycles, and which will be addressed subsequently. It should be said that the “train beat” is also used in unrelated thematic contexts, as “Ballroom Blitz” by Sweet or “Two Step” by the Dave Matthews Band bear witness.



Fig. 3: “Train beat” rhythm (B. Fullen, R. Vogt (1994)).

On the guitar, Luther Perkins is credited with the “freight train rhythm [16]”, in which the first and third beats of the bar are the two muted bass notes of the chord; the second and fourth beats, crotchets or quavers, are played on the higher strings. A short echo effect may be used to double the notes, the crotchets thus becoming quavers and the latter, semi-quavers. The resemblance between this rhythm technique and that previously mentioned on the drums can be explained by the fact that its initial function was one of substitution, as Perkins, Johnny Cash and Marshall Grant originally played without a drummer.

Like the train, the car, more accurately the racing car, is captured on vinyl at least as early as the 1960s. *The exciting racing sounds of Grand Prix: challenge of champions* [17], was a byproduct of the John Frankenheimer’s 1966 film *Grand Prix*. Its audio clips are accompanied by maps of the relevant racetracks, and an alternately narrative, descriptive and technical audio commentary which bring precise contextualization, not to say scenography.

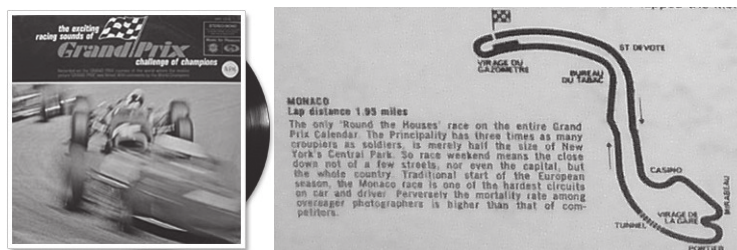


Fig 4: The exciting racing sounds of Grand Prix.

Some production cars have their origins on the racetrack; this has been true, among others, of the Chevrolet Corvette since its second version in 1963. While the train tends to be associated with rhythmic regularity, the car is often linked to the idea of increasing speed, synonymous with the ascending note of the motor and the transmission. There is arguably an echo of this phenomenon in “The Corvette song [18]” by George Jones, where the vocal melody which opens the chorus begins with a brusque octave drop followed by a rapid ascent towards the initial pitch. The first half of the guitar solo follows the same principle, with an ascending progression over three octaves where three slides suggest fluidity. It begins with three low F notes played as bends (pulling on the string) which suggest the revving of an engine before starting, then the ascent begins on a low D. Played in this way, both of these notes stand out insofar as they are outside of the standard tuning of the instrument.



motif on the guitar is considerably more complex than on Ryan’s version, and benefits from the metallic clean sound of a Fender Telecaster. At times, the stereo field is used to support the idea of movement, a given instrument shifting from left to right or conversely. As much sound effects as instrumental parts, these motifs result in a mimetic instrumental narrative parallel to that of the lyrics, which are enunciated using a contrasting deadpan tone expressive of the *sang-froid* of the driver.

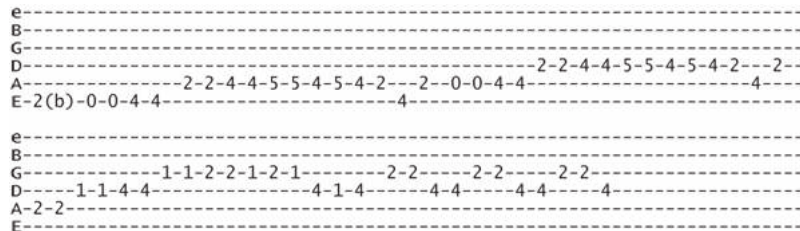


Fig. 7: Commander Cody, “Hot Rod Lincoln”, guitar solo.

The motif of acceleration is clearer still in songs which deal with motorcycles. In the list of instruments used on Meatloaf’s “Bat out of hell”, Todd Rundgren is credited with “motorcycle guitar [19]”. According to the composer Jim Steinman, the guitarist and producer of the album Todd Rundgren rejected the prospect of using a recording of a motorcycle, preferring to imitate the sound himself using a guitar [20]. Ronnie Montrose had already sought to render a motorcycle’s acceleration in 1974 on the song “Bad Motorscooter”, using a bottleneck and distortion; in a 2013 commercial, Peugeot actually substitute this type of sound for that of a car. For Motley Crue on “Kickstart my heart”, a Floyd Rose vibrato unit enables the imitation of the rising note of an engine by re-tensioning the previously slackened bass strings of the guitar. A similar technique but based on the tension of high notes enables Iron Maiden, on “Aces High [21]”, to suggest the swooping movement of a fighter aircraft.

The sound one associates with the passing of a jet aircraft is the result of an acoustic phenomenon called comb filtering (the name derives from the peaks generated on a frequency response graph), in which interference results from a sound mixing with a delayed version of itself: in the case of an aircraft, the sound of the craft mixes with its echo from the ground.

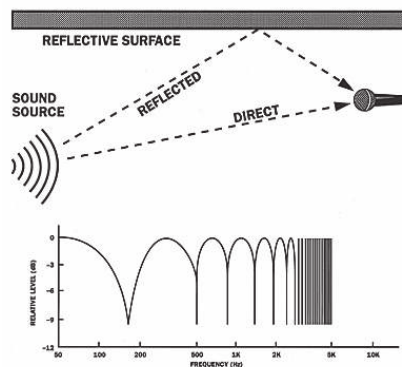


Fig. 8: Comb filtering (Source : ProSoundWeb).

In music, comb filtering is known as flanging. The effect was first used in the 1940s [22], and is often associated with aircraft; it is used, for example, on “Wheels ain’t comin’ down” by Slade [23] or «Sky Pilot» by The Animals [24]. The Ibanez “Airplane flanger” extends the trope, with graphics evocative of climbs and descents, and adjustment knobs labelled “taxi” and “takeoff”. Thus the guitarist is explicitly invited to picture his sound as that of an aircraft.



Fig. 9: Ibanez “Airplane flanger” and advertisement.

As we have seen, several means are at the musician’s disposal for the recreation of the sound of different means of transport. But to what end? If the vehicle is really only a means, it is no doubt in the figurative sense that the “transport” it affords should be interpreted. Given the criticism aired by Wordsworth and Ruskin [25], there is some irony in the fact that the steam train subsequently came to be perceived as Romantic. Nostalgia, of course, is one of the motifs of Romanticism

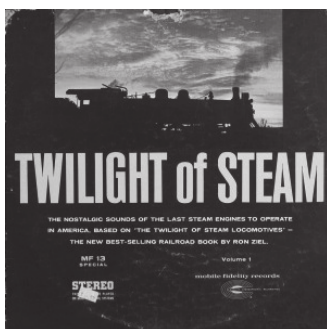


Fig. 10: Twilight of Steam [26].

but there is nothing natural about the machine, and the almost physical passion of the driver Lantier for his locomotive La Lison in Zola’s *The Beast within* hardly designates him as a second Werther. One should turn instead to a school of thought of which Romanticism was tributary: the Sublime. According to the philosopher Edmund Burke, one of the main theorists of the concept,

sublime objects are vast in their dimensions [...], rugged and negligent; the great in many cases loves the right line, and when it deviates it often makes a strong deviation [...] the great ought to be dark and gloomy [...] the great ought to be solid, and even massive [27].

Burke thus defines an aesthetic comparable to beauty but which generates a stronger and more complex emotional response: “terror is a passion which always

produces delight when it does not press too closely [28]”. He further specifies “power is undoubtedly a capital source of the sublime [29]”. The Romantic of the 19th century experienced the Sublime on the summit of mountains, in the infinity of the horizon or the breaking of a storm; but in fact, motorized vehicles equally fulfill the conditions: often imposing in size and of a certain solidity, sometimes dilapidated, they contain power, a hint of mystery and a hint of danger. If they leave their trajectory, the result is often dramatic. Early testimony of rail passengers supports this hypothesis of pleasure mixed with apprehension:

You can't imagine how strange it seemed to be, journeying on thus without any visible cause of progress other than the magical machine, with its flying white breath and rhythmical, unvarying pace [30].

Of course, over time means of locomotion become more ordinary, but the exceptional continues to generate an awed emotional response. “It's marvelous to go fast”, remarks one of the characters in *Grand Prix*; the record cover in Fig. 4 highlights the “exciting sounds” of racing, just as the one below left designates aircraft as “thunder in the skies [31]”. The composition of the covers in itself tends to foreground the imposing nature of the machine.



Fig. 11: Cover art foregrounding means of locomotion.

Equally, in the majority of the musical examples previously mentioned can be seen a tendency towards the superlative: the inexorable beat of the train, possibly associated with the idea of speed which characterizes cars and motorcycles, and indeed the “rapture of the heights [32]” of aircraft. Shunter locomotives, mopeds or traffic jams are notable by their absence.

For travellers and spectators alike, the mechanisms involved in the motion of a vehicle produce characteristic sounds which feed the imagination. Popular music draws on this potential, either by integrating vehicle sounds directly, or by reproducing them by the means of instruments. It is in this way that an esthetic experience derives from the notes of the motors.

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