Cinema and Ethnology.

By M. W. Hilton-Simpson and J. A. Haeseler.

There are two sides to field work with a cinema, one the purely scientific side, the other the showman's. Success in both fields demands a realisation of the needs of each, a thorough grasp of technique and a spirit of compromise.

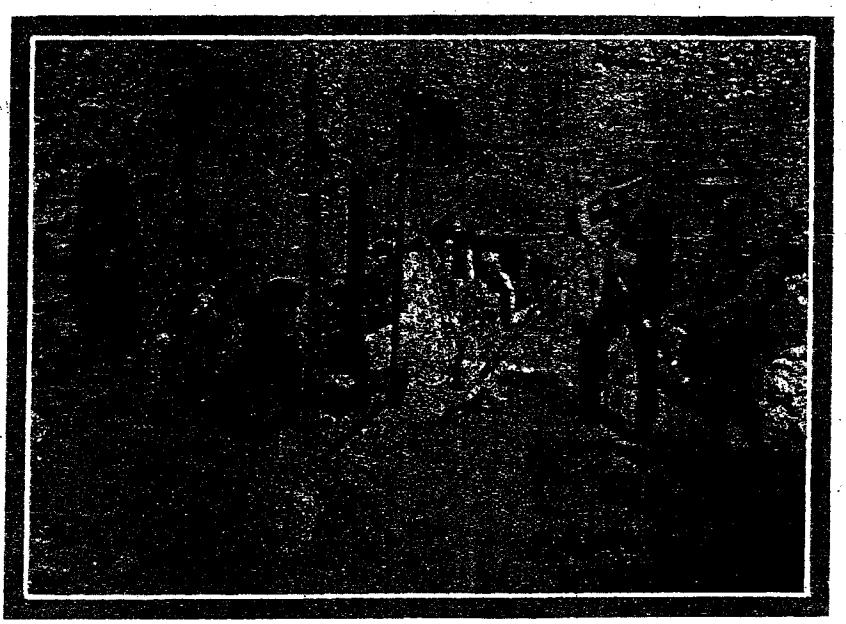
THE Editor of DISCOVERY has asked me for an article which "might prove interesting to a large number of people who have vaguely considered taking a cinema camera on an expedition," for the forming of ethnological records. Ever since I commenced field-work as an ethnologist, more than twenty years ago, I have been in that position myself. I knew the value of such records, a value too obvious for emphasis here, but I realized that my knowledge of photography was that of a "button presser," and somehow I never thought seriously enough of the subject to learn even the rudiments of cinematography.

Records.

In 1923, however, an opportunity arose for me to see the cinema in action in the ethnological field. I met Mr. J. A. Haeseler, an anthropologist of Harvard and Oxford Universities.

He was about to commence the production of a "library" of films illustrating the manners and customs, arts and crafts of foreign peoples for use in teaching history, geography and anthropology in Europe and America.

It was decided that he should accompany my wife and myself upon our sixth visit to the Shawiya (Berber) tribes of the Aures *massif*, in S.E. Algeria, in the winter of 1923-24. I was to organize the expedition and, with my wife's help among her Shawiya women friends, to endeavour to persuade the natives to submit to the camera. The photography, in which he had been most carefully trained, was to be entirely in Haeseler's hands.



(Ordinary hand camera negative by Hilton Simpson.
FILMING THE VERTICAL HAND LOOM.

This single journey, in the course of which I never once used the cinema camera myself, constitutes my total experience of that camera in the "field."

Nevertheless, first impressions are sometimes almost as useful to beginners as those of experts whose familiarity with a subject has bred contempt for its initial difficulties. I had a very good chance of seeing these difficulties which obstruct the way of the cinema photographer among primitive peoples; I have enjoyed the advantages of his results in the lecture hall.

As to the purely technical side of the photography, I have asked Haeseler himself to furnish us with some notes from his now great experience. This he has consented to do, despite the fact that he is now most busily occupied with film technique in preparation for further work in the field.

My wife and I preceded Haeseler to Algeria, repairing to one of the larger villages of the Aures hills, in which we had been personally acquainted with most of the natives for the last dozen years.

Smoothing the Way.

In the course of our normal ethnological inquiries we let drop that we were expecting the arrival of a friend who would take some photos with a camera superior to my own, with which latter they were already acquainted. As we anticipated, no objection was raised to this by our Shawiya friends, and we returned to our railhead to meet Haeseler with the certain knowledge that we could, at any rate, commence our work on such women's crafts as pottery making,

weaving, etc., as well as on the occupations of the men. When he arrived I must confess that I was astonished at the amount of his impedimenta. The size and weight of his tripod particularly appalled me!

I had only considered the matter so very vaguely that I had not realized the necessity of strength and weight in a tripod that is to hold a heavy camera absolutely rigid in any position and in a gale of wind.

However, pack mules were, I knew, fairly easily obtainable in the districts we intended to visit, so the amount of kit mattered little. Nevertheless, it was apparent that the question of transport in a rough country is one that must be fairly faced before departure by anyone proposing to use a full-sized, fragile cinema camera in the field.

Transport Troubles.

For example, two trusty natives will probably be required to carry the camera, tripod and films when in constant use, to say nothing of the conveyance of the whole outfit on the line of march. Haeseler spent a few days in taking practice shots, to test the Algerian light, before we left our base for the mountains. It was then that I learned the truth of a remark he had made that the work bore little resemblance to the taking of snapshots.

The extreme accuracy required to obtain the exact range in "close up" photos, the vigilance necessary to prevent curious spectators casting their shadows on the picture from flank or rear during the taking of a protracted scene; the constant anxiety lest the "targets" may become weary and remove themselves before a shot is complete, are but a few of the minor worries which vex the soul of the cinema photographer.

The work is most assuredly a whole-time occupation. I think the success of Haeseler's films is largely due to the diligence with which he developed "test" fragments in a tank developer to observe the effect of the apertures he used in various conditions of light. This task frequently occupied him well into the night, allowing him to snatch but little rest before commencing his next day's work, often shortly after dawn.

When once we got to work in the Aures I was much struck by the useful pictures he obtained in the interior of gloomy huts in which I should have believed cinema work to be impossible. I remember on one occasion we passed the door of a hut in which we had been invited by the owner to take photos whenever we pleased. Haeseler, wishing to make a test of light in an interior, glanced in and hastily beckoned me to follow. On the floor, in one of the least dark corners of the room, lay the lady of the house—asleep, with two small goats beside her. Scarcely a target for the scientific ethnologist, perhaps, but one which aroused in Haeseler the instincts of the stalker! The scene was recorded on the cinema—it subsequently yielded an excellent print—and the apparatus removed from the hut before the lady awoke!

Apart from showing the uses of a good camera in a bad light, this incident shows how the cinema can be employed to take scenes unbeknown to the native. This, of course, is particularly the case where the telephoto lens is used.

Nevertheless, "surprise tactics" and "ambushes," if discovered, may well lead to resentment and sulkiness and so prevent the taking of better pictures later on. In any event, such tactics are out of the question when really complete series of photos of such processes as weaving are required. The very close-up views needed to show the finger-work on the hand-loom preclude all hope of secrecy. Such pictures can only be taken with the knowledge and consent of the native, and they cause the photographer to be even more of a slave to native caprice than the ethnologist must necessarily be.

Our method of obtaining scenes of such arts and crafts was to approach, say, some friendly woman and ask her to let us know when she proposed to make a batch of pottery for her own use so that we might come and take our photos. In this way we were able to get the entire process, from the digging of the earth to the finished pot, without one single item in the series being "got up for show." The utter lack of self-consciousness in face of the camera among the Shawiya of both sexes astounded me. They went about their daily tasks as if there were no photographers within miles of them. Even the young girls seemed

Avoid Arrangements.

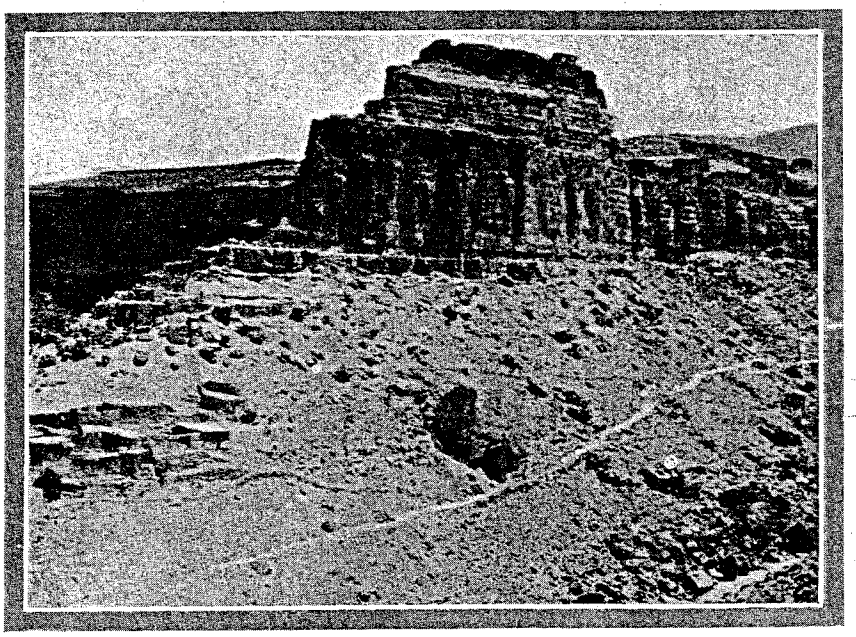
born to the profession of a cinema "star." But the very complacency of the Shawiya places a pitfall in the path of the photographer. With willing helpers round him, he is apt to be tempted to "arrange" various ceremonies, etc., which are not being performed in earnest at the time of his visit. We sternly set our faces against recording anything which was not being done by the natives *for themselves*. Nevertheless, the temptation was strong.

I much desired a record of the ceremony of carrying a bride to her husband's home. No weddings took place during our stay in the hills. What easier than to "arrange" the scene required? But emphatically *no*. The natives, performing the ceremony in a half-hearted spirit would probably omit some small demon-scaring act; despite my fairly complete

knowledge of the matter I should, equally probably, fail to notice the omission. The result would have been that we be branded as liars by the first scientist who observed the error on our film at home.

Time Factors.

I shall never cease to rejoice that, in respect of these temptations, we kept our virtue intact, and we secured a very full programme none the less. I soon discovered that the taking of even so straightforward a craft as pottery-making was not quite so simple a process as I had supposed. It takes, say, half-an hour to produce a hand-made pot, exclusive of the firing. At any rate, it takes so long that to keep the camera in action all the time would be ruinous in film and too long for exhibition purposes. Therefore a few feet only must be taken of every stage in the work—applying the side of the vessel to its base, fashioning, polishing, decorating, firing, etc. A complete review of the craft can thus be shown on the screen in a few minutes. But this implies a good previous knowledge of the craft on the part of the photographer or a companion.



DEFENSIBLE VILLAGE, TYPICAL OF THE SOUTHERN SLOPES OF THE AURES RANGE.
(Enlarged from cinema negative by J. A. Haeseler.

We found it an excellent plan, when once the camera had been mounted, for the photographer to attend entirely to his apparatus and for his companion (knowing the craft to be photoed), to occupy himself with the native's work and warn the photographer of any impending change of process which would require to be recorded.

I believe it is extremely difficult for the photographer to carry out both tasks himself when dealing with the technology of a craft. General pictures of the scenery not requiring such careful observation could, I should say, be taken as well by one man alone. If I had to record, single-handed, the arts and crafts of a primitive people on the cinema, I think I should devote quite the first three parts of my time to a detailed study of each craft before I brought the camera into action at all for that particular craft. In this way I should hope to eliminate much wastage of film.

When once the trip has come to an end and the photographer has returned to civilization, his task is by no means over. Haeseler, I know, burned the mid-night oil for many weeks editing the films. The very titling of a print (so that it could be shown without an accompanying discourse) was a long and laborious job. But at last he had the satisfaction of hearing experts at the Royal Geographical Society refer to "the amazing excellence" of his films. (*Geographical Journal.* Vol. LXV, p. 30).

From the comments passed by scientists at the various learned Societies to which we have shown the pictures, it is evident that records of this kind are of great value to anthropologists at home. That they are popular we were convinced by the crowded halls in which we lectured in Paris, Brussels, and Antwerp. This popularity, I am convinced, is not to be found among the highly educated alone. When rehearsing my lectures in the picture theatre of a small country town I invited persons of all classes, of all ages, and of every degree of education to witness the films, in small parties at a time. I found that one and all were intensely interested in them, those educated in our national schools not less so than those with high university degrees.

Educational Values.

It does seem to me that a collection of such records of native life and industry as Haeseler obtained in the Aures, in addition to its obvious value to serious students of anthropology, could be made into a most powerful educational instrument for use in schools,

and I trust his "library" of films, when completed, may go far towards the brightening of education and the dissemination of a better knowledge of distant lands. Any other cinema records made with the same care and accuracy by other scientific workers would help immeasurably toward that end.

NOTES BY J. A. HAESELER.

Though the cinema will give incomparable records of the life of a foreign people, it exacts a stiff price for its results. Assuredly the taking of a cinema camera on an expedition is not to be lightly considered. With its equipment it is so bulky that, unless it is to form one of the major parts of the expedition's work and to fill a large place in the expedition's plans, it might quite as well be left at home so far as any worthy results are concerned. During the time the cinema work is going on it is, at least, one man's job to handle the camera. Before each time the camera is brought into action at least seven or eight adjustments must be made. No matter where in the world one sets up a cinema camera, one becomes a centre of interest and attracts a crowd that soon runs into scores. Managing these is a task for two or three vociferous native assistants, and on market days or during ceremonies the conditions are particularly trying.

The people doing the things that are being recorded must not be distracted, and must be kept at whatever they are doing within the field of view of the camera. When the actual photography is finished, the work is but half over, for the care of the camera, the loading of the magazines, and the packing of the film are exacting jobs, as is the development of test strips. So, unless the time an expedition is to be in the field is extended by at least one-third, it is better to have someone who can give his entire attention to photography.

Professional Psychology.

If this is to be the case, then there is a problem before the leader of the expedition. It is very difficult to get the ordinary cinema camera man to fit himself into the scientific spirit of an expedition. His is a different *milieu*—that of a showman—and it is from this point of view that he is inclined to regard everything that presents itself. Consequently, unless he is ruled with a rod of iron, told exactly what to take and almost where to place his camera, his results from a scientific point of view will be deficient. And to give a camera man as strict orders as this, when he is used to considerable independence, is not apt to keep the members of the expedition in good humour. On the other hand, a scientist with a good knowledge of ordinary photography could pick up cinematography in a few weeks and, if a complete outfit was turned over to him for practice purposes some time before the expedition, he should be able, with the advice of the company selling the camera and the cinema laboratories, to make himself proficient enough to carry out the work.

Technical Necessities.

If time is no object, then an ethnologist going into the field single-handed might do much good work with native assistants. In any case, a thorough study of a craft or custom must first be made. It is one thing to go into the field with someone like Captain Hilton-Simpson, who has made a painstaking and detailed study of the habits and industries of a people, and another to take a cinema camera into an unworked field. In this case the making of the cinema record should come only after a complete study of each phase of native life. The films in themselves may save a great amount of note taking, for they are, in themselves, unparalleled notes. But skeleton notes as to the order of parts of a ceremony or a craft should in any case be kept, for the order of these is not always apparent from the film, and the scenes will have too much risk of becoming mixed up in the editing.

If the expedition is to be in the field a year or two it is well to make arrangements to ship the exposed film back every three or four months at least, and to receive fresh supplies of negatives from home. Cinema negative keeps well, and with good care stands a half year's travelling without difficulty. Kodaks will supply negative in four hundred foot lengths in a tin box with a corrugated paper soldered inside another tin box. In this way it is almost weather-proof and, if resoldered in a fairly dry climate, it should stand any travelling.

This company will also furnish a standard cinema developer for tank development at fixed temperature and time rate. With this, tests of several pieces of film, a few inches in length, can be made in the field and the exposure checked. Cinema film is supplied in such great lengths that it is extremely difficult to handle for developing all of it in the field, and for anything but tropical photography, it is more practical to send it back to a commercial cinema laboratory for development. In the case of tropical photography the practice is not yet fixed so far as I have been able to learn but, since development in the field would double or treble the work of making film records, it is to be avoided if possible.

While on an expedition a large light-tight changing bag can be used for transferring the film from the

boxes to the magazines, for putting the test strips in the tank, etc. In this way no darkroom is required. It must not be supposed, however, that cinematography eliminates the need for other photography on an expedition. The picture on the cinema film is only one inch by three-quarters in size, so that enlargements show considerable grain and loss of detail and tones.

Still Camera Needed.

It is better not to count on the cinema for ordinary photographs, but to record also every phase of native life and craft with a camera which is large enough to give a good enlargement, a quarter-plate for example. If mishaps occur with some of these negatives enlargements from those of the cinema can be used to replace them, but it is not advisable, if good results are desired, to place much dependence upon them. For close-up views, such as the hands at work, they are quite all right, but even then it would probably be less bother in the long run to make a full set of the still pictures. As for choosing a particular picture from a cinema film for a certain significant action, this is difficult, because the films are not usually taken at a fast enough speed to stop the motion (and eliminate any blur on the negative), and it either means cutting a piece from the negative at that point or making a duplicate negative, both of which one does not generally care to do. It is needless to say that the making of a complete set of still photos greatly increases the work of the photographer of an expedition. When one returns from an expedition one has still a great part of his work before one. My own practice is to sort my negatives after they have been developed. All the scenes of a particular craft or ceremony are put together and as nearly as possible in order. Then those scenes of a phase of the native's life, such as the women carrying water in goatskins to their houses or their modes of transport or their work in the gardens, which I have probably taken on different days, I put together. The scenes run into hundreds, and for each of these I write out a small card with a short description of the scene which will identify it in my mind. Then I obtain a positive non-flam print. This print I go over scene by scene, projecting each one perhaps several times, cutting it where the significant action begins and where it ends, choosing between it and other similar pieces, and putting it in a logical order in its small group which later finds its place in the film as a whole. After all the several hundred scenes have been put in their proper order I write the titles, which are then photographed on film and inserted between the scenes. When the working print has been prepared in this way it can be turned over to a girl in the laboratory, and she can put the negative in the same order and cut it in the same way. Commercial laboratories have rooms they rent where all of the above work can be done. It can be readily seen, however, that for scientific presentation, this editing should not be entrusted to a man who is not a scientist. The ordinary cinema camera man is almost sure to cut the scenes so short that one gets but a little glimpse of them on the screen. As for the general presentation, the choosing of the scenes, their editing, and the writing of the title, this requires a general background and knowledge that is not the common possession of the camera man.

(Enlarged from cinema negative by J. A. Haeseler.
HOUSES DEVELOPED FROM CAVE DWELLINGS IN THE AURES.

4,000 Feet an Hour.

The length to which cinema films run is generally quite appalling to the layman. For an hour's scientific lecture, and when the film is projected at the pace which shows how the people normally move and work, nearly four thousand feet of film are required. And to get this four thousand feet one should allow oneself at least six thousand feet of negative for the field,

provided one is very economical and makes a thorough study of every craft and custom before photographing it. There will be scenes one will want to choose between, and there will be something to be cut off the beginning or end of most of them, so that even this is hardly a comfortable allowance. If the picture is titled, the titles take up a fifth of the length, and consequently allow for more wastage.

Points on Projectors.

I said that I had my working copy made on *non-inflammable* material, for it may probably be used for lecture purposes in the future and, whereas it is illegal to project the ordinary celluloid film nearly everywhere in England without a projecting box, the film with the acetate of cellulose base is not limited by such irksome restrictions and can be quite generally used. The problem of projection machines is not the least that the scientist using the cinema must anticipate. Though a film can ordinarily be projected a couple of hundred times from clean professional machines, scientific societies are sometimes none too careful in the equipment they provide for a lecturer, and a print of a film (costing about £25 for an hour's lecture) can be ruined for practical purposes by being run once through a dirty cheap projecting machine. The best way out of this difficulty is for the lecturer to purchase a portable projection machine (made in the form of a suit case) which he can get for approximately £50, and to use this for all his lectures, except where societies furnish him with a first-rate professional projecting machine. Societies can usually find operators locally who will come in for an evening. It is best in all cases where possible to have a projecting box, for the noise of the projecting machines often drowns the voice of the lecturer, although this is not quite so bad if he uses a portable projector.

Small-sized and cheap cinema cameras are still of little use except for home amusement and, since the cinema camera in the field is such a serious affair, it is hardly worth while bothering with undersized or cheap equipment. A full-sized, reliable professional cinema camera costs about three hundred pounds in England, and something less than two hundred in France. One would do well to have three lenses, a thirty-five, fifty, and seventy-five millimeter, though one could generally do without the latter, and possibly one of a hundred might be better in its place. A wide angle lens, such as a thirty-five millimeter, is very useful in working at close quarters and in crowds. A telephoto is of little use in photographing peoples, for their case is different from that of animals. I have not found my six-inch lens worth its investment, for example, but a wide aperture lens (the good cinema lens has a 3.5 aperture) such as is made by Dallmeyer, might be useful in taking interiors and poorly lighted scenes. Also reflectors made of wood and covered with silver paper would be helpful additions to an equipment, but they are very bothersome. Slow motion pictures require a special camera which is very expensive, and they are consequently out of the range of the ethnologist. The cost of operating the cinema is great because of the length of film required. Cinema negative can be secured from Kodaks for about 2d. the foot. Developing and making the first print costs together between 2d. and 3d. the foot. From these figures it is possible to come to an estimate of the cost of a cinema on an expedition. If the scientist cares to look beyond the scientific field, with the hope of getting a return on his expenditure, there are a number of commercial cinema companies that buy rights to travel material. There are those who put out magazine reels made up of several subjects, those distributing single-reel subjects, and those exploiting travel feature films. Probably one or the other of these could use material the scientist could get with a little additional trouble, and it might be well to consult them beforehand. Their needs and demands should be kept entirely separate from his scientific films, and the photographer would be well advised to make separate negatives for the material he considers suitable for them. After negatives have run through printing machines several scores of times for theatrical distribution they are inevitably somewhat scratched, and their usefulness as scientific records perhaps lessened.

Separate Studies.

In other words he would do well to make out a programme for his scientific film and another for those that are to be theatrically distributed, and keep the two programmes and films entirely separate. This will mean considerable trouble in retaking a good many scenes and keeping additional records, and it would mean additional expense, but the photographer should get returns that might help to defray his cinema costs.

HOW BLOOD BREATHES.

By an unfortunate printer's error the captions of the two blocks illustrating Dr. Eric Ponder's article were transposed. The error was doubtless obvious to most readers, but the legend beneath the Red Blood Cells of Man should appear beneath that of Red Blood Cells of the Newt and vice-versa.