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CARE AND RESTORATION OF PHOTOGRAPHS

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If you were an insurance broker, what would you want to know about a photograph to offer it a life insurance policy?

You would want to know something about its family history. If its relatives all lived to a ripe old age then it might be a good risk.

You would certainly want to know of any dangerous activities. For example, was it likely that the photograph would be subject to conditions known to shorten life - perhaps the photographic equivalent of hang gliding?

Finally, there is the question of restoration. Unlike insurance in human terms, life cover for a photograph can take into account modern techniques that will restore pictures to their former glory.

Now let's look at each of these factors in turn.

Family history

When insurance brokers look at life insurance for us humans they are able to go back many generations. In photographic terms, however, we are limited to less than 150 years for black-and-white photographs, just 50 years for 'Kodachrome' Film and under 40 years for most other colour films.

There are literally hundreds of ways of forming a photographic image. They include the use of pigments, metals or dyes suspended in such substances as albumen, collodion or gelatin coated on a variety of supports. Most of these processes had a relatively short history. What has survived is a develop-out, silver-based process with the image suspended in gelatin on either paper or a tri-acetate or polyester transparent base.

With nearly 150 years of experience, we are now well equipped to predict the expected useful life of black-and-white images, but what about colour images? Well, despite a history that goes back little more than 50 years for presently-available materials, the results from old slides still stand comparison with the best that is being produced today in terms of colour stability.

Flesh tones on slides taken in 1939 are as good now as they were when the slides were taken - and without using any of the modern techniques for preserving colour. Some Ansel Adams landscapes taken on 'Kodachrome' Sheet Film retain all the sparkle and depth that they had when that master craftsman first viewed them in 1946.

Of course, if longevity was your only reason for choosing a photographic material, then you might want to put silver-based images at the top of your list followed by 'Kodachrome' Film if you needed colour images. But, as you will see later, there are several other factors that may make you decide on some alternative treatment or some other product.

The Dangerous Activities

Before we look at what dangerous activities can affect the life of a photograph, let's take a few moments to understand why these activities are dangerous.

Silver reacts with atmospheric gases to form oxides of silver or silver sulphide. In the presence of residual processing chemicals, notably thiosulphates, brown silver sulphide is formed that may later turn to colourless silver sulphate. These by-products of contamination are the causes of many stained or faded photographs.

Dyes also change with time. In fact, the dyes used in colour films are similar to those used in fabrics, paints and wallpapers which also change in time

A typical dye used in a colour film is a complex, long-chain molecule that may contain over 100 atoms. And yes, it gives scientists headaches too as they puzzle over its complicated structure.

They work with them like an architect building a bridge. But they can't test a dye molecule in a wind tunnel. They do have other test techniques but, like tests for the stability of black-and-white images, their best test bench is what happens in the real world and in real time.

Nevertheless, they do have some predictive tests that allow them to estimate the possible life of black-and-white images and of dye losses under various conditions. Its rather like the tables used by actuaries when calculating life insurance. Like such tables, they should be followed with caution.

Most black-and-white images, when properly processed and stored, can be considered permanent - that's forever and a day. Colour films cannot be considered archivally permanent. But modern colour images do have a surprisingly long life.

For example, based on accelerated keeping tests, 'Kodachrome' Film will show a yellow dye loss of 10% over a period of 100 years when stored in the dark at 24C. 'Ektachrome' Film, by comparison, will show a similar yellow dye loss in about 60 years under the same conditions.

Another main prediction is for fading when projected. Here, test slides are subjected to intense light from a 'Kodak' CAROUSEL Projector for several hours. In these projectors the lamp concentrates about 86,000 footcandles of light onto the film. That's over 13 times as bright as direct sunlight so you will not be surprised to see that fading occurs fairly quickly.

In this case there is a 10% loss of magenta dye in just over one hour for 'Kodachrome' Film. But it's interesting to know that it takes nearly two hours to produce the same magenta dye loss in 'Ektachrome' Film. In other words, if you are producing slides for a slide show its best to choose 'Ektachrome' Film but for long-term, dark storage select 'Kodachrome' Film.

Now, what does a 10% dye loss mean to you? Many people think it's a significant amount. But the truth is that it's an amount that produces a "just noticeable difference". In practice, much greater losses must occur before the changes become noticeable or objectionable. For some materials a 30% dye loss is being used as a yardstick.

As an example, the new 'Kodak' EKTACOLOR Plus and EKTACOLOR Professional Papers produce images that have a predicted 30% dye loss in 120 years when stored in the dark at 24C. They are also relatively stable when displayed. Here you are looking at a predicted dye loss of 30% over 50 years when lit by 100 lux fluorescent lighting for 12 hours a day. That's about twice as good as the results for 'Kodak' EKTACHROME Paper.

The birth of a photograph

A photograph is born during processing and, like its human counterpart, it requires copious amounts of hot water. Processing is an important stage in the whole stability equation. Indeed, some changes occur at that time that can have a major affect on the life of a slide.

Where you have control over processing it's worth knowing that some stages are more important than others to the stability of the final image. For example, everyone is familiar with the importance of fixing and washing. There are tests for the amounts of residual chemicals left in black-and-white materials and levels to attain for long-term stability.

In the processing of colour materials, all parts of the process are important but, for stability purposes the final bath, be it called stabilizer or conditioner, can be crucial.

This stage may be an alkaline formalin bath that stops unused colour couplers reacting with the dyes to re-convert them to a leuco form that is colourless. Another bath may be a conditioner that adjusts the final acidity of the image layer to a particular level to improve stability to light and to reduce the tendency of the unused colour couplers to print out to a yellow colour when exposed to light and particularly ultra violet radiation.

Following the manufacturers recommendations for these processes is the best way of ensuring the longest life from your photographs.

External influences

Light, heat, high humidity and some chemicals and packaging materials can all have detrimental effects on stability. Much of what follows relates to colour materials but the same comments apply to black-and-white materials as well.

Heat

In relation to colour materials, we have already said something about the problems of light but high temperatures can also be bad for good image stability. As a rough guide, dye fading doubles for every 5C rise in storage temperature. Conversely, it is halved for every 5C reduction in storage temperature. This is all summarised in the table.

Humidity

High humidity is another factor to control. The yellow dye is particularly vulnerable to fading at high humidities. But there are also physical effects such as fungus growths that occur in damp conditions and these can damage both colour and black-and-white materials.

Fungus or mould spores tend to be dormant at humidities below about 65% so dry storage conditions will prevent fungus attacks. Low humidity of around 40% will also decrease the fading rate for dyes. Even lower humidity is better for reduced fading but this introduces undesirable side effects such as static, brittleness and excessive curl.

Incidentally, if refrigerated or deep freeze storage is used for important photographs, the storage unit should have control over humidity or photographs should be packed in moisture-proof containers after conditioning to a temperature of about 25C. This ensures that the final storage humidity is kept low at the storage temperatures you will be using.

Chemicals

You can sum up the problems associated with chemicals under the heading, "all the modern inconveniences!" The list includes most of the noxious substances known to ecologists and conservationists all over the world.

The fumes from car exhausts, paints, glues and foam insulation all contain reactive chemicals that can cause dye fading with colour materials or stains with black-and-white materials. In coal-burning, industrial areas the atmosphere will often contain significant amounts of hydrogen sulphide and sulphur dioxide. These chemicals can produce gradual fading or staining as well as deterioration of the film base and of gelatin. These and other by-products of industrial activities cause the so-called acid rain that can fall on rural areas well away from the actual production site.

One important point about the chemistry of deterioration is that you can anticipate some of its effects in order to protect some images. Black-and-white prints, for example, are stained brown (in other words, toned) by gases or chemicals some of which change the silver image to the more stable silver sulphide

Toning with a sulphide toner can produce this same change in a controlled way. Alternatively, if the brown silver sulphide image is unsuitable, selenium toning can be carried out that produces little, if any, tone change.

For long-term storage of black-and-white films, however, only toning with gold is considered archival. Such important records as the microfilm record of the Domesday Book have been preserved in this way.

Protection

Before we leave this section, let's consider two very important factors - protection and packaging.

If you want to avoid the long-term hazards of atmospheric pollution then you will need to think in terms of air conditioning with charcoal filters to remove contaminants down to a reasonable level. For lower levels of protection that may involve lower stability levels, the use of protective enclosures may be the answer. These can take the form of double layers of aluminium foil, folded

and sealed with tape or, more simply, the enclosures provided by various suppliers for the storage of photographic materials.

A lot has been written and said about these materials. In summary, the reactive chemicals that can cause trouble are: acids, peroxides, plasticizers, metal particles, wood fibres, sulphites, nitrates and chlorides. Several manufacturers now supply containers in a variety of designs made from suitable inert substances that should not react with the photographs you want to store. Kodak does not offer a testing or advice service for products of other manufacturers but the suppliers in question will be able to answer such questions themselves.

Restoration

Like spare part surgery and the treatment of some diseases, the restoration of photographic images is likely to extend useful life. But it can be an expensive and time-consuming business that should be undertaken only when absolutely necessary. Also some of the techniques are specialized and require the help of people who have experience with them.

Before going on to discuss the techniques that are used, it's worth reviewing the other avenues that should be considered. First amongst these is what can be called the "Noah's Ark principle". This simply means producing two of everything! If one of the copies is stored in good conditions and the other used as a viewing copy, the good copy can be used later to produce additional copies if they are needed.

Storage itself is important, of course. And the lower the temperature the better. Indeed, at temperatures down to -10C you could be preserving your colour images for around 10,000 years which is good news for all those very important pictures. These same storage conditions are good for the permanent preservation of black-and-white images as well.

Restoration techniques

Restoration includes both chemical and photographic techniques. One word of warning: whenever you are handling photographs, make sure that you wear suitable protective cotton gloves and replace them regularly. Such

gloves prevent perspiration from fingers starting an etching process in the gelatin or, worse still, providing sites from which other chemicals can launch an attack on both gelatin and the image. It is just as important to treat delicate images with equal delicacy. Careless handling of a rare Daguerreotype can destroy the image for ever.

Chemical

Chemical treatment of photographs should be approached with considerable caution. If you do decide to attempt it, make a good duplicate before you start. Also be sparing with any of the liquids you use. Cotton buds will carry sufficient solution for most purposes.

One relatively simple technique is chemical treatment with a film cleaner such as 1,1,1, trichloroethane. This is sold under various trade names such as Chlorothene and 2.22. This chemical is useful for removing dust, fingermarks or fungus growths. In all cases use the solution sparingly.

Incidentally, never use water or aqueous-based solvents. The waste products produced by fungus growths make gelatin water-soluble.

Other chemical treatments include retouching. Even more than other treatments, this requires expert advice or help.

The work owes more to the artist than the photographer. Filling in scratches, repairing damage and, in some cases, even deciding what once occupied a faded area, all come within the domain of the expert retoucher.

The purist as well as the archivist will clearly have something to say about just what and how much retouching is permissible. Relatively few records will deserve the full treatment but almost all old records can benefit from a little retouching.

Photographic

Photographic restoration techniques include straight duplicating and methods involving complicated masking.

Of those techniques available, perhaps the easiest one to

use is straight duplicating. With this technique you can repeat images or even transfer them to a new material with the characteristics you want.

For black-and-white duplicating, one of the best known products is 'Kodak' Professional B/W Duplicating Film. This gets its reputation from two main features. One is its ability to record the original negative density range truthfully and with one-step development. The other is its long-term permanence when processed properly. Duplicate negatives on this film can be expected to last for over 100 years with no apparent change when stored at 24C and 40% RH. Even longer times are possible with lower storage temperatures.

On the other hand, if you intend to project colour slides at an exhibition, then slides duplicated onto 'Ektachrome' Film would seem to be the best answer for you. With modern duplicating films it is possible to get results very close to the original with less contrast or colour change than with earlier materials.

For the longest life under dark storage conditions, you should use 'Kodachrome' Film for preference although 'Ektachrome' Film does produce slides that come a close second. Whichever slide film you use, it's worth setting up suitable cold storage for such slides.

However, what can be done with images that have faded? Fortunately, there is another 'Kodak' product that can salvage faded black-and-white images in a spectacular fashion. This product is 'Kodak' Technical Pan Film.

This film provides tunable contrast by the use of different developers and development times to suit many situations. If you couple this benefit with suitable filters you can produce some remarkable transformations. Badly faded, yellowing originals can be restored almost to their original quality if copied onto Technical Pan Film through a deep blue filter and processed to a high contrast.

Old slides may also show colour balance and contrast changes that are difficult to correct. However, Kodak scientists have produced a useful, if elegant and somewhat complicated, masking technique that will answer many prayers.

The results are startling. They can return badly faded and stained slides to something close to their original glory. It must be said, however, that the masking procedures require the facilities offered by a well-equipped processing laboratory. It is also likely to be expensive because it needs close personal involvement over several different stages.

These and many other topics connected with the conservation of photographs are covered in depth in three books by Kodak. For old photographs refer to Kodak Publication No. G-25, "Care and identification of 19th century photographic prints", Price: £19.95. A useful book which covers all aspects of the care and restoration of photographs is Kodak Publication No. F-40, "Conservation of photographs", Price: £29.95. Finally, for help with duplicating techniques, refer to Kodak Publication No. M-1, "Copying in black-and-white and color", Price £24.95. These and many other Kodak Books can be purchased from: Fountain Press Limited, 45 The Broadway, Tolworth, Surrey, KT6 7DW.

So, where does all this leave us? Well, if history is anything to go by we are definitely on the right lines and the future of photographic images is in good hands.

In 1978 a perfectly preserved woolly mammoth was put on display in London. It had been in the permafrost of Siberia for over 20,000 years and was an excellent example of how low temperature storage can prevent deterioration.

Earlier, in 1947, the Dead Sea Scrolls were discovered in 2 foot high clay jars - the forerunners of modern time capsules. They had been in a hot but very dry area of the world for over 2000 years and the modern science of infra red photography enabled us to reveal the writings on these old parchments. As an example, this one shows the benefits of storage at low relative humidity.

Nature can be harsh but if it can preserve materials for centuries, even if by accident, is there any reason to doubt that we can do likewise given all the advantages of 20th century science?

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Questions

- Q. Ms Juliette Soester asked about the use of 'Kodak' T-MAX Films for copying. She said she was getting poor shadow reproduction from copies of black-and-white prints using 'Kodak' T-MAX 100 Film.
- A. 'T-Max' 100 Film normally produces excellent black-and white copies. But processing is more critical than with earlier films. Try reducing development time by 15% and increasing exposure. This will place more of the exposure on the long straight line portion of the curve and give better separation of the shadows.
- Q. Dr Tom Going and Colin Keates both asked for more details about the use of 'Kodak' Professional B/W Duplicating Film 4168 for duplicating a large collection of negatives.
- A. 4168 Film was designed and manufactured as a one-step duplicating film for making duplicates of nitrate-base negatives or discoloured negatives on glass plates. In both cases, duplicates were required that were suitable for long-term storage. The film is coated on a 0.018mm thick polyester base whose physical properties are likely to remain unchanged for over 300 years under normal storage conditions. Images on the processed negatives should have a life of at least 100 years under normal storage before changes begin to occur.

Ganging the negatives (combining several similar negatives together) is one way of making the most economical use of the area of sheet film available and of speeding up the duplicating operation. It is usual for the speed of direct duplicating films to be slow so exposures are normally made by contact. But enlargements are possible in reasonable exposure times especially if a modern colour enlarger is used with its high power light source.

Processing uses a high-activity developer such as 'Kodak' DEKTOL Developer. Small changes in contrast are possible by adjusting the development time. Stability can be improved by toning the finished duplicates in 'Kodak' Rapid Selenium Toner.

- Q. One questioner said he was having trouble avoiding streaks with 120-size 'Kodak' Technical Pan Film developed in 'Kodak' TECHNIDOL Liquid Developer.
- A. From the description this could be an agitation effect. Development uniformity is particularly difficult to achieve when a potentially high contrast film, such as Technical Pan Film, is developed to a low contrast. The agitation instructions should be followed carefully. In particular, avoid the "hand jiving" method of agitation where the processing tank is rotated. The prescribed method uses a vigorous, 2-seconds, up and down "pogo stick" agitation technique every 30 seconds. This technique should ensure even development.
- Q. Another questioner asked about the potential hazards of atmospheric pollution from copiers.
- A. Some electrically-operated copiers give off ozone, a strong oxidising gas, that is likely to produce overall stains in black-and-white images and sometimes yellow or red spots. The gas may also degrade gelatin, film base or paper base of both black-and-white and colour products causing them to disintegrate in time. For safety's sake, avoid storing a photographic collection in the same room as a photocopier.

References

1. Storage and care of 'Kodak' Films and Papers - before and after processing. Kodak Publication No. E-30.
2. Restoring faded color transparencies by duplication (white light printing methods). Kodak Publication No. CIS-22.
3. Restoring faded color transparencies by duplication (tricolor printing method). Kodak Publication No. CIS-23.

Early Photographic Processes Using Silver

Process	Dates of Popularity
Daguerreotype	1839-1860
Calotype-Salted Paper	1841-1860
Wet Plate Collodion	1851-1885
Albumen Paper	1850-1900
Dry Plate Gelatin	from 1880
Collodion Papers	1885-1930
Gelatin Papers	from 1885

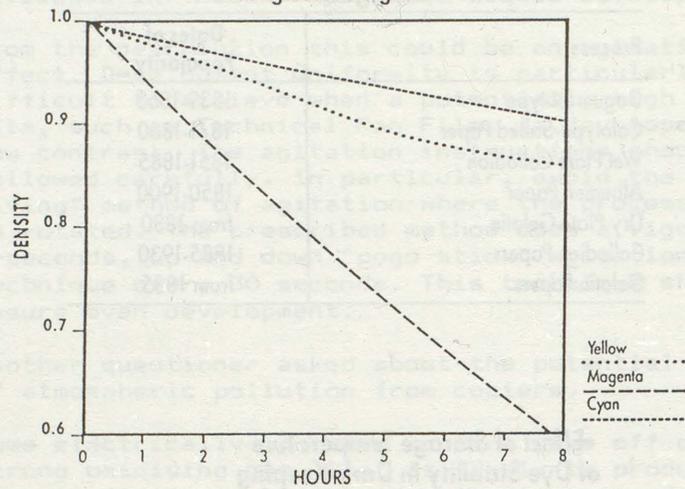
Effect of Storage Temperature of Dye Stability in Dark-Keeping Conditions

Storage Temperature	Relative Fading Rate	Relative Storage Time
30°C (86°F)	2	1/2
24°C (75°F)	1	1
19°C (66°F)	1/2	2
12° (54°F)	1/5	5
7°C (45°F)	1/10	10
-10°C (14°F)	1/100	100
-26°C (-15°F)	1/1000	1000

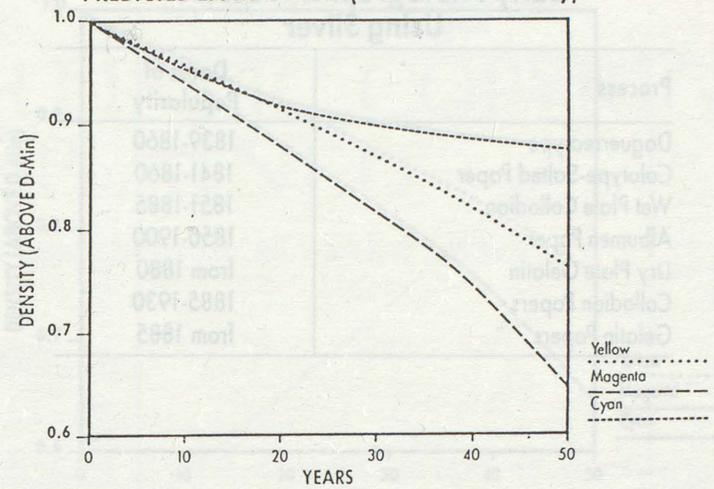
Effect of Humidity on Dye Stability in Dark-Keeping Conditions

Relative Humidity	Relative Fading Rate	Relative Storage Time
60%	2	1/2
40%	1	1
15%	1/2	2

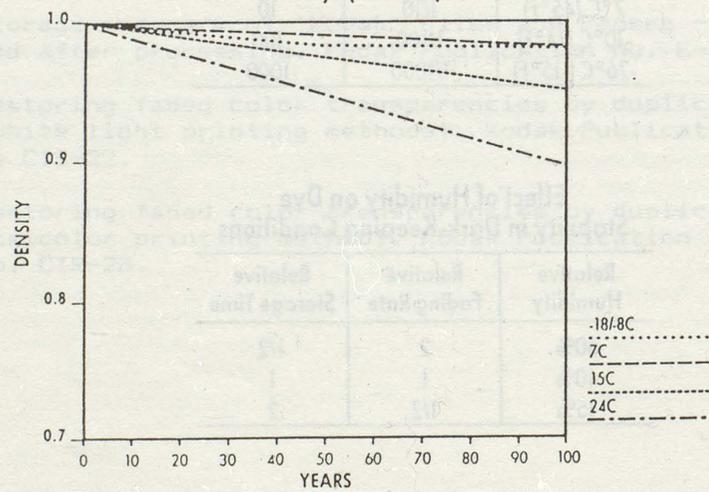
KODAK Color Microfilm and KODACHROME Films
Actual Light Effects with 925 KLX
Tungsten-Halogen



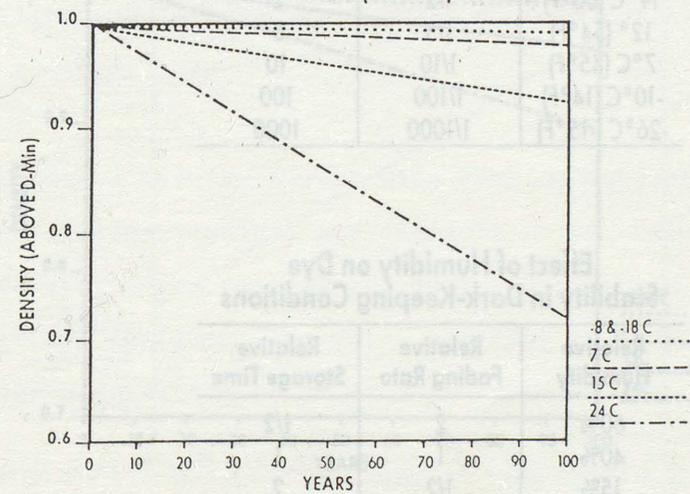
KODAK EKTACOLOR PLUS Paper
PREDICTED LIGHT FADING (100 lux for 12 hrs/Day)



KODAK Color Microfilm and KODACHROME Films
Predicted Dark Fading at Low Temperatures
for Yellow Dye (40% RH)



KODAK EKTACOLOR PLUS Paper
PREDICTED DARK FADE AT LOW TEMPERATURES
FOR CYAN DYE (40%RH)



Early Photographic Processes Using Silver

Process	Dates of Popularity
Daguerreotype	1839-1860
Calotype-Salted Paper	1841-1860
Wet Plate Collodion	1851-1885
Albumen Paper	1850-1900
Dry Plate Gelatin	from 1880
Collodion Papers	1885-1930
Gelatin Papers	from 1885

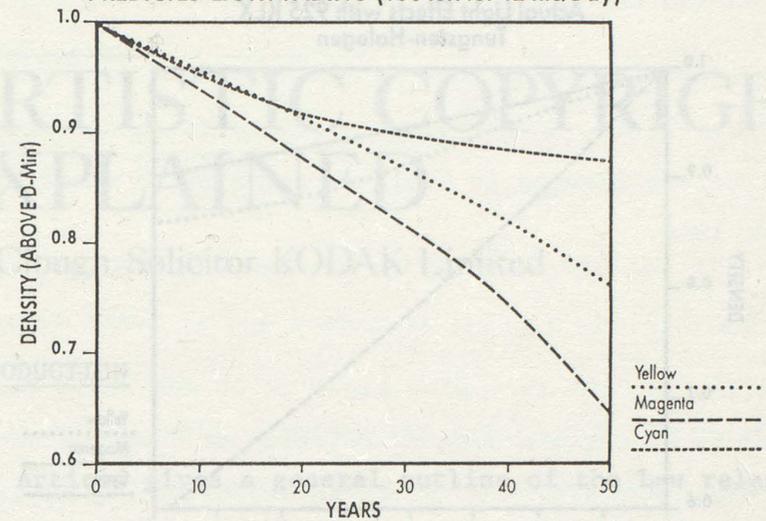
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7°C (45°F)	1/10	10
-10°C (14°F)	1/100	100
-26°C (-15°F)	1/1000	1000

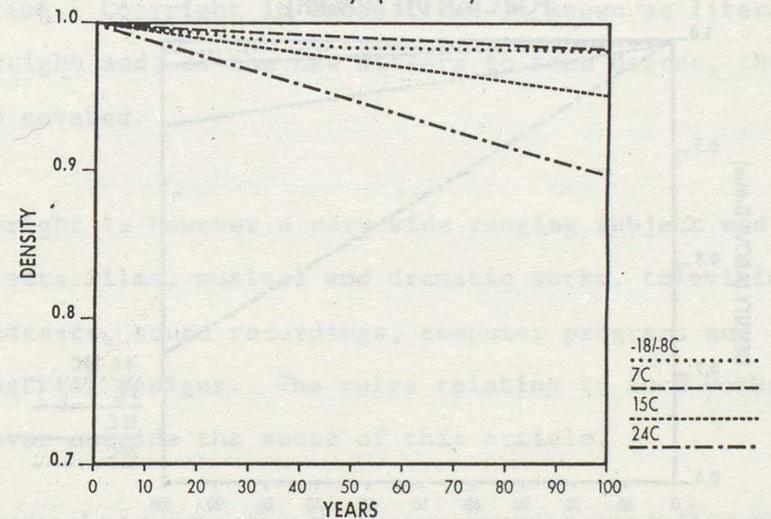
Effect of Humidity on Dye Stability in Dark-Keeping Conditions

Relative Humidity	Relative Fading Rate	Relative Storage Time
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40%	1	1
15%	1/2	2

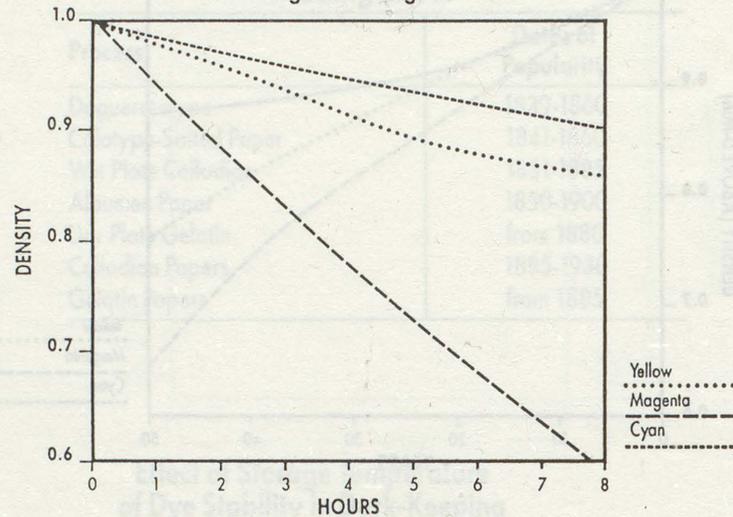
KODAK EKTACOLOR PLUS Paper PREDICTED LIGHT FADING (100 lux for 12 hrs/Day)



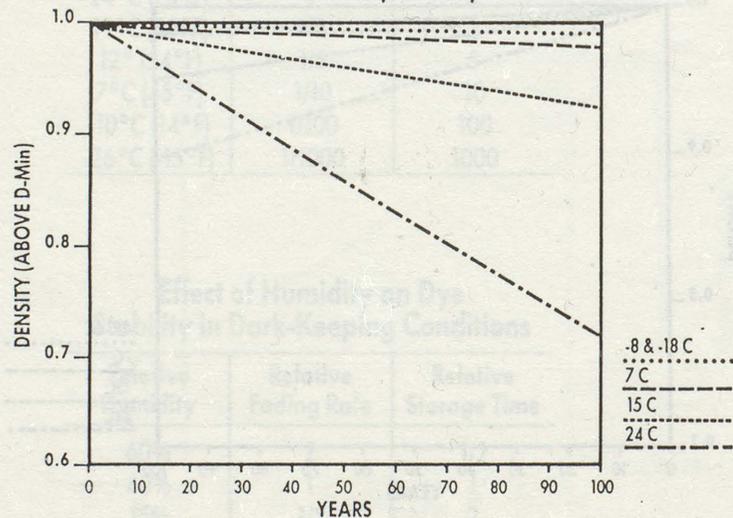
KODAK Color Microfilm and KODACHROME Films Predicted Dark Fading at Low Temperatures for Yellow Dye (40% RH)



KODAK Color Microfilm and KODACHROME Films
Actual Light Effects with 925 KLX
Tungsten-Halogen



KODAK EKTACOLOR PLUS Paper
PREDICTED DARK FADE AT LOW TEMPERATURES
FOR CYAN DYE (40%RH)



ARTISTIC COPYRIGHT EXPLAINED

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INTRODUCTION

This Article gives a general outline of the Law relating to artistic copyright; that is copyright in works such as paintings, drawings, engravings, sculptures and photographs. Some photographers may also need to photograph books, letters and other manuscripts from time to time. Copyright in these items is known as literary copyright and, as the Law differs to some degree, this is also covered.

Copyright is however a very wide ranging subject and also protects films, musical and dramatic works, television broadcasts, sound recordings, computer programs and industrial designs. The rules relating to such works are however outside the scope of this article.

A transcript of P R Clough's talk at The Association's Annual Meeting on 27 Oct 1987

PRINCIPLES

The present law is set out in the Copyright Act 1956 as amended. It is, however, necessary to refer back to the previous Act (passed in 1911) in relation to works created before 1956.

Copyright is "the exclusive right to do and authorise others to do certain acts in relation to a work" (Copyright Act S.1). As it is an exclusive right, it follows that others can be prevented from making unauthorised copies or be made to pay for permission to do so. Indeed a good working definition is the right to prevent others copying a particular work.

There is no copyright in ideas as such but only in the material in which they are physically expressed. The Law protects the order of words, or the design or the photograph, not the concept. There is no copyright in the plot of a play although there will be in the text.

Copyright (or the right to prevent copying) is independent of the ownership of the physical material, for example, a photographer may very well own the negatives but the

copyright may be vested in the person who has commissioned the photograph.

OWNERSHIP OF COPYRIGHT

In the case of literary and artistic works, the first copyright owner is the author or painter who created the work.

Special rules apply, however, in relation to photographs where the basic rule is that the copyright owner is the person who owns the material on which the photograph was taken. This is an anomaly as the photographer's skill is much more significant than the purchase of the film.

The position is further complicated in that many fine arts photographers may be employed by museums and the employer will be entitled to the entire copyright in photographs taken by such employees in the course of their employment. The position differs slightly when the photographer is employed by a newspaper or other periodical when the employer (in the absence of special arrangements) only has copyright for the purposes of the publication.

The independent photographer may be in no better a

position as, if a particular work is commissioned for payment, the commissioner will be entitled to the copyright. This rule may, however, be varied by agreement between the parties and standard terms of business frequently deal with this issue.

TYPES OF WORK COVERED BY ARTISTIC COPYRIGHT

Copyright only exists in certain types of work and the copyright implications need not be considered if the item photographed does not fall within any of the categories laid down in the Act, for example, natural objects. In the case of artistic copyright, the relevant works are:-

- paintings
- sculptures (including casts)
- drawings (including maps and plans)
- engravings (including etchings, lithographs, woodcasts and prints)
- photographs
- works of architecture
- works of artistic craftsmanship, for example, pottery

Copyright also exists in literary works such as books and letters and specifically includes compilations of other works.

Works must be original to be subject to copyright although they need not be of artistic quality. Originality relates to the form of expression not to the value of the ideas. Arrangements of work such as football pools, street directories, train timetables may, therefore, be copyright. Any snapshot may have copyright.

The issue of originality is relevant in relation to photographs as a copy of a earlier photograph will not have copyright protection. A photograph of an identical scene taken by another photographer will probably have copyright as originality and skill is associated with the selection of the viewpoint, exposure, etc.

Although the law is not entirely clear, it is likely that a photograph of a painting or other work of art is entitled to a separate copyright as the change in the medium means that the photographer will have exercised skill in taking the photograph. Exploitation of this separate copyright will, however, be restricted if the original item is itself protected by copyright.

TERM OF COPYRIGHT

Copyright normally lasts for the lifetime of the author or

other creator plus 50 years from the end of the year of his or her death but there are a number of special rules.

Photographs

Photographs taken between 1911 and 1956 have a copyright of 50 years from the end of the year in which they were taken. It follows therefore that no photographs taken before 31 December 1936 have copyright.

Photographs taken since 1956 have copyright for 50 years from the end of the year of first publication.

Publication involves the issue of reproductions to the public.

ANONYMOUS WORKS

Copyright lasts for fifty years from the end of the year of first publication unless the author can be identified on reasonable enquiry when the normal rules apply (lifetime of author, plus fifty years, or in the case of photographs and films, as stated above).

THE CROWN

In the case of artistic works Crown Copyright lasts for fifty years from the end of the year in which the item was first made. In the case of literary works copyright lasts for fifty years from the date of first publication. Crown Copyright in photographs also lasts for fifty years from the date of first publication.

BREACHES OF COPYRIGHT

A copyright owner has the right to take legal action if a third party commits any "restricted act". In the case of artistic copyright these are:

- reproducing the work in any material form
- publishing the work
- including the work in a television broadcast
- including the same in a cable programme

In relation to literary works, the same acts are also restricted as is performing a play in public and making adaptations of works.

There must of course be a copying of the particular work but the copy need not be an exact reproduction for there to be copyright infringement, for example, the work may be "scrambled". It is not sufficient for the works merely to be similar, for example, photographs taken from the same view point.

A substantial part of the work must be copied although this relates more to the significance of the part copied rather than the proportion to the whole work. It could, therefore, be as little as a page or less or the particular order in which incidents are arranged in a work. It is no defence to say that the infringement was innocent, for example, if it is believed the copyright had expired. This may, however, affect the damages.

There are also various acts of "secondary infringement" which give rise to action if committed knowingly. These involve the commercial exploitation of infringing articles, for example, importing, distributing or selling them by way of trade.

A person is liable if he either does one of the restricted acts or authorises someone else to do it. There are extensive remedies for infringement, for example, an

injunction may be awarded preventing further copying; damages may be awarded; the infringer may have to account for any profits earned; the infringer may have to deliver all copies of infringing items for destruction. In certain cases there is power to award exemplary damages, i.e. damages over and above the actual loss as an indication of the Court's attitude to the infringement.

There are also various criminal offences in relation to copyright, for example, if a person knowingly imports or sells items which infringe someone else's copyright he is guilty of an offence. This involves fines and in serious cases imprisonment.

Position of the Photographer

An employee who has acted in the course of his employment in taking a photograph which infringes another's copyright will normally be entitled an indemnity from his employer. Similarly, an independent photographer who was commissioned by a museum may be entitled to an indemnity. This may well, however, depend on the contract for the work and on whose responsibility it was to clear the copyright position.

EXCEPTIONS

There are some instances where copying is permitted and the sanctions mentioned above will not apply. The most relevant exemptions for photographers are set out below:

There is a general exemption for "fair dealing" in the case of literary and artistic works. Persons are entitled to make limited use of copyright works for the purposes of criticism and review, research and private study and reporting current events. An appropriate acknowledgement must be given to the author.

Photographs of sculptures may be taken if they are permanently situated in a public place or in premises open to the public.

There are limited exemptions for copying small parts of works for purposes of education without permission.

Copyright works may also appear in television programmes provided they appear only as part of the background of scenes.

PROTECTION OF COPYRIGHT

There is no need and indeed there are no facilities to register ownership of copyright in the United Kingdom. There are, however, International Conventions providing for the recognition of copyright in foreign countries. If an owner wishes to rely on the copyright laws in other countries (particularly the USA) it is necessary to claim copyright by use of the international copyright symbol.

The appropriate message should also include the name of the copyright owner and the year the work was created, for example:

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TRANSFER OF COPYRIGHT

Copyright is a form of property and may be transferred from one person to another. The original author may very well have sold the copyright to his publisher or even left it in his will to his heirs. Frequently he will have transferred all or part of his rights to a Licencing Society, for example, the Performing Rights Society.

The new owner will become entitled to enforce the copyright and to grant any licences permitting use. The possibility of transfer is, therefore, very relevant if permission is needed for use of material.

APPLICATION OF COPYRIGHT LAW TO FINE ARTS PHOTOGRAPHERS

A photographer will need permission if the painting or other item to be photographed is located in a private collection or on private premises in order to obtain access. This agreement may contain conditions as to the use of the photographs but this will be decided by the individual contract rather than the general copyright law.

Photographers will need to decide whether it is likely or possible that an article is covered by copyright and many items may not conceivably be covered by copyright because of their age, for example, Etruscan vases, mediaeval wall paintings, etc. Other items may not be covered as they cannot not be regarded as artistic works or works of artistic craftsmanship, for example, horse shoes, old tools, etc. Even if the work is copyright, one of the exemptions may apply, for example, photographs of

sculptures on permanent display.

For other items it will be necessary to establish whether there is copyright and if so who owns this. The item itself may give an indication if there is a copyright symbol and the publisher's or author's name. Museum records may also provide assistance. Licence Societies may be able to assist.

The copyright owner will need to be approached for permission for the reproduction. Whilst transfers of the whole copyright have to be in writing, a limited permission to copy a work can be given orally. It is, however, suggested that there be some written document if only to prevent disputes.

In considering any licence documents, it is important to ensure that the licence grants all the necessary rights, for example, it may permit publication in a catalogue only whilst the museum may wish to use it for postcards or display purposes as well. Any fee will depend largely on the extent of the permitted use.

FUTURE DEVELOPMENTS

The Government has recently introduced an Intellectual Property Bill which will substantially modify the present copyright regime.

A major change as regards Fine Arts photographers is that the first owner of copyright in photographs is likely to be the "creator", no doubt the person who takes the picture. This will, however, still be subject to the provisions relating to commissioned works and to employed photographers.

The Bill is also likely to introduce the concept of "droit moral" into English Law. These are moral rights which protect the author or creator of the work even though he may have sold the copyright. Under present Law the creator can object if his work is attributed to someone else. Under the new provisions the author can insist that he is acknowledged as the creator of the work and he can object if it is subjected to unjustified modification.

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QUESTIONS RAISED FOLLOWING TALK ON COPYRIGHT LAW

There were several issues raised in questions and a considered response to some of these may be of assistance.

1. The question was asked whether the exemption permitting reproduction of photographs of sculptures applies only when they are on permanent as opposed to temporary display in a public place. The Act indeed requires that the sculptures must be on permanent display.
2. There was discussion as to the copying of illustrations, for example, old photographs, which appear in museum catalogues and other books when the items themselves are out of copyright.

There may be an infringement of copyright if a person copies a photograph of a print or painting as this will have a separate copyright. Copies of old photographs will not have a separate copyright in themselves but if they appear in a book, the work as a whole may have literary copyright. Copying may therefore be an infringement of the copyright in the book.

There will of course be no infringement of copyright if the photographer obtains access to the original item.

3. There are several questions as to the copyright implications if an employed photographer carries on private work. Under general copyright law the employer will only have copyright in photographs which the photographer takes in the course of his employment. The photographer would have copyright in such private work subject to the normal rules about ownership of the material and commissioned works.

The photographer's Conditions of Employment may, however, contain provisions which will restrict his ability to engage in such work, for example, it may be a condition that he first obtain his employer's consent to private work. Even if there is no express term, the employee is under a general duty of good faith to his employer and certain work might be in breach of this, for example, if he competes with his employer or if he uses his connection with a Museum in order to obtain the work. In the circumstances it may be prudent to obtain the employer's consent to such activities.

The Association of Historical and Fine Art Photographers

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