

RECOVERING GIACINTO SCELSI'S TAPES

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ABSTRACT

This paper documents and summarizes the (still ongoing) work concerning the digital recovery of the collection of composer Giacinto Scelsi (1905-1988). This recovery has a number of peculiarities which are mostly related to conditions in which the tapes were recorded originally and to the functions these recordings covered in Scelsi's compositional work. The specific archival process and model used are then described and future work is outlined at the end.

1. INTRODUCTION

Italian composer Giacinto Scelsi (1905-1988) lived a very peculiar and interesting life and – as it is often the case – these characteristics are indeed fully reflected in his music [1]. He grew up during the dodecaphonic turmoil while entertaining very close acquaintances with the buzzing intellectual world in Paris in the thirties. He was attracted by the United States as well as the exotic Egyptian and Japanese worlds while being strongly rooted in Rome, the city that he elected as his permanent residence. At the beginning of the fifties, Scelsi experienced a long and deep creative crisis which reduced him to silence for a few years. He came out of that crisis with a renovated composing spirit - and with the strong resolution to resolve the gap between the “zen spontaneity” of improvisation and the long and detailed tablework of occidental composition. He developed a technique which consisted in recording long piano improvisations engraving them on wax discs first, then on magnetic tape as soon as it became widely available. Remaining coherent with the idea of being just a mediator (and being quite wealthy) he decided to delegate to others – usually young composers in need of a job – the chore of transcribing these improvisation to (fairly) standard notation, collaborating with them only in indicating the instrumental combination he had in mind at the beginning and in the finishing touches at the end. As the time went by, he added to its instrumental palette a couple of *Ondiolines* [2], one of the first electronic synthesizers, because he was interested in its microtonal capabilities (cf. Fig. 1).

Of course, this compositional methodology caused huge scandals in the academic entourages, where on the contrary the focus was entirely devoted to the abilities of composers to control their activities down to the most minute



Figure 1. One of the two *Ondiolas* belonging to Scelsi

detail. Particularly in Italy where he lived, Scelsi was considered a fake composer and was isolated for some thirty years [3]. At the end of the seventies, German and french musicologists and music critics re-discovered the modernity of his compositions – which may be placed half way between Varèse and Xenakis, so to speak – and Scelsi was finally recognized and hailed, albeit outside of his country, as one of the most prominent figures of the second half of the twentieth century (cf. for ex. [4]).

Today, the Fondazione Isabella Scelsi, created by Scelsi's himself some time before his death, is actively promoting the composer's work and recognition in Italy, organizing and coordinating research and performance activities.

2. THE TAPE COLLECTION

Scelsi's tape collection is part of a larger corpus of items which include also a considerable amount of paper documents, such as correspondence and administration but also scores, parts, articles, etc. All these documents are currently being recovered, transferred into digital format and archived with modern archival techniques by the Fondazione Isabella Scelsi in a medium-term process aimed at making them available to scholar investigation by the twentieth anniversary of Scelsi's death in 2008.

However, while paper documents lend themselves naturally to standard archival techniques, the archiving of Scelsi's tape collection presents a number of difficulties

which exceed the usual problem of archiving of multimedia data.

2.1. The Recordings

The tape collection has been divided in two large groups: a) ca. 270 tapes of improvisations and other compositional material by the composer and b) a still unknown number, probably in the 400–500 range, of recordings by Scelsi of other composers' music (from the radio and from other sources, such as vinyl discs etc.). This division was operated by the Fondazione Isabella Scelsi at an early stage right after Scelsi's death and has been adopted later on for convenience in determining a recovery strategy. However, a first year of systematic recovery work of the collection (digitizing 130 over a total of ca. 700 tapes) has already shown that this division is somewhat artificial, since many tapes contain a mixture of improvisations, original compositions and works from other composers. With all probability, Scelsi considered tapes as sketchpads where anything valuable could be recorded for future memory – a sharp division between his music and that of other composers was not particularly important to him. At any rate, group a has been termed *tapes of primary interest* while group b became the *tapes of secondary interest*. The digitization of tapes has begun with group a and this process is currently half-way as of this writing. After the end of the digitization of group a, group b will be digitized and archived.

2.2. Peculiarities

Right from the start it was clear that this would not have been the classical audio recover-and-restore job. Scelsi had just about the same consideration for his tapes as he would have for old sketches hastily jotted down on recycled paper. Tapes were recorded using several tape recorders but always through microphone capture. Most of the time, Scelsi was operating the tape recorders while simultaneously improvising, and the resulting technical quality of the recordings is mediocre at best. All recordings carry a considerable amount of electrical noise as well as abundant environmental noise (cars from the street below, birds, telephone, etc.). Furthermore, while many inscriptions appear on the tapes' container boxes (cf. for ex. Fig.2), the fact that any of these notes may apply to the tape contained therein cannot be taken for granted: Scelsi was known to recycle tapes and boxes, and their misplacement is a common casualty.

Given these initial conditions, two main considerations have driven the recovery of Scelsi's tapes: 1. the electrical noise added by time degradation the tapes is insignificant compared to the large amount of other noise; 2. on the other hand, the identification of very basic properties (such as tape speed or direction) was often found to be quite difficult. In such a situation, the environmental noises proved to be extremely useful (cf. Sec.2.3). Therefore, it was decided early on to transfer the tapes *as they were*; no restoration nor filtering was attempted or desired.

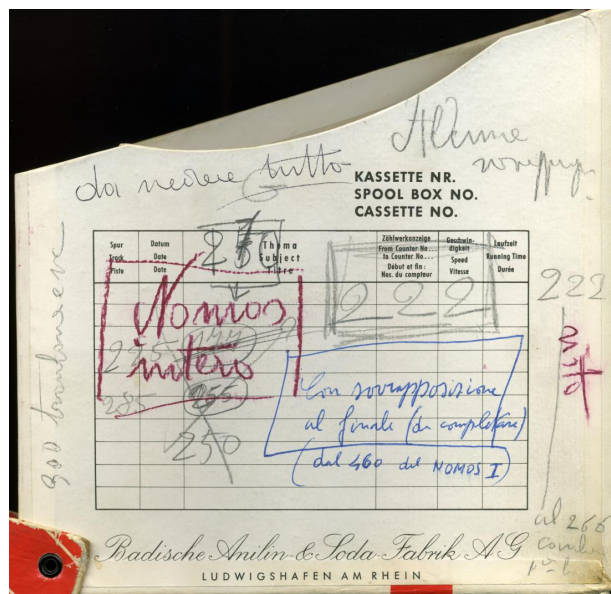


Figure 2. An example of tape container (591-002)

2.3. Identification Techniques

Yes, strange as it may seem, even the rolling direction and speed of tapes was very often difficult to assess and deceiving. Ondiolas may play synthetic waveforms with slow attacks and very long tones in mid ranges, thus providing no clue related to tape speed and direction. And the recording quality is so bad, and the music so peculiar and experimental, that even piano sounds can often be deceiving in assessing the recording conditions. After tape speed and direction information, which is needed for proper digital transfer, other information could prove to be very useful. Any information on the date of recording, for one, could provide valuable insight in comparison with the date of composition of the second half of Scelsi's production to say the least. Unfortunately, this information is almost completely absent in explicit form. Information concerning the mapping between tape materials and scores is essential to understand in full the actual compositional process of Scelsi's music – assigning proper roles to the composer himself, his copyists, the post-writing editing work, etc. The retrieval of this information constitutes an even more complicated and (so far) ill-defined problem (cf. Sec.4).

Therefore, identification techniques had to be put into place very early on – and this is where all the noise that is present in all tapes constituted a great help. Currently, these techniques are still quite empirical and they certainly could use stronger scientific evidence (cf. Sec.4).

The strongest grounds for tape speed and direction are currently given by the so-called *ancillary sounds* provided by the tape recorders themselves. Scelsi never performed any editing on his tapes, so all the record drop in/drop out noises are there. Therefore, most of the tapes carry interesting information precisely in these ancillary sounds (cf. Fig.3). These can be correlated with template sounds recorded *a posteriori*, and the results can give valuable in-

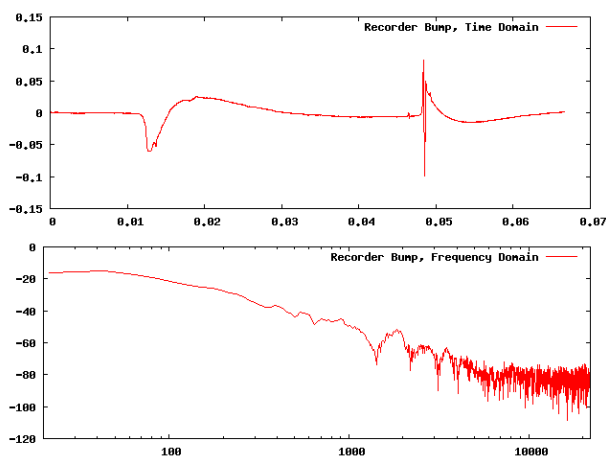


Figure 3. An example of tape recorder *bump*

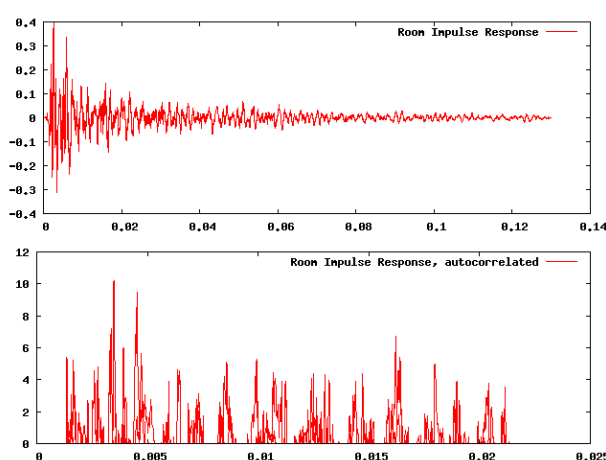


Figure 4. The impulse response of Scelsi's living room in Via S.Teodoro 8, Rome

formation to identify a) speed and tape rolling direction, and b) the machine that performed the recording. Consequently, item b can provide valuable insight about the date of recording, or at least about a potential range of dates, since it is possible, in some cases, to reconstruct the date of acquisition a given tape recorder out of the administrative documents present in the archive.

Another interesting information is the room's impulse response present in the recordings, which can be correlated too with an *a posteriori* template (cf. Fig.4): Scelsi lived and recorded his improvisations in at least two different houses in Rome, in different periods. Identifying the room could lead to the specific time of recording.

Finally, environmental sounds can sometime come to the rescue: bird sounds allow to identify broadly season/hour of recording, car noise allow to identify tape direction because Via S.Teodoro is a one-way street¹, etc.

In some very rare lucky cases, fragments of radio recordings allow to identify very precisely the date of recording.

¹ Though this detail is somewhat complicated by the fact that street direction changed around the beginning of the eighties.

3. TRANSFER PROCEDURES

Up to the date of this writing, all tapes have been transferred to digital files using a Studer A810 tape recorder connected to a Digidesign ProTools workstation using a 96 kHz sample rate and 24-bit samples. The digital files have been saved on a an array of Firewire 800 disks in RAID-1 configuration (plus 1 disk for a running backup).

Each transfer to date was carried out respecting the following protocol:

1. the tape material (acetate or polyester) is identified along with possible rolling difficulties (mildew presence, etc.);
2. the effective length is measured with a first run at moderate speed (not touching the tape heads);
3. existing splices and corruptions are photographed and their position is logged;
4. an order number is created combining a progressive indexing number along with the numbers of two previous numbering attempts;
5. the following data get archived:
 - a) order number
 - b) manufacturer and type of Magnetic tape (as it appears on the container box)
 - c) flange diameter
 - d) measured tape length (in m)
 - e) measured tape length (in feet)
 - f) tape material
 - g) tape speeds
 - h) audio positioning (head, tail)
 - i) recording typology (stereo, mono A/B, etc.)
 - j) transfer software version
 - k) file format
 - l) sample rate
 - m) sample bit width
 - n) transfer start date
 - o) transfer end date
 - p) notes
6. a "ProTools session" is created along the following lines:
 - i) the top tracks hold the uninterrupted transfer at different speeds (as required by the speed identification – cf. Sec.2.3);
 - ii) two mono tracks follow, carrying out the tape "layout"
 - iii) one (mono) or two (stereo) tracks follow containing the full audio sequence in the identified order, starting from side A and following on side B, with all the identified reading speeds; these are the only active playback tracks (while the others are muted).
7. the transfer is subdivided in "regions" which get numbered progressively; the regions are detected identifying all recording punch in/out performed by the composer; an example of this sectioning work is shown in Fig.5;
8. all regions, splices and stretches are identified and logged on an ASCII text file;

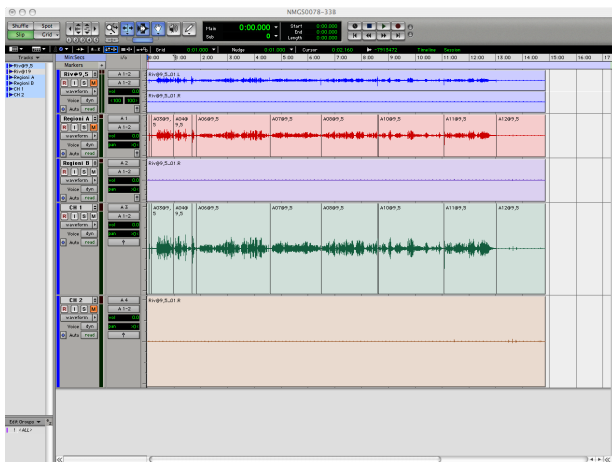


Figure 5. An example “ProTools” transfer session

9. all other peculiarities (tape content, spoken fragments, container notes, rough calligraphic analysis, etc.) get logged on an ASCII text file;
10. a snapshot (image) of the session is performed;
11. the container is photographed and scanned.

At the end of each session a disk backup is performed. All data is saved using well-known open standards (*AIFF-big-endian* .aiff for the audio files, *TIFF* for the *ProTools* session snapshots, *ASCII* for the text logs). Proprietary files (such as the *ProTools* sessions themselves) are exported on open standard files (*ASCII*).

4. FUTURE WORK

Even if the digitization work has begun over a year ago, it has still a long way to go to be completed (only 1/2th of the “primary” tapes have been archived to date – and about 1/7th of the total). However, this is just the beginning of the work to be done on Scelsi’s legacy: a complete and detailed archive of Scelsi’s is an essential pre-condition in order to start a wide range of investigations on the music and on the compositional methods of this still very mysterious case in contemporary music.

Some of this research is already being planned. It concerns: a) a mapping of Scelsi’s tape recorders equipped with a detailed analysis of their *machine fingerprinting* (ancillary noises, background noise, frequency response, etc.); such a mapping would constitute the solid grounds for a scientific analysis of the ancillary noises present on many tapes; b) a mapping of Scelsi’s recording environments (i.e. the rooms where he used to record); c) the development of a software tracking application which might be able to compare moderately large corpuses of audio material along with scores in symbolic format to propose evidence of similarities to scholars and musicologists; and d) a full analysis of the Ondiola synthesis and performance modes to derive (and reconstruct) Scelsi’s playing out of the recorded material.

5. ACKNOWLEDGEMENTS

A complicate and long-term endeavor such as the one described cannot be achieved without appropriate funding and a motivated group of people supporting it. To date, this work has been funded in full by the Fondazione Isabella Scelsi and actively promoted and supported by its President Nicola Sani. Mauro Tosti Croce, Coordinator of the archive of the Fondazione, has substantiated this work providing valuable scientific insight and suggestions concerning the archival procedures and techniques. Barbara Boido, member of the board of the Fondazione and long-standing friend of the late Scelsi, has provided a large amount of historical information concerning habits, machines, locations, and much more which proved to be extremely useful even at such an early stage. Alessandra Carlotta Pellegrini, research Coordinator, has provided a tremendous help in managing the many facets of the several ongoing research workplans.

Considerable initial help was provided by Prof. Sergio Canazza from the University of Udine. The first year of this digitization work has been carried out in close collaboration with Pietro Schiavoni (Studio Coltempo, Rome), to whom this report owes most of the transfer procedure described above (cf.3) and much more. Besides his universally acclaimed technical excellence and virtuosity, Pietro has been an integral part of most contemporary music recordings in Rome and abroad since the 70s (including some of Scelsi’s own recordings in his late period) and as such he is also a living memory of many situations and cultural passages which are difficult to reconstruct nowadays.

Since the beginning of 2007, the Fondazione Isabella Scelsi has been closely collaborating with the Discoteca di Stato (the Italian National Sound Archive) and this specific project has been strongly supported by its Director Massimo Pistacchi. The archival work is being carried out under the expert and attentive supervision of Bruno Quaresima.

6. REFERENCES

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