

domestic smoke, which is of less importance, continues. The outpouring of factory smoke on working weekdays was considered to be the cause of the excess of rain on weekdays over Sundays.

Since the results of thirty years rainfall were published fifteen years have passed, and the rainfall for each day of the week for this later period has again been computed and has been combined with the previous thirty years so that a total of forty-five years is now available. The following are the average annual amounts of rain in inches for each day of the week (1) for the thirty years, 1898-1928, (2) for the forty-five years, 1898-1943:

	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Aver- age	Total
(1)	6.17	6.88	6.68	6.49	6.65	6.27	6.63	6.54	45.77
(2)	6.01	6.44	6.30	6.45	6.40	6.25	6.56	6.34	44.41

From this it is seen that the excess of rain on weekdays over Sundays, which was shown in the thirty years record, is again clearly in evidence in the longer record of forty-five years, a period long enough to make it improbable that the result is fortuitous.

It would not, however, have been surprising if the difference in rainfall between Sundays and weekdays had become less marked as time progressed, since electric power, supplied from a distant source, has in recent years replaced, to a considerable extent, steam power with its attendant pollution.

Unless there is a natural seven-day period in rainfall with its minimum occurring on Sundays, which may be ruled out, the conclusion is that the result found above is due to human agencies, and the most probable agency is smoke in the atmosphere.

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Scientific Research

IN *Nature* of May 6, I find a very interesting and very hopeful discussion of the problems of scientific research in Britain. Yet it seems to me that there are some aspects of the matter which have not been sufficiently considered.

(1) The cultural value of research. It appears to be generally assumed that the purpose of science is almost wholly that of increasing material wealth. Surely it has also another purpose, perhaps no less important, that of enabling man to understand and appreciate the world he lives in. This cultural aspect, rightly understood, justifies scientific work which may have no significance or relation to material wealth. It is here that science is connected with literature, with poetry, with the emotional life of mankind.

(2) Certainly the remuneration of scientific workers should be increased, but it is difficult to say what that remuneration is in any given case. In the universities, men are paid primarily as teachers, and do what scientific work they can, or wish. But undoubtedly they are appointed to their positions partly on account of their scientific standing, and thus are indirectly paid. It is a curious circumstance that museums expect to get scientific workers to spend months or years in the study of their collections, without any thought of payment. On the contrary, they expect the workers to show gratitude for permission to study the collections, and they do show it, fully appreciating the work which has been

done, and the expense incurred, in assembling the materials.

(3) Provision must be made for adequate publication. Young men, entering upon a field of research, will not spend years on a revision or monograph which may never see the light. Not only should large and important works be published but also (as is customary) shorter papers to keep the scientific world aware of what is going on, and encourage co-operation. But still another sort of publication is needed. We need more small, well-illustrated books, written in simple language, to interest the general public in scientific work.

In all these matters, very considerable progress has been made in Great Britain, but when scientific work is under discussion they should not be overlooked.

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Importance of Film Records

A NUMBER of amateurs are making films frequently of unique scientific interest. It may be that by patience an ornithologist has managed to secure some pictures of bird behaviour which may never be duplicated for a generation or more. It may be that a medical man has made a motion-picture record of a rare case-history or a film of a particular method of conducting an operation. It may be that an anthropologist has secured film records of fast disappearing tribal ceremonies or, in the case of our own country, a folk survival. Any worker in any field may indeed make a record which has more than a personal interest.

Most amateurs work on negative reversal stock if they are taking black and white pictures. No master negative, therefore, exists. The same is even more true of the colour films which amateurs are tending increasingly to use. The result is that each time the film is run through the projector, it depreciates slightly in quality. In the end it wears out, and people are thenceforth denied the knowledge which only this film can give.

To make a black and white negative from which prints can be taken or to make a master copy of a colour film from which other copies can be taken is relatively inexpensive; but nevertheless it is usually beyond the individual's pocket. In any event, is there any reason why he should make a special negative or copy to meet a hypothetical demand if other people do not share his views as to the importance of the topic?

So valuable film records are disappearing. Is there any means by which this may be prevented? Would learned societies, for example, be willing to set up special committees to appraise the value of any films submitted to them and, if they reach the requisite standard, would they be ready to put on one side sufficient funds to make a master copy for preservation? Can any of the big trusts be persuaded to interest themselves in making available something of the order of not more than £1,000 a year in order to set such a scheme going? Is there any point in this Institute convening a conference to obtain expressions of opinion?

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