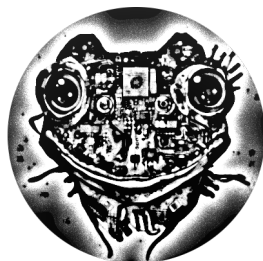


Arseniy Avraamov

SYMPHONY OF SIRENS

Translated from the Russian



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Introduction

This is a translation of Avraamov's article, 'Симфония гудков', published in the Soviet journal *Gorn*ⁱ, about his 1922 musical mobilisation of the city of Baku to celebrate the fifth anniversary of the October revolution. The work is normally translated 'Symphony of Sirens', although 'Whistle Symphony' would be more accurate (the steam-whistle being the primary melodic instrument of the work). The translation is mostly done by GPT-6.1 Sol; all the surrounding notes are mine.

The instructions for performance can be found from page thirteen.

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October 2026

ⁱ Arseniy Avraamov, 'Симфония гудков', *Gorn*, no. 9 (1923), pp. 109–116. We found it thanks to the wonderful *Electronekrasovka* digitisation project.

Symphony of Sirensⁱⁱ

*When the morning whistles roar
on the workers' outskirts,
this is no call to bondage:
it is the song of the future.*

A. Gastevⁱⁱⁱ

Of all the arts, music has the greatest power to organise society.

The oldest myths testify that humanity has recognised this power since time immemorial.

Orpheus tames wild beasts with music.

Joshua brings down the strongholds of Jericho with trumpets.

Amphion raises magnificent temples from rocks with the sounds of his lyre: the stone colossi assemble themselves to his music.

Pythagoras hears the 'harmony of the spheres' in cosmic mechanics itself, in the movement of the heavenly bodies.

From myth to history: music and mass song are indispensable features of humanity's social life at its most solemn moments. Festivities, religious and everyday rites, collective labour (from the barge-hauler to the soldier) are inconceivable without song and music.

The highly organised collective labour of factories and artels^{iv} under capitalism might have been expected to find a worthy musical embodiment... Yet it took October^v to give life to the idea of a 'whistle symphony': anarchic tendencies in the system of production itself, and fear of the producers, the workers, uniting, prevented it from taking actual form. The chaotic roar each morning was still a 'call to bondage'...

ⁱⁱ *'Simfoniya gudkov', the Russian title, refers to whistles. The distinction between steam whistles (gudki) and sirens (sireny) has often been elided in English-language discussions.*

ⁱⁱⁱ *Alexei Gastev, 'Гудку', in Поэзия рабочего удара (Petrograd: Proletkult, 1918), p. 81.*

^{iv} *A workers' association*

^v *i.e. the 'October revolution', the Bolshevik uprising against the provisional Russian government, which began on 25 October according to the Julian calendar then in use.*

The revolution came. One night - an unforgettable night! - Red Petrograd roared in a thousand-voiced chorus of whistles and sirens, and in response hundreds of lorries, bristling with rifle bayonets, raced through the deserted lanes of the outskirts towards the city checkpoints... The Red Guard was rushing to meet Kornilov's advance forces... How we longed, how necessary it was at that threatening moment, to bind the roaring chaos with a single will and replace the alarm with the victorious anthem of the Internationale!

Great October. Once again whistles roar throughout Russia, guns boom... and still there is no single organising will.

1919. The Volga. Nizhny Novgorod. We see the troop trains off to Kazan, to face Kolchak. The whole squadron roars farewell until the wisp of grey smoke disappears from sight... At last we make our first attempt at organisation... It is difficult, it does not come off, there are too many sirens, but the outlines of the Internationale's mass of sound can nevertheless be discerned...

1922. Baku. The opening of the navigation season. Twenty-six vessels of the oil fleet depart for Astrakhan. The whole fleet roars, the docks, the factories... A tremendous orchestra. The decision is made: on the fifth anniversary of October, it will sound in harmony. And it did.

We want every city with ten steam boilers to organise a worthy 'accompaniment' to the October celebration on its sixth anniversary, and here we give instructions for organising a 'symphony of whistles' under different local conditions.

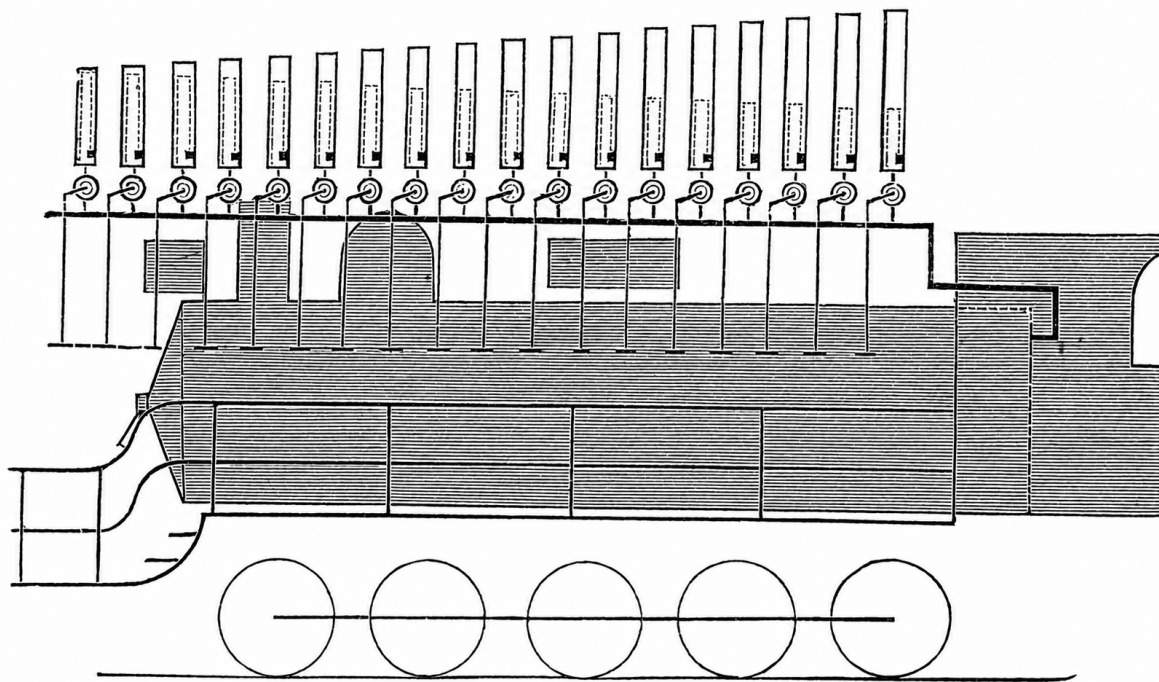
After the successful experiment, this is no longer difficult: all that is needed is initiative and energy.

The *magistral*

One of the most important conditions for a successful performance is the construction in advance of a steam-whistle *magistral*.^{vi}

^{vi} In regular usage, *magistral* refers to the main pipe in a network.

The *magistral* is mounted either on a conveniently situated factory boiler, or on a locomotive or steamship (in Baku it was mounted on the destroyer *Dostoyny*). The advantages of a mobile *magistral* are obvious: at different moments in the celebration it can be brought to one part of the city or another, and even demonstrated independently in the surrounding area.



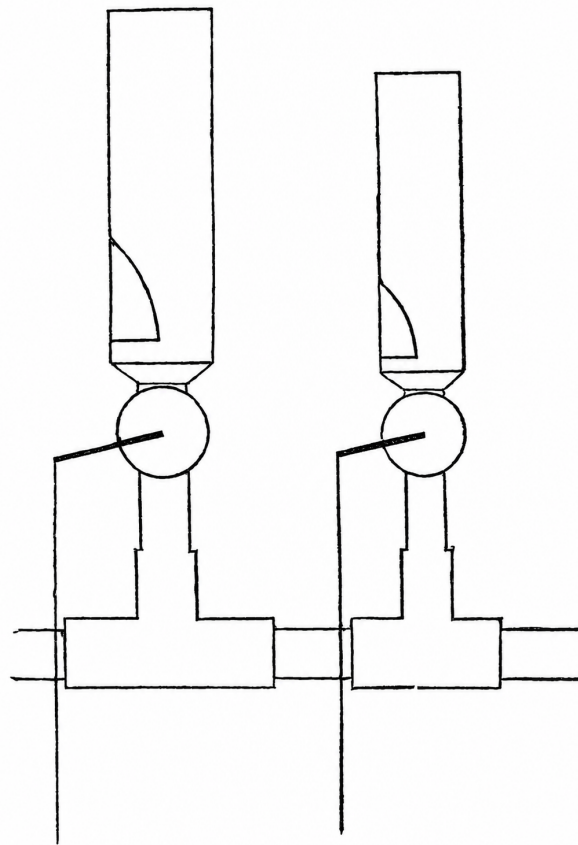
The *magistral's* construction is very simple: between twenty and fifty whistles are screwed onto a common pipe (preferably cylindrical whistles, since they are easier to retune). The pipe is given whatever shape suits the site: straight, semicircular, or with two or three bends. Acoustically, it makes no difference.

The only essentials are that steam should enter at the centre, and that drain cocks or valves should be fitted at the ends to draw off water before the performance. Otherwise water will be expelled through the whistle valves and rhythmic precision will be lost.

The whistles are tuned by shortening the air column in the upper cylinder by whatever means: with a piston, or simply by driving a wooden plug in from above and then securing it at the required depth. The least hygroscopic wood should be chosen, otherwise its swelling under the action of steam will disturb the tuning after only two or three rehearsals.

Cup-shaped whistles allow very little retuning (only within a whole tone, or at most a third), by inserting washers and so moving the cup's lower rim farther from the steam jet: a considerable change of pitch will be at the expense of the tone's timbre and strength.

If high notes are needed which the available whistles cannot produce, overtone sounding can be obtained by altering the window in a cylindrical whistle, or by mounting the cup off-centre (an octave, a fifth and two octaves higher). Such whistles, however, require care and repeated testing: they may 'let you down' during the performance at the slightest change in steam pressure.



In general, a standard pressure must be established and maintained both during tuning and during the performance: 100-120 pounds give a good effect (keep the fire stoked throughout).

The *magistral* must be mounted high enough to prevent the performers from being deafened by its roar. It goes without saying that the strength of the completed structure must be tested under water or air pressure, otherwise the performers risk burns.

The entire *magistral* must be well insulated, right up to the whistle valves, to prevent the steam from continually cooling and water from collecting in the valves.

The cost of building the *magistral* is trifling, and it can be kept for permanent use, even for everyday morning and evening signalling.

Number of pitches: the minimum (for the melody of the Internationale alone) is twelve: e, f, fis, g, gis, a, h, c₁, d₁, e₁, f₁, g₁. It is desirable to add C, F, G, c, d. With seventeen pitches, a minimal harmonisation of the melody is already possible. Further additions free the hands of the musician making the transcription: the anthem can then be harmonised freely, or indeed a genuine 'symphony' composed especially for the purpose. Expansion proceeds along the chromatic scale, from two and a half to four octaves (and more where possible).

Individual whistles

The *magistral* can be dispensed with only if there are enough mobile boilers (locomotives and vessels) and they can be concentrated in one area (a railway station or railway pier).

Even then, however, the *magistral*, as something already resembling a 'musical instrument', greatly helps to make the overall impression coherent.

When there are many stationary whistles (factories, works, steam mills, docks, depots and so on), they can be used in groups as the musical picture develops. In Baku, for example, the musical picture of alarm and battle unfolded in this way (see the 'directive' below). Because of the distances involved, gun salvos give the groups their entry signals. The groups are tuned in close-spaced harmonies and provide a background for the central ensemble and the *magistral*.

The distances sound must travel from the signalling gun to the group, and from the group to the celebration square, must be taken into account so that the groups enter at the right time. The distant groups do not take part in the Internationale, since the gun is then acting as a 'bass drum' and cannot give signals over a distance.

The mobile *magistral* can be moved temporarily to reinforce one group or another, but must be returned to its place for the finale.

Sirens, motor vehicles, bells, aircraft

The sirens of the fleet and factories form a separate group of instruments which does not take part in the work's harmonic development. They sound independently in special episodes, singly or in chords (in parallel and contrary motion), over a pedal point from a bass whistle, accompanied by rifle and machine-gun salvos, chiefly as a means of sound-painting and signalling.

With good 'performers', one might of course try to give them harmonic and even melodic tasks, but this is already a virtuoso element, not easily incorporated into the structure of ordinary pitched music. The 'differential' music of siren sounds belongs entirely to the future. Today we are only just feeling our way towards the laws of its particular harmony and melody.

Motor vehicles stationed immediately beside the celebration site (in one of the adjoining streets) are valuable chiefly for their noise effects, but with enough pitched signals they can also form a separate group combining timbre and harmony. The noise of the engines themselves (especially those of lorries), like that of low-flying aeroplanes and seaplanes, produces astonishing effects of overwhelming emotional force.

Bell-ringing, whether alarm, funeral or jubilant pealing, is used in the appropriate episodes without regard to the harmonic conception; alternatively, the symphony's entire tuning is chosen in advance to suit the available bells (in Baku, the rhythmic striking of ships' bells accompanied the whole performance of the Internationale).

Artillery

When the whistles are scattered over a large area, at least one heavy gun is needed for signalling, with provision for firing a live shell (shrapnel is unsuitable, since, bursting in the air, it is especially dangerous and produces a second report which may confuse the performers). A field gun can also serve as the 'bass drum'.

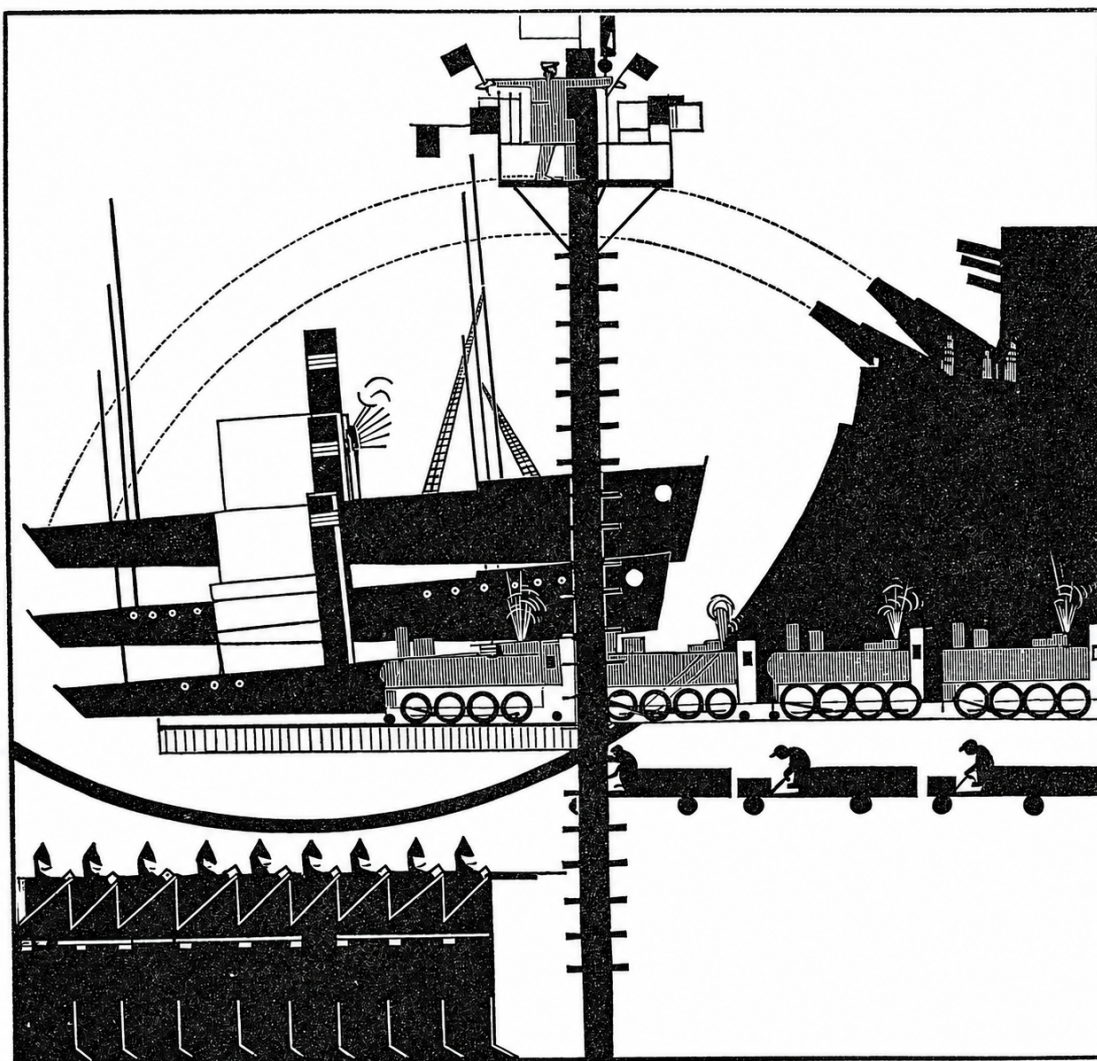
Experienced machine-gunners (again, provided they use a belt of live ammunition) can not only imitate a drum roll but also beat out complex rhythmic figures. Rifle salvos with blanks and rapid fire in bursts are good for passages of sound-painting.

The tower

A tower is erected on high ground immediately beside the centre of the performance for conducting the symphony.

The simplest construction is a pair of telegraph poles joined at their ends, with a 'Swedish mast'.^{vii} At the top is a platform with a railing.

^{vii} *A piece of gym apparatus with crossbars for use as hand- and foot-holds.*



Along the edge are sockets for flagpoles, or a rope arrangement for hoisting the flags. The tower must be designed so that the performers see it against a clear sky. The flags should use the strongest contrasting colours (as in naval signalling), clearly visible from a distance. The fleet, locomotives, battery, machine-gunners and motor vehicles take positions near the tower so that they can see the signals directly.

A field telephone with its own station must be installed on the tower, connected to the battery, the celebration square, the firing range and the most important groups. A powerful megaphone and a human (living) link with the *magistral* are useful. The right hand conducts the beat; the left gives the artillery and other signals. The battery should be a hundred or two nearer the celebration square than the tower, to prevent the gun reports arriving late.

Notation

The accompanying example of text-notation for the Internationale gives an idea of the notation in general. Rhythmic figures are written out on a single line and printed in that form; the 'parts' for individual pitches are then underlined by hand.

Such notation can be used both to perform the symphony and to rehearse it indoors. All that is needed is to give the performers of the respective pitches small sound-producing devices, each emitting a single note (for example, brass reeds from a harmonium, children's clay or tin whistles, and so on).

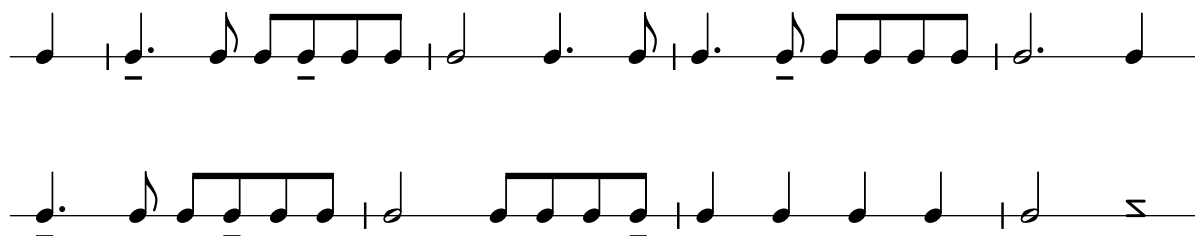
It must be borne in mind that each performer at the *magistral* has two pitches, one for the left hand and one for the right. Each hand's part must be underlined in a different colour of ink.

Accordingly, the *magistral* players should each be given two whistles for rehearsal. It does not matter if the entire symphony sounds an octave higher on whistles during rehearsals.

The smallest permissible subdivisions for performance are quavers, at the tempo of the Internationale, provided the conductor beats eight strokes. Smaller rhythmic subdivisions cannot be executed with sufficient precision.

<u>Вста</u> 4	вай 2 3 про	клять ем <u>за</u> клей	млен 2 3 4	ный 2 3
весь	мир 2 3 го	лод ных <u>и</u> ра	бов 2 3 4	1 2
<u>Ки</u> 4	пит 2 3 наш	ра зум <u>воз</u> му	щен 2 3 4	ный и в смерт
ный	бой 2 ве 4	сти 2 го 4	тов 2 3 4	1 —
Ве — есь	мир 2 3 на	си лья мы раз	ру 2 3 4	<u>шим до</u> ос
<u>но</u>	ва 2 3 нья	а 2 3 за	тем 2 3 4	1 —
Мы 4	наш 2 3 мы	<u>но</u> <u>вый</u> мир <u>по</u>	стро 2 3 4	им кто- был
ни	чем 2 тот 4	ста 2 нет 4	<u>всем 2 3 4</u>	1 —
Э- то	есть 2 3 4	<u>наш 2 3</u> по	след 2 3 4	ний 2
И ре	ши 2 3 4	тель 2 <u>ный 4</u>	<u>бой 2 3 4</u>	<u>1</u> —
<u>С ин</u> 4	тер 2 3 4	на 2 <u>ци</u> <u>о</u>	на 2 3 4	лом 2 3
вос	пря 2 3 нет	род 2 люд 4	ской 2 3 4	1 —
Э- то	есть 2 3 4	<u>наш 2 3</u> по	след 2 3 4	ний 2
И ре	ши 2 3 4	тель 2 <u>ный 4</u>	бой 2 3 4	1 —
С ин 4	тер 2 3 4	на 2 <u>ци</u> <u>о</u>	на 2 3 4	лом 2 3
Вос 4	пря 2 3 нет	род 2 люд 4	ской 2 3 4	1 —

Text-notation of the Internationale. The part for the G whistle is underlined.



Rhythm-notation of the Internationale. (And so on; the part for the C whistle is underlined.)

The notation must be printed on stiff card of a convenient shape: there may be bad weather, wind or rain.

The Baku experiment

The following was printed in the issues of *Bakinsky Rabochy*, *Trud* and *Kommunist* (in Turkic) dated 6 November of last year:

For the celebration of the fifth anniversary of October

Performance directive for the 'Whistle Symphony'

On the morning of the fifth anniversary, 7 November, all vessels of Gokasp^{viii}, the naval fleet and Ubekokaspiy^{ix}, down to the smallest steam launches, are to assemble at the railway pier by 7 a.m. Each vessel receives its instructions and takes musicians aboard, then occupies its assigned position in the area of the customs piers. The destroyer *Dostoiny*, with the steam-organ *magistral*, and the small vessels take positions in front, opposite the signalling tower.

By 9 a.m. the entire fleet must be in position.

By the same hour, all available locomotives (shunting engines, those used for local services and armoured trains, and those returned from repair) are to arrive at the pier.

Cadets of the 4th Armavir command courses, students of the Higher Party School of the BK^x, studio members of the CRK^{xi}, pupils of the Azerbaijan State Conservatoire and professional musicians must be at the pier no later than 8.30 a.m.

At 10 a.m. the infantry, artillery, machine-guns, armoured cars and motor vehicles take their positions in accordance with the garrison order. Aeroplanes and seaplanes stand ready.

No later than 10.30 a.m., signallers are to take their places at the district, railway-station and dock whistles.

The noon gun is cancelled.

At the first salute salvo from the roadstead, Zyk, White City, Bibi-Eibat and Bailov enter with alarm whistles.

At the fifth gun: districts 1 and 2 of Black City.

^{viii} Государственное управление Каспийского морского пароходства — State Administration of the Caspian Shipping Company.

^{ix} Управление по обеспечению безопасности кораблевождения на Каспийском море — Administration for Safe Navigation on the Caspian Sea.

^x Бакинский комитет — Baku Party Committee.

^{xi} Центральный рабочий клуб — Central Workers' Club.

At the tenth gun: the whistles of Azneft's Goods Administration and the docks.

At the fifteenth gun: the city district. Seaplanes take off. Bells.

At the eighteenth gun: the whistle of the railway depot and the locomotives remaining at the station;

(at the same time, one company of the 4th Armavir command courses leaves the square for the pier, led by the combined brass band playing the *Warszawianka*).

The alarm reaches its peak and breaks off at the twenty-fifth gun.

Pause.

A triple chord from the sirens. 'Hurrah' from the pier.

otboy from the *magistral*.^{xii}

The Internationale (played through four times).

In the second half-stanza, the combined brass band and the motor-horn chorus enter with the Marseillaise. On the repeat, the entire celebration square joins in as a chorus.

At the end of the fourth stanza, the cadets and infantry return to the square, greeted by an answering 'hurrah' from the square.

At the conclusion: a general, solemn chord from all the whistles and sirens for three minutes, accompanied by bell-ringing.

otboy from the *magistral*.

Ceremonial march.

The artillery, fleet, motor vehicles and machine-guns receive their signals directly from the conductor's tower. A red flag with a white field is for the battery; yellow with blue for the sirens; a four-coloured flag for the machine-guns. Red is for solo vessels and locomotives in the direction of the signal, and for the motor-horn chorus.

The Internationale is repeated twice more during the concluding procession, on signals from the battery.

^{xii} Musical call used by Russian and Soviet armed forces as an instruction to stand down.

Steam boilers must be stoked wherever there are signalling whistles.

All the foregoing is to serve as guidance and must be strictly carried out, under the responsibility of the supervising bodies: the military authorities, Azneft, Gokasp and the relevant educational institutions.

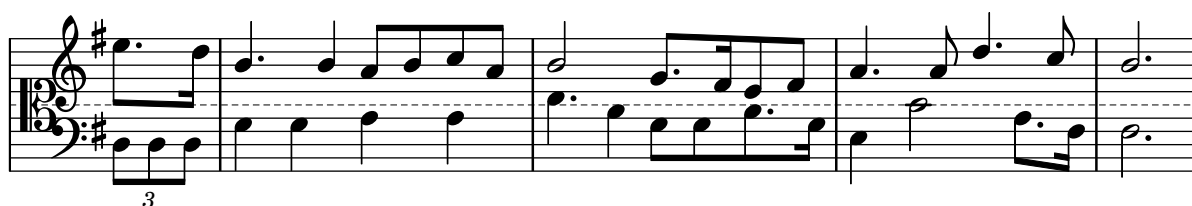
Every performer must have this directive with them during the performance.

Chairman of the TsOK^{xiii}: **P. Chagin.**
Organiser of the 'Whistle Symphony':
Ars. Avraamov.

As the 'directive' shows, the Baku symphony was a sound picture of alarm, the unfolding battle and the victory of the army of the Internationale. Any programme whatever can be chosen. Everything depends on the 'power' of the 'orchestra' and the disposition of the districts.

At the simplest, one can perform just the Internationale, the Young Guard, or the Funeral March (if the procession passes the graves of victims of the revolution). Indeed, any musical work can be performed whose number of pitches falls within the city's resources.

Counterpoint between revolutionary melodies is possible. In Baku, for example, as the 'directive' shows, the Internationale and the Marseillaise were performed in combination:



^{xiii} Probably Центральный организационный комитет — Central Organising Committee.

If the *magistral* is kept intact after the performance, it can be used in all sorts of ways, even for the daily whistles calling people to and from work. Better still, if a *magistral* with a keyboard could be made, only one or two performers would be needed; but the trouble is that building such a *magistral* (with an electromagnetic mechanism) already costs thousands of gold roubles.

The Internationale^{xiv}

Arise, ye pris'ners of starvation!
Arise, ye wretched of the earth!
For justice thunders condemnation,
A better world's in birth!
No more tradition's chains shall bind us,
Arise, ye slaves! no more in thrall!
The earth shall rise on new foundations,
We have been naught, we shall be all.

'Tis the final conflict,
Let each stand in his place.
The International Party
Shall be the human race.

^{xiv} English version by Charles H. Kerr, 'The International Party', *International Socialist Review*, vol. 1, no. 6 (December 1900), pp. 383–384.