

Editorial

The Correlation Between Forensic Identification of Academic Papers and Calligraphy and Painting Identification

Li Zhenzhen^{1,*} , Zhang Hanwen², Ren Xiaoli³, Lu Maoyue¹, Song Zhuo¹

¹Textual Trace Forensic Identification Department, Shandong Fangsheng Forensic Expertise Institute, Jinan, China

²Publicity Department, Zibo Public Security Bureau, Zibo, China

³Department of Public Safety, Shandong Judicial Police Vocational College, Jinan, China

Abstract

There are certain commonalities and differences between document forensic examination and calligraphy and painting authentication. A large part of the authentication of the authenticity of calligraphy and painting can be solved through the methods of document forensic examination. For example, the authenticity of the constituent elements in calligraphy and painting, such as poetry, calligraphy, painting, seal, and paper, overlaps with document forensic examination. Calligraphy and painting authenticators should possess certain professional knowledge and technical means of document forensic examination. However, the scope of calligraphy and painting authentication is broader than that of document forensic examination, also including cultural background, structural characteristics, stylistic traits of the artists, and mounting of the calligraphy and painting. With the continuous improvement of forgery techniques in calligraphy and painting, traditional authentication methods of calligraphy and painting cannot meet the current development trend of authentication. How to improve the scientificity and objectivity of calligraphy and painting authentication? The author believes that theoretical methods of calligraphy and painting authentication should be innovated, traditional inspection methods should be updated, and modern instruments should be utilized for systematic authentication and scientific methods to continuously improve the level of calligraphy and painting authentication. The author explores how to enhance the professionalism of calligraphy and painting authenticators, improve the scientificity and objectivity of calligraphy and painting authentication, and how document forensic examiners authenticate calligraphy and painting.

Keywords

Document Appraisal, Calligraphy and Painting Appraisal, Inspection Methods

1. Introduction

With the development of society and the improvement of science and technology, the means of forging calligraphy and painting have also been constantly evolving [1]. There is an

urgent need for professional calligraphy and painting appraisal technicians to authenticate genuine and counterfeit works. Currently, there are few professional calligraphy and

*Corresponding author: 472866632@qq.com (Li Zhenzhen)

Received: 24 July 2025; **Accepted:** 6 August 2025; **Published:** 26 August 2025



Copyright: © The Author(s), 2025. Published by Science Publishing Group. This is an **Open Access** article, distributed under the terms of the Creative Commons Attribution 4.0 License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution and reproduction in any medium, provided the original work is properly cited.

painting appraisal personnel in China, and the relevant technologies and methods are not standardized, resulting in frequent chaos in the entire calligraphy and painting appraisal industry. To avoid such chaos and improve the overall appraisal level of the calligraphy and painting appraisal industry, the author believes that the following aspects should be improved:

- 1) Enact relevant laws and professional technical standards;
- 2) Institutional construction, such as setting up relevant majors in colleges and universities and establishing industry appraisal associations;
- 3) Standardize the admission criteria for calligraphy and painting appraisal institutions and personnel.

The following is a brief description of the author's views on standardizing the admission criteria for calligraphy and painting appraisal personnel, the conditions that professional calligraphy and painting appraisal personnel should possess, and how document appraisers appraise calligraphy and painting.

2. The Conditions That Professional Calligraphy and Painting Appraisers Should Possess

2.1. Critical Thinking

Painting and calligraphy identification is a highly comprehensive discipline with its complexity, and it must be identified from three perspectives: macro, meso, and micro. The macro is the overall direction of painting and calligraphy identification, the meso is the core content of painting and calligraphy identification, and the micro is the key technology of painting and calligraphy identification. In addition to applying systematic thinking to understand the "poetry, calligraphy, painting, and seal" and other parent systems, it is also necessary to understand the sub-systems such as colophon, seal, mounting, and author, so as to have a complete understanding of the entire system of painting and calligraphy. It is only through the idea of holistic analysis, structural correlation, functional integration, and hierarchical reduction that systematic appraisal can be carried out.

2.2. Professional Knowledge of Calligraphy and Painting

Books and paintings constitute two distinct systems. In China, written scripts are categorized into oracle bone inscriptions, seal characters, official script, cursive script, regular script, running script, and standardized fonts. From the perspective of tools and materials, paintings are classified into Chinese painting, oil painting, printmaking, watercolor

painting, pencil drawing, charcoal drawing, pen and ink drawing, etc. In terms of the subjects depicted and content expressed, paintings can be divided into figure painting, landscape painting, still life painting, scenery painting, portrait painting, historical painting, military painting, genre painting, etc. As a professional calligraphy and painting appraiser, one needs to understand the forms of various scripts and master certain writing techniques. Additionally, it is essential to comprehend the tools and materials, purposes, subjects, and forms of expression of different types of paintings. Ideally, one should also possess certain professional painting skills. Only in this way can one conduct a more comprehensive analysis of the forms and techniques of calligraphy and paintings during the appraisal process [2].

Calligraphy and painting have undergone a historical process of thousands of years of germination, production, development, and evolution. A professional appraiser of calligraphy and painting should be familiar with the development characteristics of various periods of calligraphy and painting, the collection, circulation, and professional records of calligraphy painting works, the historical origin and materials of the mounting of calligraphy and painting, and the main styles of the mounting of calligraphy and painting in various periods [3]. Only with a profound cultural foundation of calligraphy and painting can we accurately, objectively, and efficiently grasp the basic situation of calligraphy and painting, and app them with a clear purpose.

2.3. Expertise in Document Examination

Document examination includes handwriting, seal impression, formation method, document material, document making time, alteration (forgery), printed documents, documents, etc. [4]. The formation method, authenticity, material composition, and production time of the elements such as "poetry, calligraphy, painting, paper" in calligraphy and painting can be solved through document examination [5]. For example, in a calligraphy and painting work examination, the specific age can be judged through the formation method of the document examination, printed documents [6], the composition of document materials [7] and the production time. In the comparative with the same period handwriting samples, the handwriting characteristics such as writing style, layout, writing method, shape, structure collocation, stroke order, pen movement, pen marks etc. [8] can be used to judge the writer. In the comparative examination with the same period seal impression samples, the seal impression characteristics such as seal content, seal structure seal specification, seal characters, seal lines, seal patterns, seal white space, seal ink distribution, seal defects, seal attachments, seal marks, seal materials, anti-counterfeiting features, etc. [9] can be used to judge the authenticity of the seal impression of the calligraphy and painting works.

3. Similarities and Differences Between Document Appraisal and Calligraphy and Painting Appraisal

3.1. Similarities

The identification content is the same: both involve the identification of the formation method, authenticity, material composition, production time, and other aspects of the constituent elements.

The same for identification materials: In addition to the original identification document, a large number of comparison samples need to be collected.

The identification methods are the same: both require the identification personnel to utilize professional knowledge and modern scientific technologies and methods to conduct scientific analysis on the identification materials.

The purpose of appraisal is the same: whether it is a document or a painting, the core purpose of appraisal is to determine its authenticity.

3.2. Differences

Different scope of appraisal: The scope of content for document appraisal is much narrower, while the scope of calligraphy and painting appraisal is broader and more comprehensive, encompassing document appraisal. Calligraphy and painting appraisal not only involves the appraisal of constituent elements, but also includes the appraisal of the style layout, composition and artistic technique of calligraphy and painting, as well as the stylistic characteristics of the calligraphers and painters in different periods, the historical origins and materials of calligraphy and painting mounting, the main styles of mounted calligraphy and painting in different periods, and whether there are restoration records [10]. This requires comprehensive appraisal and analysis before a comprehensive appraisal conclusion can be issued.

The difficulty of obtaining comparison samples varies: the collection of document samples is relatively easy, while the difficulty of calligraphy and painting samples mainly lies in the dispersal of comparison samples, such as those in museums, auction houses, and private collections. Some calligraphy and painting works have even been damaged, leaving very few works in existence. To determine the authenticity and formation time of calligraphy and painting materials, it is necessary to collect a sample library of paper, silk, ink, pigment, ink paste, and mounting materials from various periods, as well as their composition and formation time. How to comprehensively and objectively collect samples is a major challenge in calligraphy and painting authentication.

The breadth of expertise required for appraisal varies: technical personnel for calligraphy and painting appraisal must possess professional knowledge in document appraisal. Calligraphy and painting appraisal is more complex and re-

quires a broader range of knowledge compared to document appraisal. For example, in the historical process of the circulation of appraised and collected calligraphy and painting works, most of them will have the seal of the author, the imperial seal, and the appraisal and collection seal. Different types of calligraphy and painting seals have different seal text contents, sealing processes, and regular characteristics. Even the name seals of the same author in different periods will manifest differently in different paintings. Therefore, in the appraisal of seal and seal text, in addition to mastering the inspection knowledge of document seals and seal texts, it is also necessary to understand the classification, content, and characteristics of calligraphy and painting seals [11].

The legal validity of the expert opinions issued varies: it encompasses review standards for the qualifications of the appraisal institution, the professionalism of the appraisers, the standardization of the appraisal process, and the objectivity of the appraisal results. There are significant differences in the recognition of legal validity. Currently, expert opinions on calligraphy and painting in China can only serve as a reference basis and have not been widely recognized and accepted in the collectors' community. The main reasons are the heterogeneity of appraisal institutions and appraisers, widespread doubts about the standardization of appraisal criteria and the objectivity of appraisal results. Document appraisal has now become a mature appraisal technique, with relevant laws, national standards, industry standards, and technical specifications issued; colleges and universities have established relevant majors and industry appraisal associations, cultivating a large number of professional talents; and strict standards for the admission of appraisal institutions and personnel have been established. The judicial expert opinions issued are legally valid documents. In the judicial trial process, after being verified by the court, judicial expert opinions can be used as legal evidence [12, 13].

4. Conclusion

Calligraphy and painting appraisers, due to the objects of their appraisal being calligraphy and painting, not only require the skills of document appraisers but also possess a certain basic knowledge of calligraphy and painting, as well as professional knowledge of calligraphy and painting appraisal. They also need to comprehensively and objectively collect and compare samples, establish a data sample library, and establish national/industry standards. Utilizing national and industry standards, legal appraisal procedures [14], and modern scientific instruments for systematic inspection, they cannot rely solely on personal experience and feelings to issue judicial appraisal opinions that are illegal, non-objective, and unscientific. Document appraisers generally have 5-10 years of experience in the document appraisal industry, and are reviewed by the judicial department, passing an examination to obtain the qualification of judicial appraisers. They possess certain professional skills and knowledge in document appraisal [15]. Their engagement in calligraphy and painting

appraisal is supported by relevant national and industry standards, demonstrating professionalism, procedural legality, and method standardization. The involvement of document appraisers in calligraphy and painting appraisal is conducive to the development of the calligraphy and painting appraisal industry towards professionalization of institutions and personnel, procedural legality, method standardization, and objective results, fully improving the appraisal level of the calligraphy and painting appraisal industry.

Conflicts of Interest

The authors declare no conflicts of interest.

References

- [1] "Manuscript of Methodology for Chinese Calligraphy and Painting Authentication", Zhang Weixing, Jiangsu Phoenix Art Publishing House, China.
- [2] "Jianyu Zagao", Xie Zhiliu, Shanghai People's Publishing House, China.
- [3] "How to Appraise Calligraphy and Paintings", Zhang Heng, China Cultural Relics Press.
- [4] GB/T37234-2018 "General Specification for Document Appraisal", a national standard of the People's Republic of China, dated 2019-04-01.
- [5] GB/T37233-2018 "Technical Specification for Document Production Time Authentication", a national standard of the People's Republic of China, dated 2019-04-01.
- [6] GB/T37232-2018 "Technical Specification for the Appraisal of Printed Documents", a national standard of the People's Republic of China, dated 2019-04-01.
- [7] GB/T37235-2018 "Technical Specifications for Document Material Appraisal", a national standard of the People's Republic of China, dated 2019-04-01.
- [8] "Science of Materials for Calligraphy and Painting Restoration", Liu Shunqiang, Science Press.
- [9] "Seal Imprints and Inscriptions of Chinese Calligraphers and Painters", Department of Calligraphy and Painting Research, Shanghai Museum, Cultural Relics Press.
- [10] GB/T37239-2018 "Technical Specification for Handwriting Identification", a national standard of the People's Republic of China, dated 2019-04-01.
- [11] GB/T37231-2018 "Technical Specifications for Seal Imprint Verification", a national standard of the People's Republic of China, dated April 1, 2019.
- [12] The 2018 revised edition of the Criminal Procedure Law, Standing Committee of the National People's Congress, October 26, 2018.
- [13] "Provisions on Several Issues Concerning the Examination and Judgment of Evidence in Handling Cases", jointly formulated and issued by the Supreme People's Court, the Supreme People's Procuratorate, the Ministry of Public Security, the Ministry of State Security, and the Ministry of Justice of China, dated 2010-07-01.
- [14] "General Rules for Judicial Expertise Procedures", Ministry of Justice of the People's Republic of China, 2024-02-01.
- [15] "Decision of the Standing Committee of the National People's Congress on Issues Concerning the Administration of Judicial Expertise", Standing Committee of the National People's Congress, October 1, 2005.