

great disadvantage that the red sensitive film or blue 'printer' is at the back and must therefore of necessity lack definition, both on account of the thickness of the films and still more because of the scatter due to the silver grains of the two emulsions through which the red light has had to pass. This defect is quite noticeable in the negatives and still more in the prints, since it is the blue printer which mainly defines the contours of the subject. It is true, however, that this difficulty is nothing like so serious as it was in the earlier packs, because it is now possible to make relatively transparent emulsions which will retain their high speed, and also the rapidity of modern panchromatic emulsions make short exposures quite feasible.

The collection of colour prints on exhibition at the seventh International Congress of Photography recently held in London showed that a high degree

of skill has been attained by various workers, but, except among a very few, there is still a tendency to photograph objects because they have 'colour' rather than because of their artistic beauty, so that a collection of colour prints frequently has an appearance of crudity and brilliance which the exhibits taken individually do not justify.

This, however, is a stage which will be got over as colour photography becomes more popular, as there is every reason to believe that it will. With the increasing number of inventors now concentrating on its problems, and with the parallel advances in colour cinematography, it is evident that colour photography may confidently look forward to a brilliant future, and perhaps some day the inventor's dream may be realised of a grainless colour negative from which paper prints in full colour may be obtained by a single exposure.

On the Study of Popular Sayings.¹

By Prof. EDWARD WESTERMARCK.

WHEN I set out to gain some personal experience of native customs and beliefs and made Morocco my field of research, Sir James Frazer's "The Golden Bough" directed my attention to many facts that otherwise, in all probability, would have escaped my notice. It offered suggestions and explanations, which were none the less valuable because they were not always applicable to the particular data that came under my observation; and it brought home to me the great lesson, never to rest content with recording the mere external modes of native behaviour without endeavouring, so far as possible, to find the ideas or sentiments underlying them. For this reason I desire to render homage to my great teacher by stating some general results of my experience as a field anthropologist.

It has been said to be a difficult or hopeless task to try to discover why people perform rites and ceremonies, that directly one approaches the underlying meaning of rite or custom one meets only with uncertainty and vagueness. This view is not confirmed by my own observations in Morocco, where I generally found the natives to have quite definite ideas about their rites. But the direct inquiry into these ideas is not the only way in which they may be ascertained. The most convincing information is often obtained, not from what the natives say *about* their rites, but from what they say at the moment when they perform them. To take a few instances. That the fire-ceremonies practised in Morocco, as in Europe, on Midsummer Day or on some other particular day of the year, are purificatory in intention is obvious from the words which people utter when they leap over them or take their animals over the ashes. The Moorish methods of covenanting, which always imply some kind of bodily contact, for example, by the partaking of a common meal, derive their force from the idea that both parties thereby expose themselves

to each other's conditional curses; and the idea that food eaten in common embodies such a curse is very clearly expressed in the imprecation addressed to a faithless participant.

These customs, and the sayings connected with them, have led me to believe that the very similar methods—such as a sacrificial meal—used by the ancient Hebrews in their covenanting with the Deity were intended, not, as has been supposed, to establish communion, but to transfer conditional curses both to the men and their god. That one idea underlying the Moorish custom of tying rags or clothing to some object connected with a dead saint is to tie up the saint, and to keep him tied until he renders the assistance asked for, is directly proved by words said on such occasions. Some similar idea may perhaps be at the root of the Latin word for religion, *religio*, if, as has been conjectured, this word is related to the verb *religare*, to tie. It might have implied, not that man was tied by his god, but that the god was in the religious ritual tied by the man.

While a saying uttered on the occasion when a rite is performed is apt to throw light on the meaning of the rite, there are other sayings that can themselves be explained only by the circumstances in which they are used. This is the case with a large number of proverbs. It has been said that the chief ingredients which go to make a proverb are 'sense, shortness, and salt,' but the most essential characteristic of all is popularity, acceptance and adoption on the part of the people. Figurativeness is a frequent quality, but there are also many sayings recognised as proverbs that contain no figure of speech. On the other hand, there is scarcely a proverb that does not in its form, somehow or other, differ from ordinary speech. Rhythm, rhyme, and alliteration are particularly prominent features.

The proverbs of a people may be studied from different points of view. In many cases their study has been the pursuit of philologists, who have been mainly interested in the linguistic aspect of

¹ From an evening discourse, being a Frazer Lecture in Social Anthropology, 1928, delivered at the British Association meeting at Glasgow on Sept. 7.

the subject. But as a source of information on the language spoken by a people, its proverbs must be handled with caution, as they may contain expressions which are not found in the native idiom, but belong to another dialect from which the proverb has been imported, or, as is often the case with Arabic proverbs, have been taken from the literary language, which in many respects differs from the modern vernaculars.

Another method of studying proverbs is to examine their diffusion. Peoples have at all times been taking proverbs from each other. Among the nations of Europe we find a very large number of identical, or almost identical, proverbs which obviously have a common origin. Very many of our proverbs have been borrowed from the Romans, who themselves had borrowed many of theirs from the Greeks, and another great source has been the Bible. Others have come from the medieval monasteries, or been introduced into Europe by Jews or Arabs. The wanderings of proverbs are a fascinating study, but one beset with considerable difficulties. The resemblance between proverbs may have another cause than diffusion, namely, the uniformity of human nature, which makes men in similar situations think and feel alike. The real test of a common origin is not the mere similarity of ideas and sentiments expressed in the proverbs, but the similarity of former expression, of course with due allowance for modifications that are apt to occur when a saying is adopted from another language and transplanted into a new soil.

There is a third way of studying proverbs, which is primarily concerned with their contents as a subject of sociological or psychological interest. That in the proverbs of a people are found precious documents as regards its character and temperament, opinions and feelings, manners and customs, is generally recognised. Lord Bacon said that "the genius, wit, and spirit of a nation are discovered by their proverbs." There may be some exaggeration in statements of this kind, as many of the proverbs are not indigenous. But, on the other hand, a foreign proverb is scarcely adopted by a people unless it is in some measure congenial to its mind and mode of life; it may be modified so as to fit in with its new surroundings; when sufficiently deeply rooted it may in turn influence the native habits of thought and feeling; and if it does not succeed in being acclimatised in its adoptive country, it will wither and die.

Not infrequently some of the proverbs of a people contradict the teaching of others. Such incongruities may be more apparent than real. Proverbs may have the form of categorical imperatives on account of their necessary brevity, and in such cases their one-sidedness has to be corrected by others dealing with particular circumstances that modify the general rule. Moreover, as people are not all alike, one maxim may appeal to one person and another different maxim to another. There is, further, the distinction between proverbs that represent ideals and others that are based on realities which do not come up to these ideals. But it must not be assumed that a people's proverbs on a

certain topic always tell us the whole truth about their feelings relating to it. The Moorish sayings concerning women and married life may serve as a warning. They are uniformly unfriendly or thoroughly prudential, and might easily make one believe that the men are utterly devoid of tender feelings towards their wives. But here we have to take into account their ideas of decency. It is considered indecent of a man to show any affection for his wife; in the eyes of the outside world he should treat her with the greatest indifference.

Proverbs are not merely reflections of life, but also play an active part in it; and this functional aspect of the matter should engage the attention of the student. Proverbs teach resignation in adversity, they give counsels and warnings, they are means of influencing the emotions, will, and behaviour of others, as they may influence one's own, whether they are shaped as direct commands, or are statements of some experience drawn from life, or are expressions of approval or admiration or of disapproval or contempt. The exceedingly frequent use of proverbs in Morocco, as in other countries with a Semitic culture, bears testimony to their great social adaptability. The proverb is a spice by which anybody may add piquancy to his speech; it shortens a discussion, it provides a neat argument which has the authority of custom and tradition, it is a dignified way of confessing an error or offering an apology, it makes a reproof less offensive by making it less personal. One reason for the great popularity that proverbs enjoy among the Moors is their desire to be polite; thus a proverb is often an excellent substitute for a direct refusal, which might seem inappropriate or rude. It also stops a quarrel and makes those who were cursing each other a moment before shake hands and smile; and it is used as a kind of 'ar, implying a conditional curse, to compel a person who has suffered an insult to forgive the offender. Proverbs are thus conducive to goodwill and peace.

If proverbs are to be studied from the points of view I have advocated—without any desire to prejudice other methods of study—it is, of course, necessary to know their intrinsic meaning, and this imposes upon the collector a task which has seldom been satisfactorily accomplished. Many proverbs are no doubt perfectly intelligible without an explanation; others are only apparently so, because they easily suggest an interpretation which is not the correct one; and others cannot even deceive us, because they defy any attempt to unriddle their occult meaning. I cannot, therefore, strongly enough insist on the necessity of recording the situations in which proverbs are used, unless the collector has made sure that they have no other meaning but that which they directly express.

When we are sure of the intrinsic meaning of proverbs, and only then, we can find a reasonable solution of a problem that has proved a constant stumbling-block to collectors and compilers, namely, their classification. If proverbs are to be treated as a source of information for the sociological or psychological study of people, they cannot, as has usually been the case, be arranged simply in

alphabetical order by the first letters of the first word. They must be grouped according to the subjects or situations on which they have a bearing, and be accompanied with all explanations necessary for the right understanding of their import and implications. Proverbs that are applicable in different situations may have to be repeated under

different headings; but to judge by my own experience, such repetitions need not be very many.

If due attention is bestowed upon the collection of proverbs, we may hope that the scientific study of them will keep pace better than hitherto with the progress made within other branches of folklore.

News and Views.

WHATEVER differences of opinion may exist with regard to Sir James Jeans's deductions concerning the origin and destiny of the physical universe, they have at least the cardinal virtue of making us think. His latest presentation of his views on these matters, which we publish as our supplement this week, is certainly no exception to the rule. The story he tells, with his customary skill in arranging his material and illustrating difficult points by telling analogies, leaves the reader sitting long in his chair, musing on old problems in the light of the new knowledge. In some respects the outlook has changed almost beyond recognition from that of our fathers and grandfathers; in other, and perhaps deeper, respects it remains very much as it has always been. The idea of a degradation of the physical universe by a series of sudden mutations appears to have taken the place of the old conception of a continuous process, and the change, from the point of view of the ordinary thinker, is by no means a superficial one. Spontaneous changes, such as those of radio-activity, have an air of mystery about them. Why should one atom of uranium suddenly undergo a metamorphosis while its apparently exactly similar neighbour remains unchanged for thousands of years? Fifty years ago such a conception would have been regarded as unscientific—a return to magic rather than a step forward. The quantum theory as a whole, in fact, when considered in detail, contains an element of arbitrariness which would not have been permitted in the older physics. It is only when we come to statistical results that law and order once more resume their reign. There still seems to be no escape from the second law of thermodynamics. If our view of the process of degradation of the universe has changed, the degradation itself still seems to be a fact, and in the place of an ultimate universe of dead, cold matter, we have an ultimate universe of dead, cold radiation. The difference scarcely seems a matter of vital concern.

DEGRADATION has an unpleasant sound, and it may be that the picture that Sir James Jeans draws will seem to many a gloomy and forbidding one. It can scarcely be repeated too often that any ideas now possible on such a subject as the fate of the universe can be regarded as little more than the first glimpse of a vast ocean from a point on the shore. They seem complete and self-contained because, like the ocean, they are necessarily bounded by a horizon, but the skyline must not be mistaken for a real limit. The very compactness of our view of the cosmic process is perhaps itself a sign that we have not reached finality. It is not for science to 'believe because it is impossible,' but in these matters we may well take

the conjugate course of disbelieving because it is possible. But, at the same time, tentative attempts to survey the universe are not on that account to be dismissed as useless. After we have heard all that modern men of science have to say, we may have to come out by the same door that in we went, but we shall have heard great argument and come out wiser than before. Perhaps for the present we can learn no greater wisdom than that a degradation of the physical universe is not necessarily a degradation of the world of spirit. Sir James Jeans has already told us that it is only on the dead ashes of matter that life can begin to exist. Might it not be that only in the dead smoke of radiation can life attain its fullest development?

HEARTY congratulations are due to Dr. James W. L. Glaisher, F.R.S., mathematician, who on Monday next, Nov. 5, celebrates his eightieth birthday. Born at Lewisham, he was educated at St. Paul's School, afterwards proceeding to Trinity College, Cambridge, where he graduated second wrangler. A teacher of great distinction in mathematical science, embracing the whole of his working life, Dr. Glaisher has earned the esteem and gratitude of a host of academical pupils. Author of many original papers, most of the special mathematical journals in Great Britain owe editorship or guidance to his dutiful and long-continued labours. Dr. Glaisher has been twice president of the Royal Astronomical Society. In 1908 the London Mathematical Society awarded him the De Morgan medal, and in 1913 the Royal Society allotted him the Sylvester medal. He was president of Section A (Mathematical and Physical Science) at the Leeds meeting of the British Association in 1890. Dr. Glaisher's father, founder of the Meteorological Society, and pioneer in scientific ballooning, who himself, it may be recalled, passed the span of eighty years, is remembered in particular for his balloon ascent with Coxwell, the aeronaut, to a height of seven miles.

DR. CHARLES NICOLLE, director of the Pasteur Institute of Tunis, who has just been awarded the Nobel prize for medicine for 1928, in consideration of his work on typhus fever, is one of the most distinguished of living epidemiologists. His researches on typhus, which have been continued for more than twenty years, are of the utmost importance, as they have done so much to throw light on the causation of the disease and have greatly contributed to its effective prevention. Nicolle was the first to show that typhus fever could be transmitted from man to the chimpanzee, from which it could be passed on to the lower apes. Further investigations revealed that the