Chapter 9
Possible Methodologies for the Restoration of Digital Media: Restoration of the Film A Charlie Parker

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ABSTRACT
This chapter stems from an urgent problem that has developed internationally in recent years regarding the safeguard of Italian cinematic and audiovisual cultural and scientific heritage which is in danger of extinction due to the difficulty of preserving celluloid, an important historical and artistic asset for our country, and electronic formats, the most numerous in the archive. In order to recuperate this cultural heritage, it is essential to carry out a broad process of recuperation, restoration and digitalization of the film and audiovisual material, but at the same time it is necessary to form a careful critical analysis of the methodology used and of the typologies of intervention by the universities and by the film archives and museums.

INTRODUCTION
With the advent of audiovisual technology, the twentieth century has provided the world with a new kind of inheritance. The most important events have been recorded and audiovisual media has become a new form of cultural expression as well as an expansion of human memory. Thus, it would appear that in the coming years the problem will need to be addressed that theatrical memory does indeed exist and that it must be safeguarded post-haste. The institutions that traditionally have been responsible for the conservation of collections now find themselves facing technological, organizational and legal challenges in the process of migrating material to digital formats and in the conservation of what has already been digitized. Obsolete techniques and physical deterioration lead to the application of a policy for correct, long-lasting digital conservation. The audiovisual material and the owners of audiovisual archives are heterogeneous, and for this reason the main aim is the creation of a praxis that can be applied to all types of collections so as to manage and distribute their content. In this scenario, the preparation and knowledge

DOI: 10.4018/978-1-5225-6936-7.ch009
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of the individual, through the study of the catalogued material and direct statements by certain protagonists is of notable influence on the collection of notions that may lead to the elaboration of a proposal of a course of action that can be articulated in equal measures between technique and historical value.

The aim of the report presented here is that of analyzing, both theoretically and technically, the new industry of digital restoration. More precisely, the wish is to analyze the entire process of preservation of cinematic film and electronic video pertaining to live performance and the conservation of theatrical memory, both from analog and digital points of view, starting with historical considerations on the evolution of film, on the methodologies of archiving, and on the processes of cataloguing and classifying. Moreover, the intention is to focus on the tools and technological innovations that allow film to be manipulated. Thanks to this hardware and software and to ever more sophisticated algorithms, it is now possible to eliminate a large part of celluloid and video noise. This explains the title chosen for the study, highlighting its importance. In order to comprehend the value of digital restoration it is important to start with the causes that have led to the birth of the practice, to understand how the field of theater saw the formation of a discipline of conservation of visual memory, from physiological reasons to those governed by the commercial market. From here comes the need to define the principles and best practices for the safeguard of this patrimony. With the aim of protecting, restoring and distributing moving images comes the necessity of preservation, or rather the duplication of material that is in danger and its conservation in specifically created archives with adequate temperature and humidity. Precisely this archiving turns out to be of fundamental importance, not only in order to ensure the correct conservation of the material but also to allow a simple and ever swifter access to it, thanks to new digital technologies and efficient cataloguing systems. The praxis regarding cataloguing is today still in a phase of evolution and it is hoped that it can soon lead to the elaboration of a universally recognized standard. As such, it is not possible to speak of cinematic restoration – be it analog or digital – without taking into consideration the aforementioned aspects. The process of restoration not only consists of establishing the necessary technical procedures but also better understanding the work that is being restored. With the aim of highlighting this, this report concludes with a description of the restorative intervention conducted on 35mm celluloid reels of the theatrical piece A Charlie Parker (To Charlie Parker) by Leo de Bernardinis and Perla Peragallo (1970) in order to comprehend the principal methodologies for the removal of dirt and some noise, and above all to show the problematics relating to the content and to the specificity of the film. The main critiques that emerged during the process can highlight the complexity of regulating the parameters and the tools of digital restoration regarding the preservation of the original sense of the work for a respectful analysis of the theatrical content. In the words of Antonio Costa, the work of the theater historian in digital restoration must necessarily regard pragmatic context, or rather the contextual elements that make the theatrical film unique (A. Costa, O for Original, 1994).

CONCEPTS AND PROCEDURES FOR THE DIGITAL RESTORATION OF MOVING IMAGES

We are at the height of the Digital Medieval age. Nationally, there is a vast heritage of live performance that lies unvalued in the archives of institutions and private owners. The problem regards the safeguard and elaboration of Italian cultural heritage produced from the seventies to today, both professional and amateur, partially digitalized, conserved on photographic, electric, analog or paper media that currently no longer has the corresponding technology capable of playing, copying or preserving it. The impossibility
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