### **Training in Photographic Conservation**

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#### **Abstract**

Whilst the Heritage community has finally come to recognise the unique material and chemical diversity of the photographic process and its importance as a cultural heritage artefact in its own right there is still a prevailing assumption that paper conservators have the appropriate training and skills to deal with photographs. To conserve such complex materials requires theoretical and skills training beyond that of paper conservation. This paper will look at the evolution of a preservation minded awareness within the history of photography, its practitioners and the rise of the photographic industry. The paper will also discuss the emergence of the photographic conservator, within the context of the rise of the conservation profession and the evolution of the training of conservators. Drawing on over thirty five years of experience in photographic conservation and preservation, and 25 years as prime educators in the field of photographic conservation, we will also discuss the kind of training programme (we feel is) required of those entrusted with the conservation of our unique photographic, cultural heritage.

### The Training of Photographic Conservators

## Background: The inherent instability of photographs

No sooner had the first photographic images emerged out of the light and into the shadows than they rapidly began to disappear back into the elemental forms from which they came. In the blink of an eye, 'now you see me now you don't'. A game of cat and mouse quickly ensued in which practitioners, enthusiasts and chemists alike sought to catch and preserve the photographs illusive qualities. Thomas Wedgewood in 1802 mourned the instability of his "profiles" on paper and leather and stated that they had to be kept in the dark, in a portfolio in a drawer, in order to preserve them.(1) Some fourteen years later Nicephore Niepce encountered the same problem of a lack of stability and in 1817 abandoned silver on paper in favour of bitumen on glass and pewter. Thirty three years after Wedgewood and Davey published their 'Account' William Henry Fox Talbot was to discover and introduce a "stabilisation" process for his "Sciagraphic" experiments that was to finally achieve a measure of stability to what subsequently become known as the "photogenic drawing process". Many early developments and modifications arose out of a desire to both harness and bring an element of control to the whole image making process without dulling or inhibiting creativity and to ensure image longevity. Talbot himself aware of the inherent instability of first his photogenic drawings and then his "stabilised" Calotype negatives and salted paper prints

tried hypo (sodium thiosulphate) in February of 1839 after it was recommended and demonstrated to him by his friend Sir John Herschel at his home in Slough on the 1st of February. Finding no apparent advantage with hypo Talbot discontinued its use after 27th April 1839. (2) Talbot switched back to hypo in 1843 yet despite major improvements in its application, in his publication "The Pencil of Nature" (3), produced at the Reading Establishment from 1844 Talbot offered to replace any of the salted paper "proofs" should they subsequently suffer loss. This was not the confident declaration of a man secure in the knowledge of the stability of his works but that of a man fully aware of their potential for instability.

Talbot himself was the first to develop and utilise image stabilisation techniques through his use of the halogenated salt solutions, potassium iodide (1834) sodium chloride (1835) and potassium bromide (1839). Talbot was also the first to develop image enhancement techniques such as intensification with a silver intensifier by physical development through his use of the gallo-nitrate of silver used to develop up or intensify his latent images. Subsequent generations of practitioners, the industry and their clients have wrestled with the problems of image stability to this day.

Photographic literature abounds with manipulations, modifications, treatments, chemistries all designed to produce as fine and as truthful, and as stable an image as was possible given the inherent nature and limitations of the materials and their respective chemistries, or, they were developed and used to rectify or treat inherent instability problems in photographs. Such treatments focussed primarily on the negative because this not only represented the first impression but, it was also the means of producing all subsequent impressions. There was little point in treating instability problems and defects in prints because one could simply make another print. The photographic journals of the 1850's, 60's, 70's proliferate with articles on the preservation, cleaning and treatment of Daguerreotypes. There was and still is a preservation minded awareness and consciousness that underlines and pervades the history of the photographic process. Letters of concern over the 'fading of positive proofs on paper' began to come into the newly formed Photographic Society of London; the first letter to be published in its Journal, under 'miscellaneous', was signed 'J.G.M. Torquay, December 21st 1853' (4). Such was the growth and level of concern that the Society set up a "Fading Committee" in 1855, chaired by Roger Fenton, to investigate the problem (5). It is little wonder that both practitioners and the subsequent photographic industry alike saw and sought solutions to the "ills of photography" in its inherent chemistry and from within their own sphere of expertise. They felt then and still feel today that they were and are the best people to solve the problems of instability in photographs given their accumulated experience and intimate knowledge of the photographic process. At its worst expression, in pursuit of such an ethos, we have seen the use of intensifiers, reducers, bleach and redevelopment and stain removal chemical procedures applied to historic images allied to

destructive testing, and the duplication of historic glass and plastic negatives with the destruction of the original following. At its best we have seen the development and introduction of better processing procedures, processing for permanence, true optical intensification and digital image information surrogacy, copy and enhancement techniques.

### Photography: an Art or a Science?

Since the inauguration of the Photographic Society of London on the 20<sup>th</sup> January 1853 there has also always been a debate to determine whether photography was an "Art or a Science". The debate, with Sir William J. Newton as Vice-President and chief advocate of the "Art of Photography", ran through many of its meetings and the pages of its Journals. The "Linked Ring", formed in 1892, and the "Photo-Secession", formed in 1902, schools of photography were of course in no doubt that photography was an art form. This controversy, if indeed there really was one, as photography is both an Art and a Science, still pervades in both the photographic and heritage fields today.

The battle of the 1970's, 80's and early 90's was one of attitudes to photographs. Many heritage professionals still saw photography as a purely reprographic and somewhat ephemeral medium and certainly not that of a Grade 1 Museum artefact in its own right. Its information content could simply be duplicated and perpetuated photographically or now even digitally without any due consideration for the importance and integrity of the original information source as an historic cultural artefact.

It is fair to say that the impetus for the growth of interest in photography and photographic preservation came from America, a Nation that did not have to be convinced of the cultural and historic importance of its photographic heritage; photography recorded and witnessed the first steps of that infant nation. The 1950's and 1960's in America saw a great deal of publishing activity in the history and appreciation of photography fostering its rise to prominence as an art form.

In the UK an awareness of the importance of and value of historic photographs grew in the late 1960's early 1970's as a small number of dedicated enthusiastic collectors such as Helmut Gernsheim, Camfield and Deirdre Wills and Howarth-Loomes began to trawl the London antique markets. Such was the emergent growth of interest in photographs that Sotheby's held its first ever promotional trial sale of photographs on the 21st December 1971; including photographs in a mixed collector's sale. This was then followed by its first ever sale dedicated to photographs on the 24th May 1973. A small number of key Institutes in America, the UK and France began to actively acquire representative "fine art" historic photographs for their collections. An increasing number of enthusiasts began to collect and then deal in photographs as the market for photography grew.

In the US and Canada, Ostroff, Romer, Wilhelm, Adelstein, Eaton, and others were early pioneering spirits who sowed the seeds of an awareness of the importance of preserving photographs as cultural heritage artefacts. Such pioneers were either photographers in their own right, photographers involved in the heritage sector, or were involved with the photographic industry. It was to be expected that they brought with them a photographic bias and they looked to the photographic literature and industry for solutions and this was reflected in the growth and introduction of treatments for photographs and the philosophy behind their usage. This was to a lesser degree reflected in the UK by people like Harold White, Bryan Coe, Kodak and Howarth-Loomes.

In the pursuit of knowledge, photography and the bourgeoning conservation field, the 1970's - 80's saw large scale destructive testing, chemical manipulations and restoration. The pursuit of a purely photographic ethos as opposed to a conservation ethos prevailed and plagued the early development of photographic conservation treatments and skills. A landmark event in the development of photographic conservation that was to have a profound effect upon the approach to the development of photographic conservation treatments was the discovery in 1984 by the authors of an intensified salted paper print of Bolton Abbey by Roger Fenton; which was quickly followed by the discovery of an intensified Henri Le Secq salted paper print. In response to this in the winter of 1985 the AIC PMG (American Institute of Conservation Photographic Materials Group) at its meeting in Philadelphia looked at, amongst other things, the whole issue and application of intensification techniques for historic photographs.

"On February 1 and 2, the Photographic Materials Group of the AIC met in Philadelphia for their winter meeting.

"Intensification and the Principles of Conservation," by Ian and Angela Moor, was the strongest of three papers that unequivocally opposed the enhancement of photographic images, because such enhancement violates conservation principles in four ways: 1) All chemical treatments induce/introduce further contaminants. 2) Intensification alters all essential print characteristics. 3) Intensification is not reversible. 4) Intensification, by introducing irremovable chemical complexes, will increase the instability of an already unstable material." (6)

The authors were invited to present a paper on the subject as we were instrumental in identifying that the prints, from two separate London based collections, had been intensified. At the Philadelphia meeting amongst a number of notable papers there were also demonstrations of intensification, bleach and redevelopment, the bleaching of stains in photographs and the use of abrasive powders for the physical removal of "silver mirroring" (oxidative-reductive deterioration) all treatments that have no place in a professional conservator's repertoire or its professional body. At the obligatory visits to local collections and laboratories delegates were presented with two large tables covered with original/historic daguerreotypes cut into sections and drilled through for testing-research purposes with the sole purpose of measuring the thickness of the silver on the

copper plate? The justification for such a destructive approach to research was that the daguerreotypes were the property of the researcher, which apparently imparts the right to destroy, having been bought in shops and markets and were considered unimportant works, of little value!

Following our extended paper on ethics supported by case studies and a frank and open discussion on such issues; as there were those in America amongst the photographic conservation, collecting and dealing fraternities who strongly opposed such practices, the photographic conservation field began to change and chemical image intensification techniques and destructive testing were outlawed.

# The Training of Conservators

In the U.K., and also in Europe there is a long tradition of craft skills taught and learned primarily through the Guild, apprenticeship system. Following the Second World War in the UK many soldiers when demobbed, took retraining in bookbinding, forwarding and finishing and archive repair meeting both commercial and museum and archive sector needs. Such practitioners right up until the mid 1970's were referred to as bookbinders, archive repairers or technicians; their starting grade within the Civil Service was below that of a CO, a clerical officer.

The one event that had a profound effect upon the archive community and its ethos was the devastating floods in Florence in 1966. The flood had a huge impact upon the then bookbinding and archive repair community of its day and its influence on the emergent conservation field is still being felt today. The sheer scale of the disaster and the need for more holistic materials based treatments, for those trained in their application and usage and the assistance of science, caused the museum and archive community to recognise the need to emerge from its purely craft skills roots and marry it to the emergent material sciences producing a new breed of archive repairer, better equipped to deal not just with such disasters but with the more holistic needs of collections rather than focusing just on individual objects.

## The rise of the Conservation Schools, Colleges and Programmes

Camberwell School of Arts and Crafts was the first to seek to address the shortfalls and weaknesses identified in the existing museum and archive field as a direct result of the Florence flood. Camberwell already had a well-established "arts and crafts" tradition including book production, book finishing and book binding and so it was the natural home in which to establish, in 1970, an Archive Repair course in which it sought to train and develop a more science based bookbinder, archive and prints and drawings repairer; the term "conservator" did not exist at this time nor did "paper, book or photographic conservation".

This was a new breed of repairer that everyone welcomed and the term conservator was quickly adopted. Camberwell was fully supported in its endeavours by the major London Institutes who at the time were dependent upon the now dying apprenticeship system. The Institutes not only provided skilled instructors but, they also recognised the enormous benefit of having access to a pool of trained conservators they could employ, conservators who after two years intensive training attained a higher degree of competence, knowledge and skill than was previously attainable under the old apprenticeship system within the same time frame.

Despite the teaching of applied organic and inorganic chemistry and related sciences the balance of teaching at Camberwell was weighted towards the development of a craft/skills based conservator who could go straight into a job and execute treatments. Of course the development and refining of both practical and connoisseurship skills takes time however, core skills were in place married to an interventive conservation ethos, with science based support.

Camberwell was quickly followed by the Library of Congress in 1971, the University of Delaware Art Conservation Programme in 1974, the Royal Danish School of Conservation, Copenhagen, Denmark in 1982, and last but not least the IFROA school in Paris; to name but a few.

Of course skilled conservators can not be manufactured no matter how good the school. They have an innate ability, which can only be nurtured, encouraged and honed given the right environment. It is a combination of gifting and good teaching.

In the early 70's the authors, as mature students, undertook the Archives Repair course at Camberwell School of Arts and Crafts; both came from a craft skills background. Having already been involved with commercial and historic photography, Ian Moor sought to specialise in photographic conservation for his research project, he was told that there was no interest in conserving photographs or any expertise in this area. However, he persisted and researched Frederick Scott Archer's wet collodion process, reproducing the process and investigated its preservation and conservation. He researched this process because health and safety regulations at the school prohibited him from researching the Daguerreotype because of the use of mercury in the process, which was his original research choice. The wet collodion positive research project led to the introduction of photographic conservation into the course curriculum of the school in 1975, the inclusion of photographs in the constitution of the (newly formed) Paper Group and the publication of the first photographic conservation papers in the first two Journals of the Paper Group, the Paper Conservator 1976 and 1977.(7)

To this day despite the increase of conservation schools, particularly those offering the specialism of photographic conservation, there is still not one school that specialises solely in this field, and

without exception photographic conservation is taught, in some cases superficially, as an element of a much broader materials based discipline.

Some schools do offer photographic conservation in the final year of a broader materials based conservation course but, at worst, students are left to go it alone for lack of a suitably experienced teacher, and at best, such as in America, they pursue a more science/academic based training with little if any practical interventive experience or training for lack of a craft skills tradition or ethos?

Whilst such a marriage of craft skills and science was essential for the field to progress unfortunately it has developed to a point today where conservation science and preventative conservation now dominates the field and the development and deployment of interventive craft skills is rapidly declining. Whilst no conservator caring for heritage would dispute the need for holistic preventive conservation for heritage collections the neglect of the need to train interventively is already being felt and recognised. Photographic conservation is one of the areas identified within the recent 2002 Heritage Lottery Fund, 'Sustaining our Living Heritage', "skills shortage review", which highlighted a significant decline of traditional heritage skills and stated that some conservation craft skills were now almost extinct. We are now producing highly qualified photographic conservators who can not, and in many instances will not, undertake interventive treatments on photographs either because of a lack of skills training and experience or, on the basis of flawed, misdirected scientific research. It is not of course the fault of the conservators it is the fault of the Conservation Programmes they came through.

You can't become a photographic conservator in one year no more than you can become a book, paper or prints and drawings conservator in one year. Photographic conservation should be taught as a minimum 3-4 year specialism in its own right and the programme should reflect both the preventive and interventive needs of photographs equally. This should be followed by a further 5 years skills based experience at which point accreditation as a photographic conservator should be sought. This is in line with current accreditation requirements for other heritage disciplines such as book, paper and prints and drawings conservation.

### **Attitudes**

Whilst it is true that skills based training in photographic conservation is lagging far behind that of other disciplines. Our biggest battle is not just with the conservation schools, although there is much that should be done to improve the lamentable skills based training, it is also with the prevailing attitudes to photographs, the same attitudes that have dogged the photographic conservation field since the 70's. Photographs are still considered a low priority within the heritage field. Whilst some photographic and heritage bodies have gone as far as producing basic guidelines

and standards for the care of photographs they are predominantly too simplistic, too general, and in some instances contain misleading and erroneous information.

Too many custodians still think that you can give photographs to a paper, book, or archives conservator and have no need for a specialist photographic conservator. There are too few opportunities to gain real experience in the field as few jobs are being created in photographic conservation; there is insufficient investment for collections, preservation, conservation, training and conservators. We have a National Collection of photographs in the UK that does not have a photographic conservator. There are too few publications that provided sound, practical, materials determined advice on the care and preservation of photographs. There aren't any specific publications on the interventive conservation of photographs although the authors and others have published work studies in journals.

### Skills shortage

The 'Florence Flood' was a great impetus for the development of the conservation profession, then they had the skills but didn't have the science, now we have the science but we have a dearth of skills.

The opportunity to develop and refine skills based treatment is just not available and there is a lack of theoretical and practical information and know how in the field and the institutes to help those desperate to develop some experience and expertise in photographic conservation. The latter problem is one of the overriding factors that led the authors to develop and run courses in Photographic Preservation and Conservation at The Centre from 1981.

The courses were initially directed towards curators, librarians and archivists, those with the responsibility for photographic collections; conservators eager to develop foundational knowledge for photographs also attended. The Centre then developed theoretical and skills based courses solely for practicing conservators, to enable them to acquire a deeper understanding of the complexities of conserving photographs and to develop practical skills within a sound ethical framework. We of course recognised that short courses were not the full answer. However, within the time frame allotted for our very intensive courses we were able to teach foundationally, laying a sound knowledge base, enabling both curators and conservators to begin to understand the complexities and needs of the material and to begin to meet the challenges of preserving and conserving photographs.

Increasingly and progressively since 1981 with all the conservators that we have taught from the Americas across to Australasia we have found that there are basic, practical core skills and principals that have not been taught at Conservation School/Programme level. Such core principles

must be taught if we are to lay strong ethical and practical foundations for the development and refinement of a skills based and connoisseurship approach to photographic conservation.

We fully accept and support the importance of preventive conservation as a necessary, more extended-term, holistic approach to collections care and we are fully aware that it will benefit and preserve ostensibly more material than an objects focused conservator at a bench. However, it is the photographic conservator with his specialist knowledge who brings his relevant expertise to bear when formulating, establishing and maintaining preservation policies to be implemented by all appropriate disciplines. It is the effective combination of the two disciplines, preventive and interventive that will preserve our irreplaceable photographic cultural heritage for the extended-term.

Ideally conservation training programmes should promote a right balance between conservation science, theory and skills.

In this paper we are of course concerned primarily with the training of photographic conservators, so what is a photographic conservator?

A photographic conservator is someone who has undergone a recognised programme of training enabling them to intervene at any level in the preservation of historic photographs. Their expertise should enable them to implement a full and effective preservation policy which includes collection surveys, access, handling and patron usage, storage, exhibitioning, digitisation, disaster preparedness and any other administrative and advisory role within the arena of photographic preservation. Their training should also render them capable of undertaking treatments ranging from the simplest level of intervention such as handling, transporting and duplicating photographs to re-housing and packaging photographs for storage, usage or exhibition, to the most complex of interventive conservation and restoration treatments dealing with a whole range of both physical and chemical degradation problems arising from the passage of time, human interaction, flood or fire.

All recognised training programmes must represent the perfect marriage between skills and science, providing an environment within which photographic conservators can broaden, deepen and develop both their practical skills and ethical approach, through the teaching and undertaking of treatments, and also their knowledge base, through connoisseurship and applied materials conservation science.

We know from our own teaching experience that the level of knowledge, skill, achievement and attitude differs from conservator to conservator, as one would expect. However, what has always concerned us over the 25 years we have been teaching was the lack of basic, fundamental

knowledge, experience and treatment skills across the participants considering that many were experienced, mid-term conservators.

The problem is inherent in and sadly rooted in the Conservation Schools/Programs, where despite their academic excellence courses are too science and theory based. Whilst the development of conservation related science has undoubtedly brought what was a craft based tradition into the 21st Century, instead of serving and liberating conservators through an increased broader understanding and knowledge base, it has unfortunately rendered too many conservators impotent. Inappropriately applied science is generating a level of caution, hesitancy and intimidation that is having a marked negative influence on a long established skills based interventive ethos. Whether interventive conservation treatments are appropriate or necessary is of course always a legitimate question and is fundamental to any evaluation criteria for treatment proposals for photographs. However, an overemphasis on science, is producing a new breed of conservator so dependant upon science that they are not developing the essential skills needed to intervene when and where appropriate.

The influence for such a marked shift in emphasis, has come from two major influences:

- the legacy of the space race and the technological explosion that followed that has engendered a culture dependent on the scientific ethos; "science will solve everything"
- the potential employers of such expertise, the Public Institutions, are themselves affected by market forces and the political culture where the emphasis is upon numbers, exhibitions, preservation and the demand and need for access.

Whilst we fully understand and recognise the need for such an emphasis, which has impacted all conservation disciplines, given the huge volumes of cultural artefacts in our care, good stewardship should not neglect the continued development of the skills based training needed to ensure the continued survival of this our cultural heritage. The demand to make collections accessible brings with it increased conservation risks. The current overriding demand for access, and increased investment in access, is not being matched or met by an increased investment in conservation and the training of conservators. Whilst preventive skills and allied professionals have increased over the years sadly interventive conservation skills on the ground have not increased. There are fewer long-term institutional conservator contracts available forcing most who are seeking to work in this field to take up private practise. Conservator posts when vacated are not being refilled but absorbed by existing personnel. Most Institutes are seeking to cover in-house photographic conservation needs by assuming paper conservators can meet these needs. Many advertisements for paper/archives/objects conservators now ask for some experience with photographs. There are very few photographic conservation specific posts being created and the few photographic conservator

posts that have been created are not being filled, which is the case recently, because there are simply not the trained photographic conservators around with the ability and the experience required to work with photographs. There is also little opportunity to develop interventive skills in the current access driven Institutional environment.

### What is the ideal Training Programme for Photographic Conservators?

Within the limitations of this paper it is not possible to fully articulate such a programme in detail. However, any training program in photographic conservation should encompass the following essential elements.

#### **Ethics**

Ethics are essential to the approach and practices of any professional body. They recognise the need to regulate and influence the profession to ensure that it conducts its "business" within a legally binding framework to standards set and accepted by the profession with the interests of the client; in this case photographs, being paramount to its activities.

Ethics protect the integrity of the photograph, protect photographs from inappropriate treatments and their practitioners, ensure that best practices are adopted at all times and ensure that treatments are carried out in a safe and controlled manner by those qualified to do so.

Throughout the training of photographic conservators every assessment, approach and treatment in preventive and interventive conservation practice should be undertaken within an ethical framework to ensure that the integrity of the photograph is paramount. It is essential that an ethical mind set is instilled from the outset of training.

### **History of the Photographic Process**

For practical conservation purposes there is little merit in just studying theoretically the evolution and development of the photographic process.

Trained as Paper and Archives Conservators at Camberwell School of Arts and Crafts the very first thing that we did was to make paper, this gave us a tangible working knowledge of the nature and behaviour of the physical material and laid foundations upon which to build a conservation ethos and develop materials based treatments.

To understand the inherent physical and chemical nature of photographs, the many processes and their variants, you have to produce them. It is only through a close working knowledge of their production processes and chemistries can you begin to understand and assimilate what a particular photographer did at any point in time historically in the production of his work. You learn at first

hand the weaknesses and strengths of the processes, the limitations of the medium, materials and chemistry, how the physical nature of the materials, the chemistries and the variable manipulative abilities of the photographers themselves affect both the visual appearance and stability of the processes. You can not divorce the inherent nature of the materials, the chemistries and the ability of a photographer to manipulate them well or not, and their subsequent environmental history from a photographs current state of preservation.

This experience not only helps one to identify historic processes and their variants, but also their underlying faults and causes of degradation laying essential foundations upon which to develop and undertake materials determined treatment. This approach also enables one to accurately replicate instability problems in historic photographs and thereby provide like material for research and the development of treatments without recourse to destructive testing and experimentation on original historic photographs which is unethical. We have pursued this approach right from the beginning, from the wet collodion research at Camberwell and all through the years of development of photographic conservation at The Centre. It is still our approach when faced with the need for solutions to inherent instability problems with photographs. The ability to produce accurate facsimiles of historic, environmentally vulnerable processes for research, study and exhibition is also an important feature of any proactive Preservative Policy for photographs.

## **Photographic Chemistry**

Photographic chemistry should be taught practically through the processes and theoretically through applied science.

Not everyone who enters the conservation profession has a natural aptitude for chemistry or the sciences and just as many who do have an aptitude for chemistry have poor practical skills. It is vital that chemistry is taught in context to the material so that it has relevance. Undertaking the processes is an ideal way to teach materials related chemistry.

### **Materials Science and Chemistry**

The systematic study of the nature and behaviour of the material and physical world through appropriately applied science coupled with appropriately applied inorganic, organic and physical chemistry is essential for the photographic conservator.

Photographic images can be applied to any material support or substrate and as such they are an integral part of the photograph.

Materials such as paper, metals, glass, plastics, leather, textiles, ceramics, bone and ivory, wood, lacquer etc have been used throughout the history of photography as physical, material supports for

photographic images. A working knowledge of materials their chemistry and behaviour is essential for the photographic conservator. The physical and chemical relationship between material supports and the photographic image is a complex one and one that must be understood and accommodated for when considering preventive or interventive conservation treatment. Many inherent instabilities with photographs arise out of material incompatibilities and their respective differential behaviour in a fluctuating, commonly shared environment. Any preventive or interventive treatment strategy must take into account and accommodate the respective needs and inherent behavioural characteristics of all component materials. The impact of preventive or interventive treatments on all materials must be thoroughly evaluated. Preventive and interventive conservation treatments are always materials determined and condition dependent.

#### **Materials Conservation**

Interventive treatment techniques and approaches for paper, metals, glass, plastics, leather, textiles, ceramics, bone and ivory, wood, and the various applied image bearing colloids, principally albumen, collodion, starch, gum and gelatine, must be taught.

It is not possible to treat a photographic image in isolation. Any preventive or interventive treatment must take into account the impact of such treatments on all component materials. The stability and integrity of the image information is also dependent upon the stability of all component materials and their physical and chemical relationship to one another. Therefore, a sound theoretical and practical knowledge of the treatment of all materials types is essential for the photographic conservator.

### **Preventive Conservation**

Throughout the programme preventive conservation techniques for, and an approach to, the handling, access and usage, documentation, transportation, containment systems and materials, "suppressed storage", exhibition, production of facsimiles, duplication by photographic or digital methods, of photographs should be taught. All preventive conservation approaches and techniques are, like interventive approaches and techniques, always process and materials determined; teaching in these areas should reflect their differing needs.

### **History of Photography**

- As an art movement
- As a scientific tool
- As a cultural, political, social and economic medium
- The impact of photography on Printing and the information explosion

There are many facets to the history of photography. The majority of photographic historians deal very superficially with the development of the photographic process, the impact of photography on the world as both a fine art medium and a purely reprographic medium and focus primarily on the photographers, their particular influence, point of view, school or movement and discuss their work in a language and vocabulary grafted from a fine arts tradition. Photography has yet to develop its own unique vocabulary.

Undoubtedly, whether one views photography as an art or a science, or, as a work of art or a mere recorder of information, photography has transformed our view of the world unlike that of any other medium. The photographic conservator must have a fully developed appreciation and understanding of the medium within its time based, cultural context. The integrity and aesthetic visual and physical qualities of a photograph can not be separated from its intentionality and any subsequent reading and interpretation of its information content. Very few readers and interpreters of historic photographs are aware of the inseparable link between the inherent physical and chemical natures of a particular photographic process and how these essential characteristics determine the way information is recorded and subsequently predetermines how we should respond to, read and interpret it.

The photographic conservator must understand this complex relationship and must endeavour to preserve this and indeed every aspect of its fundamental nature.

## History of the Packaging, Presentation and Mounting of Photographs

An understanding and working knowledge of the history and development of mounting and finishing techniques and packaging systems for photographs is also essential. These aspects, presentation styles and fashions are an integral part of a photograph's provenance and history and should be viewed within the context of period and culture as they relate to all artefacts generally. The loss or distortion of such essential characteristics affects the provenance and integrity of the work.

### History and development of the Photographic Album

The photographic conservator must understand the history and development of the book form, including that defined as an album. They must have a working knowledge of their structures, binding mechanisms and function in all their many varied forms. They must have a working knowledge of the evolution of book forms and albums that include photographs in their three main categories, the photographically illustrated printed book, the photographically illustrated book and the photographic album. They must have a working knowledge of the evolution of the many

presentation, mounting and containment systems and techniques utilised for photographs within the three main categories.

#### **Book Conservation**

The photographic conservator must understand the history and development of interventive conservation techniques for photographically illustrated printed books, photographically illustrated books and photographic albums of the "paste-down" and "slip-in" types and systems. The conservator must be taught treatment techniques for such works addressing the differing needs of their binding structures and the photographs.

## Connoisseurship

There are no shortcuts to connoisseurship. Accumulated experience is invaluable when it comes to treating photographs. Connoisseurship implies an in-depth experiential knowledge of the history, materials, chemistries and processes of photography, their manipulation and usage by individual photographers working within different schools and periods that characterise their work. Familiarity with individual photographers and their work is essential when formulating process and materials determined treatment procedures and controls.

Such a training Program, as outlined, should be the minimum requirement for those seeking to train and practise as photographic conservators.

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