

# FILM AND RADIO: BACKGROUND NOISE IN ITALIAN CINEMA OF THE 1930S

Paola Valentini, Università di Bologna

*La vita antica fu tutta silenzio.*

*Nel diciannovesimo secolo, coll'invenzione delle macchine, nacque il Rumore.*

*Oggi, il Rumore trionfa e domina sovrano sulla sensibilità degli uomini.*

Luigi Russolo - *Manifesto "The Art of Noises"*<sup>1</sup>

Milan, March 11, 1913

The advent of sound film brought about a radical upsetting of silent cinema: while in silent cinema noise appeared as disturbance – due to the interference of the projecting machine on the purity of the viewing experience – in sound cinema, not only does it become a mere expressive resource, but, especially in early sound cinema it is the main feature. With sound, cinema finally incorporated modernity. As Luigi Russolo insightfully anticipated, in much the same way as when “we walk through a great modern capital city with our ears more alert than our eyes,”<sup>2</sup> the film spectator became a sensitive listener to a new kind of cinema inaugurated by sound: the cinema of noises.

Italy represents an illustrative case of the transition from silent to sound cinema: noise, in fact, featured prominently in the theory and praxis of cinema of that time. Contemporary accounts were not too far off when they identified the scene of the train, with its deafening whistles and its clanging on the tracks, as the dramatic highpoint of *La canzone dell'amore* (G. Righelli), which, opening at Rome's Supercinema on October 8, 1930, inaugurated the era of sound film in Italy. Indeed, *La canzone dell'amore* was especially suitable for starting a cinema of noise, as it were, precisely for its emphasis on the loudness of the train. Significantly, the sound of the train appeared in the sonorization of *Rotaie* (M. Camerini, 1928/29) and as a *leitmotiv* in *Treno popolare* (R. Matarazzo, 1933), among other films, and constituted one of the first sounds to be naturalized by sound cinema. In Righelli's film, noise, which features prominently in many so-called “*fonoquadri*,” “acoustic tableaux” of urban and social life, was accompanied by another element: the recorded voice of the emerging record industry, which was posited as the narrative focus of the film. Noise, the meaning defined by information theory, i.e., understood as a disturbance and an obstacle to communication, seems to emerge with the reproduction of sound, which at the beginning was fraught by such disturbances as the buzzing of a poorly tuned radio transmission, the hissing of the track on the phonograph, the hollow sound of the optical track and the crackling of the film's loudspeakers. Noise and “mechanism” joined and coexisted peacefully in *La canzone dell'amore*: the film is an effective synthesis of the peculiar characteristics of the transition to sound film in Italy, whereby noise pervaded all new media involved in the revolution of sound recording and transmission, making their destinies meet.

## Noise-listening

Italian cinema of the 1930s exhibited a strong investment in hosting other sound media as well as an inclination to hybridity. On the one hand, recording studios, radio stations, and a multiplicity of devices for sound transmission and reception were constantly featured in Italian films. On the other hand, the film sound-track mingled with other recorded sounds, thus creating striking effects of *mise en abyme*;<sup>3</sup> this tendency of cinema to expose the technologies of sound reproduction, and to blend together recorded sounds from different levels, principally involved the reproduction of noises, which were themselves inescapably connected with the machine, and manifested itself primarily in the relationship with radio, where noise appeared essentially in the form of interference and disturbances.<sup>4</sup> This attention to noise, this upgrading of noise from disturbance, immediately brought the history of cinema closer to the history of radio.

It's known that many national cinemas drew the inspiration to make their first steps in the field of sound from a young medium such as radio, to which they became indebted both on a technical and a theoretical level.<sup>5</sup> Similarly, in Italy, the advent of sound cinema was deeply connected to radio:<sup>6</sup> very early on, the relationship between the two media found its place and shape within the growing culture industry and the so called "system of media." The result was a dense interplay of intertextual references which creates a veritable network of media forms and texts.<sup>7</sup>

In transition periods – as Rick Altman has shown – the intense proximity of and the symbiosis between different media, often brings about a redefinition of their boundaries. Within the Italian context, radio and cinema undertook a common experimentation, as it appears from the lexicon employed in the theoretical writings of the time: a radio-drama, for example, was defined as a "filmic radio-work" or "a true radio-sound film" that explicitly relied on cinematic devices; at the same time, these writings called for a separation between sound and image in film so that sound would preserve its artistic integrity by taking on a radio-like quality.<sup>8</sup> As it will become clear later, not only did this synergy leave traces in the form taken by filmic sound, and particularly by noise, but it also led to a radically new conceptualization of acoustic experience.

If not an aesthetic form – think of the influence of the *Hörspiel* on the development of German sound cinema –, radio primarily provided Italian cinema with a repertoire of sounds, a symphony of noises to which to refer. Radio listening in fact, upon which film aesthetics and *audio-vision*<sup>9</sup> modeled itself, was from the beginning, and remained so for a long time, centered around listening to noises. There are a number of instances revealing the priority of noise, a number of traces from which it is possible to retrieve a specific micro-history. In 1931, for example, Arnaldo Ginna, while speaking very ironically of the appeals of EIAR (*Ente Italiano Audizioni Radiofoniche*, the former RAI) to Italian playwrights, urged the organization to worry about the rendition of those noises that "bring life to the scene" and to invest in the purchase of American or German records to replace the current sound-effects, which he considered too "home-made." As late as the 1940s, "Piccola posta", the "mail corner" of popular magazines, revealed that readers were interested in the execution of noises almost as much as they were in the faces of the interpreters of radio-comedies, thus pointing to the presence of *fonogenia* next to *fotogenia*, a star worshipping of noises next to a star worshipping of voices. As late as 1950, a woman listener wrote to EIAR's artistic director, Ferrieri, to urge him to

put a stop to the “deafening racket” and the “childish accompaniments” to the pervasive noises of radio-comedies.<sup>10</sup>

What follows will try to understand the noise-listening that characterized Italian films of the time and the great permeability that they displayed towards the media involved in sound reproduction and transmission, in particular, radio. Early Italian sound cinema acquired and re-shaped, via its relationship with radio, a repertoire of sounds, a syntax, and an acoustic field; radio programming of the time offered cinema an incentive for both the creation of new sounds and for their use, thus helping cinema’s transition to the sound era.

### Symphonies of noises and acoustic tableaux in radio and cinema

If in Italy radio immediately experiences with noise it is thanks to the Futurists. This artistic group celebrated the modernity of noise and regarded the medium of radio as an effective testing ground of noises’ expressive possibilities. Their first *Manifesto*, which in February, 1909, sanctioned the birth of the Movement, was an authentic inventory of places and noises of modernity, in which the sound of the crowd, construction sites, train stations, garages, locomotives and planes were celebrated as a “new vocabulary of the universe.” Immediately, cinema turned to this repertoire, driven by the modern utopia of the metropolis and speed, and hostile to any form of attachment to the past. Once again radio was conceived as the appropriate medium for the realization of this new expressivity: in their *Manifesto* on radio – not cinema – the Futurists offered some practical solutions to the use of sound, and emphasized the centrality of noise later appropriated by Italian cinema.<sup>11</sup>

Radio immediately applied itself to this aesthetic canon, which embraced the Futurist repertoire: the first experiment of radiophonic theater, *Venerdì 13* – the adaptation of a noir short story by Mario Vugliano, which was broadcast on January 18, 1927 – owed its success to the “faithful reproduction of noises.”<sup>12</sup> Indeed, the program of the radio show, as it appeared on the pages of the EIAR’s publication, “reductively” described the radio-drama as a series of “Acoustic Scenes. Voices of Characters – Animals’ Screams – Songs Accompanied by Flutes, Drums, a *Berceuse*, The Hours, The Wind, The Rain – Diverse Noises.”<sup>13</sup> A great part of contemporary critical writings also shared this position: the first radio-dramas show little concern about the basis of the expressivity of sound-effects, but are greatly interested in the correct reproduction of noises. Such writings took time to detail the technical means employed in the reproduction of noise (“for the wind effect, a hunting siren was used, for the rain effect a drum made with metal wire within which, through rotation, gravel flows”) or to denouncing those sounds that hadn’t been successfully reproduced, an example is the sound of thunder, the reproduction of which creates a number of difficulties (“the sound of the bass drum has the lowest frequencies, which can be reproduced by virtually none of the receivers and the speakers currently available on the market: this is the reason why the effect of the sustained rumble of thunder was almost entirely lacking”).<sup>14</sup>

A great part of sound cinema of the time was committed to normalizing the sometimes daring experimentation of radio, and, through them, the extravagant creations of the Futurist avant-garde, while in the process of normalizing the novelty of the sound produced. On the other hand the Futurists were aware of this normalization and some-

times they were even actively engaged in it: Anton Giulio Bragaglia, for instance, excused the lack of audacity and the absence of experimentations in his sole sound film, *Vele ammainate* (1931), which he defined as “*film di Bragaglia senza Bragaglia*” (“a Bragaglia film, without Bragaglia”) and didn’t reject it, despite the censorship and the changes imposed by the producer, precisely because the film was “pleasurable to listen to.”<sup>15</sup>

Italian sound cinema appropriated the Futurist lesson through the mediation of radio. Consequently the films were populated by symphonies of noise, particularly in the artistic rendition of one of the themes dearest to the avant-garde: the city. Reviewing the films of the time one is struck by the liberality of the use of sound and the enthusiastic celebration of noises that the sound track appears to be committed to “conquer” as soon as the movie camera is set free to explore the urban space. Furthermore, these films display a relentless effort to diversify the sound locations, whether real or fictive, in order to present the viewer with acoustically individualized spaces. To cite some of the most striking examples: the arrival of the train at the Termini station in Rome in *La segretaria privata* (G. Alessandrini, 1931) resonates with the voice of the crowd and the metropolitan sounds of car horns, which are then pitted against the affected sophistication of the dialogues and the essentially theatrical acoustics of the non-urban scenes – such as the backyard turned into stage where Elsa Merlini sings from a balcony in a musical style. Similarly, the claustrophobic and theatrical portrayal of Naples in *La tavola dei poveri* (A. Blasetti, 1932) suddenly and almost schizophrenically opens up to the liberated and frenzied sounds of the modern industrial city: in the workshop of the lawyer to whom Raffaele Viviani turns to borrow some money, with welders and forge shops rumbling in the background, the metropolis of the future, captured by cinema, is opposed to the old Naples depicted by vaudeville and the variety show. Another case is the opening of *Non ti scordar di me* (A. Genina, 1935), which features the transatlantic ship, a veritable city of the future, and explores its multiple acoustic fields: ship sirens, waves breaking against its sides, orders given and music coming from the loud-speakers. Finally, consider the acoustic portrayal of Milan in *Gli uomini che mascalzoni* (M. Camerini, 1932): from the awakening sounds of the city – the crescendo of horns and the whispering of the crowd – to the deafening noise of modernity exemplified by the Milan Fair, dominated by announcements and calls through loud-speakers, and by the roar of the strange-looking machinery that will occupy the Italian household of the future.

Through radio and Futurism, therefore, noise acquired a definite place in cinema, offering testimony to an important moment of discovery, utopia, and also acoustic re-appropriation of the Italian city. The connection between radio, cinema and Futurism appears even more explicit when, going back in time, we consider another important member of the Futurists: Luigi Russolo, precursor of the research on noise, pioneer of radio aesthetics and, although in a less recognized way, of sound film itself.<sup>16</sup> Russolo, as already mentioned, was first and foremost the “inventor” of the sounds of the 20<sup>th</sup> century, which he celebrated in his *Manifesto* “The Art of Noises;” he is among the first people to acoustically characterize some entities of the new century, notably the city. In his writings, he encouraged art to “orchestrate the clanging of shop shutters, the rattling of doors, the humming and shuffling of the crowds, the diverse roars of the iron-works, of the spinning mills, of the printing shops, of the power stations, and of the underground railroads.”<sup>17</sup> Not only did Russolo valorize and appreciate extra-musical

sounds, but before other Futurists, he compiled an *encyclopedia of the sounds* of the world and their characteristics. Moreover, his theoretical writings and his experimentation, unfortunately lost, also dealt with crucial issues about the reproduction of sound, such as the mysterious phenomenon of the hierarchization of sounds (“the constant humming, strange and marvelous, of the crowd, in which one can only make out a few voices that are perceived with clarity and distinction among all the other anonymous and confused ones”), the separation into parts of noise (“it is possible to study which one of the noises – whether it’s the step of the horse, the jolting of the carriage, the rubbing of the horse’s harness – would be lost in the distance until it becomes nothing more than a feeble whisper), or the spatiality of sound (“In the bubbler, by lowering the register, the noise of water gurgling in a gutter-pipe transforms itself into another noise akin to the rain pouring”).<sup>18</sup> Russolo’s research did not simply entail a generic re-discovery of the musical quality of noise, it also unveiled some of the conceptual issues involved in the reproduction of sound, thus paving the way for its use in cinema and especially its status within the “blindness” of radio listening.

It is impossible to evaluate precisely the impact of a Russolo’s theory, which went unknown for so long, was silenced by the more lively musical theories of the Futurist Pratella, and regarded with skepticism, if not rejected altogether, by Marinetti. Undoubtedly, his work deserves close attention, if only because it highlighted some of the issues that later played a crucial role in the advent of sound cinema. Whether because of his personal sensitivity or because of the general effect of the Futurist atmosphere of those years in Italy, the work of Russolo anticipated some of the most typical acoustic situations of the cinema of the 1930s. The only three compositions – or “*spiralì di rumori* / spirals of noises” as he defined them – that he created, seem to echo some of the classical acoustic scenes of earlier sound cinema: *Il risveglio di una città* (A City Awakening), as already mentioned, appears in *Gli uomini che mascalzoni*; *Si pranza sulla terrazza dell’Hotel* – recalls many *demi-monde* situations that range from the hotel of *Resurrectio* (A. Blasetti, 1931) to the nightclubs of *La segretaria privata*; finally, *Convegno di automobili e d’aeroplani* creates the premise for a rich cinematic imagery, including De Sica’s car racing in the Camerini film and the suicidal acrobatics of Tofano in *O la borsa o la vita* (C. L. Bragaglia, 1933). While it is difficult to posit Russolo’s theory as a direct influence on film practice twenty years later, the fact remains that they were both produced by the same environment: the noises of the new century and the new media’s commitment to new sounds.

Along with the repertoire of sounds that transferred from radio to cinema, with the complicity of the Futurist experience, we feel moreover to point out that the first experiences in radio paved the way for a new sophisticated *syntax of sound*, once again centered around noise. Surviving radio scripts such as *L’anello di Teodosio* and *La dinamo dell’eroismo* allow the researcher to retrieve the structure of radio-comedies, organized as the *fonoquadri*, “acoustic tableaux” in which noise held a prominent dramatic function. The easiness with which it has been possible up to this point to associate a noise with some film sequences, demonstrates to what extent this tableaux structure was transferred to cinema.

But Italian cinema has a direct descendant: *O la borsa o la vita*, offers a strikingly explicit example as radio and cinema join in the name of noise. The film, directed by the Futurist Bragaglia, is in fact the adaptation of the radio-comedy *La dinamo dell’eroismo* by Alessandro De Stefani.<sup>19</sup> The director insisted on the film’s distance from the source



radio show, in the name of cinematic specificity; the source show, in fact, as Bragaglia pointed out, “had nothing to do with cinema. It wasn’t appropriate. I changed it entirely.”<sup>20</sup> While this statement is partially true, especially regarding the figure of the protagonist, who was modeled on the strong personality of the actor Sergio Tofano, it is nevertheless striking that in terms of cinematic specificity the film reveals a strong similarity with radio-comedies. *La Dinamo dell’Eroismo*, in fact, needs to be understood within the framework of EIAR initiatives and frequent appeals to playwrights, published in the pages of the *Radiocorriere*, for the creation of texts specific to radio.<sup>21</sup> Such specificity was clearly identified with sound effects; however, at a time in which there was much discussion around the potential of the *teatro elettrico* (“electric theater”), priority was not given to the word but to noise. Along these lines, De Stefani described his work as “a comedy in which the noises of the street, the night, the sound of a tavern, of an aerodrome, an anarchic circle and a fire, must alternate in a fast-paced sequence of acoustic tableaux and, in the process, suggest their locations.”<sup>22</sup> Indeed, regardless of diversities more or less superficial, *O la Borsa o la Vita* presents itself immediately as a series of acoustic tableaux, a sequence of scenes whose space-time coordinates are provided for by noise and by the construction of an individualized acoustic environment around it. As a result, the narrative and visual textures of the film come together around the noises, the shouting at the Stock Market, the roaring of the lions at the zoo, the uproar of the city invaded by trolleys, cars and shuffling crowds and, finally, the roar of engines at the airport.

Radio and cinema followed the same path: driven by a multiplicity of impulses, such as Futurism, they analyzed and reviewed the sounds of the modern world and the modernity of sound reproduction. Simultaneously, new textual forms appeared, as film and radio texts often unfolded paratactically with sequences of acoustic tableaux within which noise perform a crucial dramatic function: providing the spatial and temporal coordinates for the action and, in some cases, the action itself.

### Acoustic Field and Aural Experience

The repertoire of noises, the *fonoquadri* or acoustic-tableaux (a sort of audiovisual cells where sound and image, more than words, work in synergy), are some of the most visible and fecund effects of radio and cinema’s shared experience of noise.

Moreover, through radio, film comes in contact with the acoustic environment and the authentic novelty of acoustic experience.

Another film, released in Italy in 1933, exhibits the connection between cinema and radio and the debt that, in terms of noise, cinema had to the “wireless telegraph:” *Acciaio* by Walter Ruttmann, well known master of the resources of sound cinema, great experimenter with radio, and attentive researcher of the expressive potential of noise.<sup>23</sup> As early as *Hörspiel Weekend* (1930) Ruttmann had assessed the potential of sound recording

*Sound recording – whether it’s a noise, a musical piece, or a dialogue – unscrupulously reveals the form and the quality of the space in which it has been produced. Recording the sound of a spoken word doesn’t merely produce the acoustic snapshot of the word, but also a perfectly defined acoustic image of the space in which that word has been spoken.*<sup>24</sup>

The immediate consequence was abandoning the figure of the sound-effects man in favor of recording “original” sounds, trying to preserve spatial connotations in their acoustic image. Ruttmann employed his experience on radio sound and noise in his film *Acciaio*, though the relationship between image and acoustic-image brought about some substantial changes. On the one hand, Ruttmann adopted a new method: he tested the acoustic locations and took some sound tests in an effort to have the filmic sound recreate the wealth of the original sound and of its acoustic image. On the other hand, however, he apparently failed to preserve the utopic nature of these original sounds. Ruttmann recorded live dialogues, but disappointed by the result, he eventually returned to post-synchronization; noise recording also became impossible in certain locations: the high temperature registered in the proximity of the blast furnaces was, in fact, incompatible with the technology of sound recording.

While not explicit in his writings, his research nevertheless appears quite distant from the Benjaminian notion of “originality.” In other words, what mattered to Ruttmann was not the presumed truthfulness of the sound reproduction, but the environment that the sound creates, that is, he tried to provide an image, not a photograph, of sound. This intention is demonstrated by Ruttmann’s “fake” operation: in *Sinfonia delle macchine*, making Malipiero’s orchestra play in the steel mills, he drives *over* music, that bears environmental sonority, towards an impossible diegetization; and consequently, this sound is deprived of the status of a definite reality. The novelty of the *Sinfonia delle macchine* doesn’t merely reside in its musical quality – which makes it an *ante litteram* example of “concrete music” – but rather in the fact that this constant mingling of machines and noise allows the sound-track to construct new environments and elicit unprecedented acoustic experiences.<sup>25</sup> In this transition from the “noise” to the “music” of machines, it is no longer legitimate to distinguish between the two: sound loses its definite status as determined by the distinction of the sound track in three elements, noise, words and music. Rather, it becomes a multi-faceted territory, protean in nature, across spaces (including the spectator’s space), creating an environment in which “one navigates in a steel symphony.”<sup>26</sup>

Ruttmann went beyond Russolo. The Italian Futurist renewed the repertoire of sounds, opening up music to other sound qualities that better expressed the changes in modern civilization. Although not-musical these sounds were handled as musical, namely, placed within the traditional syntax of classical music. They were treated as being susceptible to intonation and harmonization, insofar as they were produced by instruments that could then be orchestrated. Instead, Ruttmann initiates a reflection on the status of modern sound, the ambivalence of “original” noises, the issue of the technological mediation of sound reproduction, and, ultimately, on a totalizing acoustic experience, which brings about, and creates, environments in which the distinction between different levels of reality are blurred.

The background influence of radio experimentation proved crucial: the essential blindness of radio listening swept away the myth of the truthfulness of sound, replacing it instead, with an investment in sound recognition and credibility. Sound experiments in radio-comedies displayed a high degree of consistency: what mattered was not so much the authenticity of sound, but rather its effectiveness, that is the extent to which sound could successfully mark movement across different locations. There are two recurring issues in the critical essays of the times. Firstly, the difficulty of *recording* some noises and *producing* more clearly distinguishable sounds (“the production of

noises, ambient voices, even when fake at the moment of their transmission, must, nevertheless, sound true at the moment of their reception”).<sup>27</sup> Secondly, the potential that radio has of multiplying the sites of action and arranging them both sequentially and simultaneously (hence the parallelism with cinema: they both share a similar structure of interference, juxtapositions, superimpositions, etc.). Consequently, radio practice dissolves the utopia of the authenticity or “originality” of sound, predicated on the mythological notion that sound is an object. Radio, on the other hand, seems to have recognized that sound is never pure, never separated from its location; rather it is always compromised with its surroundings, and bears traces of everything through which it moves. Finally, what appears is an awareness of the link between sound and space, and more importantly, consciousness of the fact that sound, especially noise, is first and foremost space, it is a pervasive environment surrounding us.

By way of conclusion, reference must be made to the *suoni-montaggi*, sort of sound-editing work performed by Milan’s GUF at the *Littoriali della radio* starting in 1934. They represented a bridge between the Futurists’ experiments with noise, the new acoustic experience of modernity and the listening experience brought about by the radio-comedies. Furthermore, they offered, as it was widely recognized at the time, a valid source of inspiration for sound cinema. Renato Castellani, Carlo Linati, and Ettore Giannini – figures whose career joined the history of Italian radio with that of Italian cinema – realized a series of works reproducing the repertoire of the noises of modernity (sounds of war in *In linea*, sounds from an apartment building in *La fontana malata*, and sounds of urban combat in *15 Aprile*). In these works, not only do they create daring syntactic combinations of acoustic tableaux, but they elicit aural experiences in which “the acoustic field is the main actor,” they create a “vague and overbearing sense of mystery,” speak the “incommensurable, the sinisterly raw” and hit “the quasi hypnotic impressionability of the ear.”<sup>28</sup> A new awareness transpires from these words: filtered through the experience of Futurism and the radio, understood in its most revolutionary aspect, sound could no longer be regarded as merely one of many expressive elements. The modern age and cinema gave “visibility” to a new dimension, within which “as human beings we are surrounded – and filled – by a continuous field of sound, by sounds outside our bodies, as well as by metabolic sounds within [...], sound is inescapable. It is as pervasive as the air that constitutes its primary medium.” Sound is always original, in the sense that it bears traces of the bodies, the materials through which it diffuses and penetrates, even traces of the apparatus. The experience of sound, in particular, puts cinema and its spectators in contact with a reality in which “background noise is the ground of our perception, absolutely uninterrupted, it is our perennial sustenance, the element of the software of all our logic.”<sup>29</sup> Once again, cinema and radio act as the archives of this memory.

[Translated from Italian by Alessandra Raengo]

1 “Life in ancient times was silent. In the 18<sup>th</sup> century, with the invention of machines, noise was born. Today, noise triumphs and regally governs men’s sensitivity”, L. Russolo, “L’arte dei rumori, Manifesto” [11 marzo 1913] in G.F. Maffina (a cura di), *Luigi Russolo e l’arte dei rumori, con tutti gli scritti musicali* (Torino: Martano, 1978), pp.129-134.



- 2 “Attraversiamo una grande capitale moderna con le orecchie più attente che gli occhi,” L. Russolo, “L’arte dei rumori, Manifesto,” cit..
- 3 See, P. Valentini, “Il suono tra film e radio negli anni Trenta,” in R. De Berti, E. Mosconi (a cura di), *Comunicazioni sociali, Cinepopolare. Schermi italiani degli anni Trenta*, XX, 4 (ottobre-dicembre 1998), pp. 595-614.
- 4 Even popular, non-technical magazines such as *Radiocorriere o Il Giornale della radio* are forced to constantly deal with readers’ complaints for disturbances due to the weakness of antennas or the interferences produced by the urban electric system.
- 5 See, among others, Aa.Vv., *Iris, La Parole au cinéma*, III, 1 (1985); R. Altman (ed.), *Yale French Studies, Cinema / Sound*, 60 (1980); Id., *Sound Theory / Sound Practice*, (London-New York: Routledge, 1992); C. Belaygue (sous la direction de), *Le Passage du muet au parlant* (Toulouse: Cinémathèque de Toulouse / Editions Milan, 1988).
- 6 The most significant writings are found within the theoretical debate on radio and cinema, which in the Thirties, comprises the same figures (Marinetti, Arnheim, Giovannetti, Ferrieri, etc.), along with the institutional debate, whose visual traces are found in the ads published in contemporary magazines. The landscape of echoes between cinema and radio is very rich. One striking example is the radio-comedies that, in the Thirties, transmit the voices of Massimo Pianforini, Nella Maria Bonora or Giovanna Scotto, who the audience would later “see” performing as character actors in the films of Camerini, or hear again, ironically, as the dubbed voices of Claudette Colbert or Ingrid Bergman.
- 7 See, P. Ortoleva, *Mediastoria* (Parma: Pratiche Editrice, 1995); F. Colombo, *La cultura sottile. Media e industria culturale in Italia dall’Ottocento agli anni Novanta*, (Milano: Bompiani, 1998).
- 8 See, for instance, E. Rocca, *Panorama dell’arte radiofonica* (Milano: Bompiani, 1938), p. 169; A. Casella, “La commedia radiofonica in Italia e all’estero,” *Comoedia*, XIV, 11 (dicembre 1932), pp. 14-16; R. Arnheim, *Radio* (London: Faber & Faber, 1936) [1933]: the Italian translation appeared in 1937.
- 9 See M. Chion, *L’audio-vision* (Paris: Nathan, 1990).
- 10 A. Ginna, “Radio ascolto,” *L’Impero*, III, 12 (13 dicembre 1931), p. 6; “Piccola posta,” *Radiocommedie*, I, 7 (1942). The letter to Ferrier (who had been artistic director since the Thirties) is preserved at the *Archivio di Pavia, Fondo Ferrieri*.
- 11 The Manifesto, invites us to work with the “vita caratteristica di ogni rumore” (“peculiar life of every noise”) and to stage “lotte di rumori e di lontananze diverse” (“battles between noises and of different distances”). See F.T. Marinetti, P. Masnata, “Il teatro radiofonico. Manifesto” [1933] in M. Verdone, *Cinema e letteratura del futurismo* (Rovereto: Manfrini, 1990), pp. 235-238.
- 12 “Esatta riproduzione dei rumori”, G. T., “La riproduzione dei rumori nel teatro radiofonico,” *Radio Orario*, III, 7 (13-20 febbraio 1927), pp. 3-4.
- 13 “Scene acustiche. Voci carrettieri – Grida di animali – Canzone con accompagnamento di pifferi, di tamburi, berceuse, Le ore, Il vento, la Pioggia – Rumori diversi”, *Radio Orario*, III, 1 (16-23 gennaio 1927), p. 25.
- 14 “Per l’effetto del vento una sirena da caccia, per l’effetto della pioggia un tamburo di rete metallica dentro il quale, mediante rotazione, scorre della ghiaia” and “il suono della grancassa è composto di frequenze bassissime, le quali non possono venire riprodotte dalla quasi totalità degli apparecchi riceventi e degli altoparlanti diffusi in commercio: è per questo che l’effetto del brontolio prolungato del tuono mancò quasi totalmente,” G. T., *op.cit.*, p. 4.
- 15 “Si ascolta con godimento” A.G. Bragaglia, “Ammainiamo queste vele!,” *L’Impero*, III, 12 (13 dicembre 1931), p. 6.
- 16 E. Thayaht, “Russolo: precursore dell’estetica radiofonica,” *Futurismo*, I, 14 (11 dicembre 1932) echoes analogous remarks by G. Sommi Picenardi, published on the *Radiocorriere*. It must be remembered that during his staying in Paris in 1927, Russolo was invited to accom-

- pany with the “*rumorarmonio*” some short films at Studio 28; his correspondence also reveals that he had contacts with Fox Movitone and French producers to work on the sonorization of films. See G.F. Maffina, *op. cit.*
- 17 “Orchestrare idealmente insieme il fragore delle saracinesche dei negozi, le porte sbatacchianti, il brusio e lo scalpiccio delle folle, i diversi frastuoni delle ferriere, delle filande, delle tipografie, delle centrali elettriche e delle ferrovie sotterranee,” L. Russolo, “L’arte dei rumori. Manifesto,” *op.cit.*, pp. 129-134.
- 18 “Il brusio continuo, stranissimo e meraviglioso della folla, del quale si possono determinare solo poche voci che arrivano chiare e distinte fra tutte le altre anonime e confuse,” “si può studiare quale dei vari rumori – passo del cavallo, traballamenti delle vetture, sfregamenti dei finimenti, ecc. – si perda prima nella lontananza fino a diventare un leggero brusio” and “Nei gorgogliatori, abbassando un registro, si trasforma il rumore tipo gorgogliare d’acqua nei tubi d’una grondaia, in un altro rumore tipo scroscio di pioggia,” L. Russolo, *L’arte dei rumori* (Milano: Edizioni Poesia, 1916), now in Maffina, *op.cit.*, pp. 129-176.
- 19 De Stefani’s radio-comedy was aired by EIAR in the evening on February 3<sup>rd</sup> and 10<sup>th</sup>, 1932; the script, with an introduction by the author, is published in O. Caldiron (a cura di), *Cinema / Studio, Dossier. Cinema all’antica italiana. Carlo Ludovico Bragaglia*, III, 11-12 (luglio-dicembre 1993), pp. 37-79.
- 20 “Non c’entrava niente con il cinema. Non era adatto. Lo cambiai completamente,” C. L. Bragaglia, “Eravamo ragazzini,” in O. Caldiron, *op.cit.*, pp. 7-8
- 21 Such appeals, usually as editorials, recurr constantly since at least 1930; see “Il teatro elettrico,” *Radiocorriere*, VII, 22 (May, 30<sup>th</sup> – June, 6<sup>th</sup> 1931), pp. 1-2; Gi.Mi., “Lettera a un commediografo,” *Radiocorriere*, VII, 36 (September 5-12<sup>th</sup> 1931), pp. 1-2; “L’invito ai commediografi italiani di scrivere per la radio,” *Radiocorriere*, VII, 40 (October, 3-10<sup>th</sup> 1931), pp. 1-2; Cfr. R. Redi, “La dinamo, la borsa, la vita,” in O. Caldiron, *op.cit.*, pp. 14-18.
- 22 “Una commedia dove i rumori della strada, della notte, di una taverna e di un aerodromo, di un circolo anarchico e di un incendio debbono alternarsi con rapida successione di quadri acustici e suggerire i luoghi,” O. Caldiron, *op.cit.*, p. 37.
- 23 On this film and Ruttmann’s work in general, see C. Camerini (a cura di), *Acciaio, un film degli anni Trenta. Pagine inedite di una storia italiana* (Torino: Nuova ERI, 1990) and L. Quaresima (a cura di), *Walter Ruttmann. Cinema, pittura, ars acustica* (Trento: Manfrini, 1994).
- 24 W. Ruttmann, “Programmsätze eines Praktikers: Tonfilm-Schaffen,” *Filmtechnik*, 9 (1929), quoted in L. Quaresima, *op. cit.*
- 25 The sequence in the steel mills in *Sinfonia delle macchine* is connected through a sound and visual dissolve to a scene in which some children play with a model hammer: this effect was planned in the script. See C. Camerini, *op.cit.*, p. 94.
- 26 “Si naviga nel sinfonismo siderurgico,” L. Longanesi, “Acciaio”, *Il Tevere* (April, 17<sup>th</sup> 1933).
- 27 “La produzione di rumori e voci ambientali, che magari falsi alla trasmissione devono, però, risultare veri alla ricezione,” Anon., “La macchina per rumori radiofonici,” *Radio Orario*, IV, 29 (15-22 luglio 1928), p. 5.
- 28 “L’ambiente sonoro è il primo attore”, “un vago e incombente senso fantomatico,” “lo smisurato, e il mostruosamente grezzo,” “l’impressionabilità quasi ipnotica dell’orecchio,” E. R. [Enrico Rocca], “La radio,” *Scenario*, III, 7 (luglio 1934), pp. 377-381 e E. Rocca, *op.cit.*, p. 246, 245, 161.
- 29 B. R. Smith, *The Acoustic World of Early Modern England* (Chicago-London: University of Chicago Press, 1999), pp. 6-13. Smith continues, and quotes, the work of Michel Serres.