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ON ANNOYING SOUNDS GENERATED AS BYPRODUCTS OF 'GOOD INTENTIONS'

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Abstract

This paper focus on the noise generated by the enormous amount of devices which, in our modern world, emit some sound in order to announce that something has happened, will happen, has been done, or, instead, in which unnecessary noise is generated by lack of a good electronic project. The need of acoustic consciousness in designers, as well as in the population in general — people frequently buy objects without even noticing the quality of the sound they make — is emphasized, as the only means or counteracting the growing wave of alarms of all type which, by their huge number, end up acting more as sources of noise pollution than anything else. The situation in Rio de Janeiro, Brazil, where some situations have led to lawsuits, is discussed, the presentation being illustrated by a number of video examples.

1. INTRODUCTION

Modern electronics has generated a number of alarm signs, designed, in principle, for our benefit. However, the number of these alarms is becoming so increasingly large that, as there is always (or nearly so) an alarm sounding, they end up loosing their function of conveying useful information, and become, instead, sources of noise pollution. The present paper discusses the case of the city of Rio de Janeiro, where the problem is indeed significant, describing some of the main types of sound alarms that affect the population and emphasizes the need of acoustic education as the only means of changing the current situation.

2. SOME TYPICAL ALARM TYPES

2.1 The case of garage alarms

Garage alarms, expected to sound whenever a car leaves a garage (provided it can contain at

least four cars) between 6:00 AM and 10:00 PM, and to flash a light sign at all times, were made mandatory in the City of Rio de Janeiro since December, 1986, by the Municipal Law 938/86. As a result, Rio saw (and listened to) the progressive installation of alarms which, for the most part, sounded whenever garage doors were opened, regardless if cars were leaving or entering the garage, or if the doors had been opened for the passage of people, bicycles or for any other reason. In most cases, the alarm sounds for the whole period the door is kept open, which is, frequently, determined by the electronic opening and closing of the gates, being then nearly in agreement with the maximum time allowed for the alarm, which is 30 seconds. However, in some cases, the closing depends on manual command, which may happen a few seconds after the car (or person, etc) left (or entered) or, instead, occur only when someone actually remembers to close the gates. In these cases, the alarm can sound for rather long periods (say, five to ten minutes, or even half an hour or more). The absurd situation generated by the massive installation of such alarms (see Figure 1), aggravated by the fact that in a number of buildings they were not turned off at night time, made garage alarms a significant source of complaints in Rio de Janeiro, which were submitted both to the Municipal Secretary of Environment and to the offices of the municipal and state Chambers deputies traditionally associated with the environmental cause. A discussion [1] on the matter was presented at a Meeting of the Brazilian Acoustical Society in 2002 and, in the following year, in a public hearing at the City Council. At least from 2002 onwards, some individuals, highly annoyed by the particular situation they faced, decided to take legal measures against the property responsible for their unrest, obtaining, in general, success, but after a reasonably long time. Due to the many complaints against garage alarms, a Municipal Law was proposed in 2003, banning completely the sounding part of these alarms. However, although it was approved by the City Council, the Mayor rejected such Law, acting on request of those who claimed that, without the alarms, blind persons would be run-over. In 2004 the Municipal Assembly rejected the Mayor's intervention and validated the Law, which was published under the number 3.864/2004. The Mayor, however, went on questioning that Law, on the grounds that it would not be in agreement with the National Traffic Code, since this Code mentions garage alarm sounds. Decision was given in favour of the Mayor in 2006 and the Law was repealed. However, other actions had been taken against garage alarms, mostly because it was felt that the Municipal Law 3.864/2004, which intended to ban all garage alarm sounds, was so strict that it might meet with opposition. In fact, in a lawsuit at the Public Ministry (a Government Body to which anyone can apply to guarantee that the Laws are respected), was started, by the author of this paper and others, in 2003, asking that all alarms which did not sound only when cars were leaving the garage should be prohibited. Unfortunately, despite many favourable views expressed by the Judges, that lawsuit is still in process, having not yet attained its goal. A more efficient measure, nevertheless, was the State of Rio de Janeiro Law 4324/2004, proposed by a State Deputy that is now the present Rio de Janeiro State Secretary of Environment of the, which tackles divers noise pollution problems and explicitly mentions that it allows the State and the diverse Cities to implement, by common agreement, the banishment of the alarms that do not sound only at the appropriate situations and also to consider that garage alarms cease to be mandatory. Although such agreements were not formally celebrated, the publicity given to the matter was such that, the practical effect was that about 70% of the garage alarms in the City of Rio de Janeiro were turned off. The majority of those which remain in operation, however, are of the type which sounds whenever the door is opened. Fortunately, nowadays most of them are turned off at night. Many of those still in operation are in buildings where the conditions at the garage exit are such that the driver has total visibility of pedestrians about to cross his way, as in the situation shown in Figure 2.

Figure 1. Side by side garage alarms, in a street in Rio. A closer view is shown in the lower left.

Figure 2. Example of a situation in which, given the visibility condition, no alarm is needed.

It is indeed surprising that alarms with the characteristics described above, which make them more a source of noise pollution than anything else, were produced, sold and installed in most buildings in Rio de Janeiro. It seems that the major concern was the desire to waive all responsibility in the case of an accident, without any concern for the acoustic problem. In fact, while a part of the population was highly annoyed, a larger part simply not noticed there was a problem.

2.2 Other Types of Alarms

2.2.1 Alarms in buses, trucks and vans

In the last few years, another type of alarm became ‘popular’: heavier vehicles for the transportation of passengers or cargo, including minivans, were made to sound similarly to garage alarms (with, in general, a little bit slower repetition frequency for the ‘pee-pee-pee’ sound) whenever the vehicle is in rear gear. The intention is of, course, good and, unlike the garage alarms, which are fixed sources, annoying essentially the same people all the time,

these (slowly) moving sources pass by and depart, so that the question of annoyance might be considered to be less relevant. However, in some cases, as e.g., near hotels, where buses come everyday at certain hours to pick and drop passengers, the situation may be very bad, nearby dwellers being frequently disturbed by the information that some vehicle is moving backwards. In fact, such alarm sounds might be relevant in an industrial plant but in town traffic, it is quite doubtful they have true utility. A curious point is that, possibly in order to avoid confusion with garage alarms, some vehicle owners have chosen to use a different (and much more annoying) warning sound, resembling car theft alarms — which does not seem to be a very bright idea.

2.2.2 Tyre calibration devices.

Another curious alarm sound is emitted by devices for calibrating vehicle tyres in fuel stations: when the preset pressure is reached, a loud (so that it can be heard in heavy traffic and, of course, also in nearby dwellings) peep sounds. Unfortunately, this became 'normal' in Rio de Janeiro. It should be noted, however, that the author found at least one gas station in which the peep sound was firstly, reduced in volume and, later, completely turned off, at the request of neighbours (see Figure 3), but this seems to be, for the moment, an isolated case.

Figure 3. Device for calibrating tyres in a gas station. In this particular case, the sound alarm was turned off.

2.2.3 Car theft alarms

The problem with theft alarms in passenger cars is that, if they are not original series items (i.e., if they are installed after the vehicle is completed, as is often the case), they tend to be turned on by a series of uncontrollable events. As a result, they are heard to sound rather frequently, and, consequently, no one expects that, when they sound, a theft is occurring. What can be said in favour of these alarms is that they make insurance slightly cheaper. If these alarms were mandatory original items (instead of 'optional') in vehicles, on the other hand, they would not be turned on so easily. There are people in Rio who want to ban this type of alarm, but they are not many. Given the way these alarms function, however, the idea deserves attention. It is relevant to note that their banning is also supported by many in the U.S.A., as evidenced in [2, 3].

2.24 Alarms informing malfunctioning

Something that is becoming more and more common, for diverse types of electronic equipment, is the emission of a pure tone warning signal in case of malfunctioning. The aim is, of course, to call attention to the needed repair but what happens is that the 'warning signal' disturbs all those that are near the problematic device which, sometimes, cannot even be repaired on the same day. In some situation, it is possible to turn off the alarm easily. In others, it is not so easy, and those who have to work nearby are subject to continuos annoyance.

3. DISCUSSION

There is a growing wave of electronic alarm sounds, all aiming to convey information which might be useful for 'someone' and, often, also with the aim of increasing safety. However, these alarms are becoming sources of noise pollution, more than anything else, due to their large number and to the recurrent lack of an adequate product design — which usually disregards the fact that the alarm will, in general, also be heard by many to whom the information it conveys is useless. In fact, they sound so frequently that a good part of the population learns to ignore them in order not be disturbed, which means that many people are educating themselves to be 'selectively deaf'. As a consequence, those alarms which aim at increasing safety, like the garage ones or those in trucks and vans, end up having their efficiency very much reduced. Another part of the population, on the other hand, cannot help being strongly annoyed by the repeated (and to them useless) information.

There is no doubt that the only way to counter act the present situation is to promote 'acoustic education', or 'acoustic consciousness', for the population as a whole. In fact, such eduction is needed not only by the common people, who buy and install such products, but also by engineers who design products which emit alarm sounds (or other sounds), not to mention legislators who, frequently, think that by imposing the obligation of an alarm sound in a certain situation, the danger is automatically over. This belief ends up, usually, in generating the myth that, if any alarm were to be removed, lives would be in danger. For alarms that sound all the time, this, of course, cannot be true.

The situation is possibly worse in developing countries, although it should not be unfamiliar in some developed countries too. The importance of fighting unnecessary alarms is not restricted to the local problem they generate, because the 'acoustic consciousness' required is essential for dealing with more important noise problems, like the all-pervading traffic noise. If a population learns to deal effectively with this type of 'small' problem, the basis for dealing effectively with larger ones will be much stronger.

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[2] ___ http://www.nonoise.org/

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