

huge collection of films. With the help of supporters, like the National Film Archive, he eventually won the case, but admits that the legal action took the heart out of his collecting activities.

Even so, he still has the fourth largest private collection in the world, with over forty-thousand individual subjects on various gauges, including hundreds of features. The current largest private collection belongs to a German collector. Some of the major collectors and dealers in films now use computers to monitor the ownership and copyright status of thousands of films. Some private collections have been fully, or partly commercialised. One of the first in America, belonged to the late Raymond Rohauer who, from his college days, found and collected many rare silent and early sound films. Although his methods didn't always endear him to the film establishment, often upsetting laboratories and many official archives around the world, he must be given credit, with others, like our own Philip Jenkinson, for trying to save and popularise silent films, at a time when few others were interested. One well known collection over here belongs to film historian John Huntley, who has often come up with fascinating clips, adding interest to many a TV documentary.

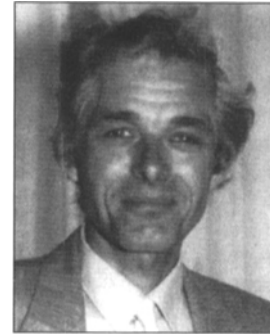
Where are they now?

Sometimes the rights to a company's back catalogue of films is purchased, but not all the actual prints can be found on the shelves. A recent example has been the BBC's acquisition of Butchers Films, a provider in the past of British "B" movies. The deal didn't include all the actual prints, so they are currently circulating an appeal for copies to fill the gaps, including 35mm or 16mm prints borrowed from private collectors (no questions asked!). In the end, it will probably mean a lot of restoration work to come.

For the future

In future issues of *Cinema Technology*, we will look at the work of restorers, and the various types and condition of original material they have to work with. Also featured, will be the restoration of colour films, including recreating the look of old Technicolor and other early colour processes. Other topics, will be the problem of colour fading, digital restoration, and the often contentious issue of what is the "correct" aspect ratio for re-issues of many widescreen films.

THE AUTHOR



Grant Lobban, who spent 30 years with the BBC as a studio projectionist and sound recordist, is now a Retired Fellow of the BKSTS.

Grant is an enthusiastic "technical" historian of the cinema, and is well known for his major contributions to the BKSTS Wallcharts. He has also written many articles for *Image Technology* and *Cinema Technology* over the years. His recent series on drive-in movies led to correspondence from all parts of the world.

Laboratory Grading

Jack Houshold

Grading has changed

Like most film laboratory work, grading has changed dramatically over the past 100 years, from manually grading a black and white negative winding over a light box built into a work bench, to the use of extremely sophisticated electronic equipment linked with computers, cueing systems, etc.

The major impact which changed the graders "artistic" working practices came with the introduction of the colour negative in the early 1950s.

Originally published in the BKSTS journal *Image Technology*, June 1997, pp. 7-8. Jack Houshold is retired from the National Video Archive. Reprinted with permission of the BKSTS, for which SMPTE would like to express its thanks.

Experienced graders are extremely skilful in visually assessing the printing levels required for black and white negative, but colour negative is very difficult to judge in this way, hence the introduction of the electronic analyser.

Needless to say, over the past forty years or so the complexity of these analysers has also changed out of all recognition, and the grader him/herself has also had to change in order to absorb and operate the new technology.

Producing the rushes

Immediately after the colour negative is processed in the laboratory each night, the first requirement involving the grader is to evaluate, on the

analyser, the necessary exposure level in order to produce either a film rush print or a video rush tape. In addition, the grader must notify the cameraman as early as possible on how his previous day's studio or location work looks, and inform him about his exposure levels, etc.

In some laboratories the production of a video rush tape will not preclude the grader using an analyser, but the negative would go direct to a telecine transfer machine, where the operator becomes effectively "the grader" and would evaluate and record the settings used to produce a good looking image presentation on his monitor. The scene to scene settings and footage cues are all logged into his computer on a first

LABORATORY GRADING



Figure 1: The once manual procedure of grading is now done with the aid of sophisticated electronic equipment linked with computers.

run through, and then the negative is re-wound and a transfer to videotape is made automatically.

Using the workprint

The next stage a film grader is involved in is after the studio work is complete and the editor has finally produced the workprint, which is used for cutting and assembling the original negative. At this stage a nominated grader (usually a different person from the one who produced the rush prints) is given the "project" of exclusively working on the film. His/her first job is usually to screen the work print with the editor and/or the cameraman, and to absorb their comments regarding colour corrections, key reference shots, moods, and styles that the movie is all about.

Subjective judgements

Despite all this information and all the records of rushes gradings previously obtained, the final result of printing the large number of scenes which are now assembled in a feature film depends greatly on the subjective (or as some would say, "artistic") judgement of the grader in viewing and correcting the first results.

Personal skills

This is a job in which personal skill and ability are of vital importance. No matter how much care is given to obtaining the first grading values, it is unusual for the first print from a cut reel of negative to appear perfectly consistent for colour and density for every scene, and some degree of further correction for evenness is generally necessary. These corrections are quite often made on the basis of screening the first copy under review theatre conditions

by the grader. At this stage, co-operation between the laboratory contact person, the grader, and a representative of the production company (usually the editor and/or the cameraman) can be most valuable.

In many sequences the character of the lighting

may have been designed to emphasise the dramatic mood of the story, and it is essential that the grader understands and correctly interprets the director's or cameraman's intentions.

Consistency

In making the appropriate changes, the grader must not only ensure that each reel is uniform in appearance from scene to scene, but that successive reels of a feature film are also consistent so that there are no marked alterations of colour and density when a reel is changed in the cinema.

The answer print

The first completely graded copy, known as the answer print or check print, is submitted to the production company for approval, and, if accepted, may be used for previews or rehearsals prior to the premiere or first public showings.

This is not quite the end of a grader's involvement in the film; with the acceptance of the answer print the stage of preparatory work by the laboratory may be regarded as complete, but it is quite usual to then prepare a few specially selected copies under the supervision of the grader to provide the first show prints for a special premiere performance or selected showings.

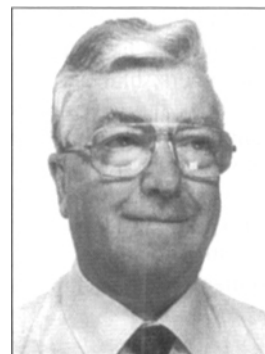
Black and white grading is still with us

We've talked a lot about the colour grader and the use of very expensive and sophisticated electronic equipment in use today, but we must not think that the "old-fashioned" sight grading of black and white films is "dead" – it isn't!

The first grading was done in 1896,

and one hundred years on it is still very much a well practised skill. It is still down to the grader, working at the rewind bench and passing the film over a light box, to use visual experience to produce a smooth, well-balanced black and white film copy, albeit normally from an archive or vintage origin. We are not talking of just an odd one or two such films, one has only to look at the daily TV programmes to know that hundreds of black and white films are still being produced in this country alone. "Old-fashioned" manual sight grading is still "new" today, and runs happily side by side with modern technology – great skills are required in both fields.

THE AUTHOR



Jack Household has had, as he says, the privilege of working in this marvellous industry for 53 years. For the last two he has been retired, but he is still happily involved with BKSTS and consultancy work. He started his career in 1944 with Technicolor as a Laboratory Control Technician and some 30 years later succeeded the famous Bernard Happé as Technical Manager.

He later designed, built, and managed a brand new film laboratory for David Buck, also introducing a professional video facility and one of the first bulk video duplication operations in the UK.

His "third life" began in 1987 when he helped install and commission a new film processing laboratory at the National Film and Video Archive at Berkhamsted. For the next nine years he managed both film and video technical operations at this world famous Archive.