APPENDIX IV

THE ART OF NOISES: FUTURIST MANIFESTO
MY DEAR BALILLA FRATELLA, GREAT FUTURIST COMPOSER:

In the crowded Costanzi Theater, in Rome, while I was listening with my futurist friends Marinetti, Boccioni, and Balla to the orchestral performance of your overwhelming MUSICA FUTURISTA, there came to my mind the idea of a new art: the Art of Noises, a logical consequence of your marvelous innovations.

Life in ancient times was silent. In the nineteenth century, with the invention of machines, Noise was born. Today Noise is triumphant, and reigns supreme over the senses of men. For many centuries life evolved in silence, or, at the most, with but a muted sound. The loudest noises that interrupted this silence were neither violent nor prolonged nor varied since—if we overlook such exceptional phenomena as hurricanes, tempests, avalanches, waterfalls—nature is silent.

Noises being so scarce, the first musical sounds which man succeeded in drawing from a hollow reed or from a stretched string were a new, astonishing, miraculous discovery. By primitive peoples musical sound was ascribed to the gods, regarded as holy, and entrusted to the sole care of the priests, who made use of it to enrich their rites with mystery. Thus was born the conception of musical sound as a thing having an independent existence, a thing different from life and unconnected with it. From this conception resulted an idea of music as a world of fantasy superimposed upon reality, a world inviolate and sacred. It will be readily understood how this idea of music must inevitably have impeded its progress, as compared with that of the other arts. The Greeks themselves—with their theory of music (systematized mathematically by Pythagoras) which permitted the use of a few consonant intervals only—greatly limited music's scope and excluded all possibility of harmony, of which they knew nothing.

The Middle Ages, with their modifications of the Greek tetra-chord system, with their Gregorian chants and their folk songs, enriched the art of music. Yet they continued to regard music from the point of view of linear development in time—a narrow view of the art which lasted several centuries and which persists in the more
complicated polyphony of the Flemish contrapuntists. The chord did not exist: the flow of the individual parts was never subordinate to the agreeable effect produced at any given moment by the ensemble of those parts. In a word, the medieval conception of music was horizontal, not vertical. An interest in the simultaneous union of different sounds, that is, in the chord as a complex sound, developed gradually, passing from the perfect consonance, with a few passing dissonances, to the complicated and persistent dissonances which characterize the music of today.

The art of music at first sought and achieved purity and sweetness of sound; later, it blended diverse sounds, but always with intent to caress the ear with suave harmonies. Today, growing ever more complicated, it seeks those combinations of sounds that fall most dissonantly, strangely, and harshly upon the ear. We thus approach nearer and nearer to the music of noise.

This musical evolution parallels the growing multiplicity of machines, which everywhere are assisting mankind. Not only amid the clamor of great cities but even in the countryside, which until yesterday was ordinarily quiet, the machine today has created so many varieties and combinations of noise that pure musical sound—with its poverty and its monotony—no longer awakens any emotion in the hearer.

To excite and exalt our senses, music continued to develop toward the most complex polyphony and the greatest variety of orchestral timbres, or colors, devising the most complicated successions of dissonant chords and preparing in a general way for the creation of MUSICAL NOISE. This evolution toward noise was hitherto impossible. An eighteenth-century ear could not have endured the dissonant intensity of certain chords produced by our modern orchestras—triple the size of the orchestras of that day. But our own ears—trained as they are by the modern world, so rich in variegated noises—not only enjoy these dissonances but demand more and more violent acoustical emotions.

Moreover, musical sound is too limited in qualitative variety of timbre. The most complicated of orchestras reduce themselves to four or five classes of instruments differing in timbre: instruments
played with the bow, plucked instruments, brass winds, wood winds, and percussion instruments. So that modern music, in its attempts to produce new kinds of timbre, struggles vainly within this little circle.

We must break out of this narrow circle of pure musical sounds, and conquer the infinite variety of noise-sounds.

Everyone will recognize that every musical sound carries with it an incrustation of familiar and stale sense associations, which predispose the hearer to boredom, despite all the efforts of innovating musicians. We futurists have all deeply loved the music of the great composers. Beethoven and Wagner for many years wrung our hearts. But now we are satiated with them and derive much greater pleasure from ideally combining the noises of street-cars, internal-combustion engines, automobiles, and busy crowds than from re-hearing, for example, the "Eroica" or the "Pastorale."

We cannot see the immense apparatus of the modern orchestra without being profoundly disappointed by its feeble acoustic achievements. Is there anything more absurd than to see twenty men breaking their necks to multiply the meowing of a violin? All this will naturally infuriate the musicomaniacs and perhaps disturb the somnolent atmosphere of our concert halls. Let us enter, as futurists, into one of these institutions for musical anemia. The first measure assails your ear with the boredom of the already-heard and causes you to anticipate the boredom of the measure to come. Thus we sip, from measure to measure, two or three different sorts of boredom, while we await an unusual emotion that never arrives. Meanwhile we are revolted by the monotony of the sensations experienced, combined with the idiotic religious excitement of the listeners, Buddhistically intoxicated by the thousandth repetition of their hypocritical and artificial ecstasy. Away! Let us be gone, since we shall not much longer succeed in restraining a desire to create a new musical realism by a generous distribution of sonorous blows and slaps, leaping nimbly over violins, pianofortes, contrabasses, and groaning organs. Away!

The objection cannot be raised that all noise is loud and
dissagreeable. I need scarcely enumerate all the small and delicate noises which are pleasing to the ear. To be convinced of their surprising variety one need only think of the rumbling of thunder, the howling of the wind, the roar of a waterfall, the gurgling of a brook, the rustling of leaves, the receding clatter of a horse's hoofs, the bumping of a wagon over cobblestones, and the deep, solemn breathing of a city at night, all the noises made by wild and domesticated animals, and all those that the human mouth can produce, apart from speaking or singing.

Let us wander through a great modern city with our ears more attentive than our eyes, and distinguish the sounds of water, air, or gas in metal pipes, the purring of motors (which breathe and pulsate with an indubitable animalism), the throbbing of valves, the pounding of pistons, the screeching of gears, the clatter of streetcars on their rails, the crackling of whips, the flapping of awnings and flags. We shall amuse ourselves by orchestrating in our minds the noise of the metal shutters of store windows, the slamming of doors, the bustle and shuffle of crowds, the multitudinous uproar of railroad stations, forges, mills, printing presses, power stations, and underground railways.

Nor should the new noises of modern warfare be forgotten. Recently the poet Marinetti, in a letter from the trenches of Adrianopolis, described to me in admirably unfettered language the orchestra of a great battle:

"every 5 seconds siege guns splitting the belly of space with a TZANG-TUMB-TUUUMB chord revolt of 500 echos to tear it to shreds and scatter it to infinity. In the center of these TZANG-TUMB-TUUUMB spied out breadth 50 square kilometers leap reports knife-thrusts rapidfire betteries Violence ferocity regularity this deep bass ascending the strange agitated insane high-pitched notes of battle Fury panting breath eyes ears nostrils open! watching! straining! what joy to see hear smell everything everything taratatata of the machine guns frantically screaming amid bites blows traak-traak whipcracks pic-pac pum-tumb strange goings-on leaps height 200 meters of the infantry Down down at the bottom of the orchestra"
stirring up pools oxen buffaloes goads wagons pluff plaff rearing of horses flic flac tzing tzing shaak hilarious neighing iiiiiiii stamping clanking 3 Bulgarian battalions on the march crooc-craac (lento) Shumi Maritza or Karvarena TZANG-TUUMB-TUUUMB toctoctoctoc (rapid isismo) crooc-craac (lento) officers' yells resounding like sheets of brass bang here crack there BOOM ching chak (presto) chachachachachak up down back forth all around above look out for your head chak good shot! Flames flames flames flames collapse of the forts over behind the smoke Shukri Pasha talks to 27 forts over the telephone in Turkish in German Hallo! Ibrahim!! Rudolf! Halle! Hallo! actors playlists echoes prompters scenarios of smoke forests applause smell of hay mud dung my feet are frozen numb smell of salt-peter smell of putrefaction Timpani flutes clarinets everywhere low high birds chirping beatitudes shade cheep-cheep-chee- breezes verdure herds dong-dong-dong-ding-baaaa the lunatics are assaulting the musicians of the orchestra the latter soundly thrashed play on Great uproar don't cancel the concert more precision dividing into smaller more minute sounds fragments of echos in the theater area 300 square kilometers Rivers Maritza Tundja stretch out Rudopi Mountains standing up erect boxes balconies 2000 shrapnel spraying exploding snow-white handkerchiefs full of gold srrrrrrr-TUMB-TUMB 2000 handgrenades hurled shearing off black-haired heads with their splinters TZANG-srrrrrr-TUMB-TZANG-TUMB-TUUUMB the orchestra of the noises of war swells beneath a long-held note of silence in high heaven gilded spherical balloon which surveys the shooting...

We must fix the pitch and regulate the harmonies and rhythms of these extraordinarily varied sounds. To fix the pitch of noises does not mean to take away from them all the irregularity of tempo and intensity that characterizes their vibrations, but rather to give definite gradation or pitch to the stronger and more predominant of these vibrations. Indeed, noise is differentiated from musical sound merely in that the vibrations that produce it are confused and irregular, both in tempo and in intensity. Every noise has a note--sometimes even a chord--that predominates in the ensemble of its irregular vibrations. Because of this characteristic note it becomes
possible to fix the pitch of a given noise, that is, to give it not a single pitch but a variety of pitches, without losing its characteristic quality—its distinguishing timbre. Thus certain noises produced by rotary motion may offer a complete ascending or descending chromatic scale by merely increasing or decreasing the speed of the motion.

Every manifestation of life is accompanied by noise. Noise is therefore familiar to our ears and has the power to remind us immediately of life itself. Musical sound, a thing extraneous to life and independent of it, an occasional and unnecessary adjunct, has become for our ears what a too familiar face is to our eyes. Noise, on the other hand, which comes to us confused and irregular as life itself, never reveals itself wholly but reserves for us innumerable surprises. We are convinced, therefore, that by selecting, coordinating, and controlling noises we shall enrich mankind with a new and unsuspected source of pleasure. Despite the fact that it is characteristic of sound to remind us brutally of life, the Art of Noises must not limit itself to reproductive imitation. It will reach its greatest emotional power through the purely acoustic enjoyment which the inspiration of the artist will contrive to evoke from combinations of noises.

These are the futurist orchestra's six families of noises, which we shall soon produce mechanically:

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In this list we have included the most characteristic fundamental noises; the others are but combinations of these.

The rhythmic movements within a single noise are of infinite variety. There is always, as in a musical note, a predominant rhythm, but around this may be perceived numerous secondary rhythms.

CONCLUSIONS

1.---Futurist musicians must constantly broaden and enrich the field of sound. This is a need of our senses. Indeed, we note in present-day composers of genius a tendency toward the most complex dissonances. Moving further and further away from pure musical sound, they have almost reached the noise-sound. This need and this tendency can only be satisfied by the supplementary use of noise and its substitution for musical sounds.

2.---Futurist musicians must substitute for the limited variety of timbres of the orchestral instruments of the day the infinite variety of the timbres of noises, reproduced by suitable mechanisms.

3.---The musician's sensibility, liberating itself from facile, traditional rhythm, must find in noises the way to amplify and renew itself, since each noise offers a union of the most diverse rhythms, in addition to the predominant rhythm.

4.---Since every noise has in its irregular vibrations a general, predominating tone, it will be easy to obtain, in constructing the instruments which imitate it, a sufficiently wide variety of tones, semitones, and quarter-tones. This variety of tones will not deprive any single noise of its characteristic timbre but will merely increase its tessitura, or extension.

5.---The practical difficulties in the construction of these instruments are not serious. Once the mechanical principle producing a given noise is found, one may vary its pitch by applying the general laws of acoustics. For example, in instruments employing rotary motion the speed of rotation will be increased or diminished; in others, the size or tension of the sounding parts will be varied.

6.---Not by means of a succession of noises imitating those of real life, but through a fanciful blending of these varied timbres
and rhythms, will the new orchestra obtain the most complex and novel sound effects. Hence every instrument must be capable of varying its pitch and must have a fairly extensive range.

7.---There is an infinite variety of noises. If today, with perhaps a thousand different kinds of machines, we can distinguish a thousand different noises, tomorrow, as the number of new machines is multiplied, we shall be able to distinguish ten, twenty, or thirty thousand different noises, not merely to be imitated but to be combined as our fancy dictates.

8.---Let us therefore invite young musicians of genius and audacity to listen attentively to all noises, so that they may understand the varied rhythms of which they are composed, their principal tone, and their secondary tones. Then, comparing the varied timbres of noises with those of musical tones, they will be convinced how much more numerous are the former than the latter. Out of this will come not merely an understanding of noises, but even a taste and an enthusiasm for them. Our increased perceptivity, which has already acquired futurist eyes, will then have futurist ears. Thus the motors and machines of our industrial cities may some day be intelligently pitched, so as to make of every factory an intoxicating orchestra of noises.

I submit these statements, my dear Pratella, to your futuristic genius, and invite you to discuss them with me. I am not a professional musician; I have therefore no acoustic prejudices and no works to defend. I am a futurist painter projecting into an art he loves and has studied his desire to renovate all things. Being therefore more audacious than a professional musician could be, caring nought for my seeming incompetence, and convinced that audacity makes all things lawful and all things possible, I have imagined a great renovation of music through the Art of Noises.

MILAN, 11 March 1913

Luigi Russolo