

MAGIC IN MEXICO

IT has been remarked by more than one observer of the population of Mexico that whether account be taken only of the indigenous inhabitants of purely Indian descent, who subscribe to the observances of the Catholic Church, or those of mixed blood be brought into the picture, it includes a large number who habitually, and as a matter of course, take part in ceremonies and rites which are either completely pagan or have been adopted into the local ecclesiastical calendar with no more than a veneer of Christianity, which barely covers and does not disguise their true character. In remarking on such observances, no reference is intended to the beliefs and customs of those Indian peoples of Mexico who are as yet but little affected by European civilization, and of whom there is still a considerable number.

A record of some remarkable ceremonies of a magico-religious nature has been made recently by Dr. Robert Gessain in the course of an expedition to the Hidalgo State or Province of Mexico, on behalf of the *École française de Mexico*, to which reference is made in another column of this issue (see p. 1039). Although compelled by ill-health to return to Europe before his work was completed, Dr. Gessain was able so far to win the confidence of a suspicious people as to be allowed to witness the performance of a number of these ceremonies, and also to secure descriptive accounts of others which had not been performed for very many years. The observances, it is believed, or known in certain instances, have a wide currency, with local variation, among neighbouring Indians belonging to groups other than that with which he was concerned; but it was impossible, owing to the circumstance mentioned, for him to enter upon the comparative study, which is obviously an essential for fuller understanding.

The Indians among whom Dr. Gessain's researches were carried on are the Tepehua, a group numbering approximately six thousand, who live in the village of Huehuetla of approximately a thousand inhabitants, and the surrounding district, which falls within the respective borders of three States, or provinces, Puebla, Hidalgo, and Veracruz, and lies on the Atlantic slope of the high central plateau. The Tepehua are surrounded by villages of Otomi and Totonac; and although on linguistic grounds they have been assigned to the Totonac group, it is permissible to doubt whether their affinities with their neighbours have been defined with complete certainty. They have been visited by European observers on two

previous occasions only—Frederick Starr in 1900, and Helga Larsen in 1934.

While participation in similar ceremonies, or rather their local variants, appears to be virtually universal among the Otomi, the number of Tepehua who take part regularly is about two thirds of the total, the strict Roman Catholics standing aloof. There is, however, a considerable marginal body which is prepared to take part in pagan ceremonial or Christian ritual indifferently. The mixed breeds, numbering about a hundred, being resident with a view to commercial interests only, take no part.

Owing to a variety of influences, the cult has tended to become something in the nature of a survival within the last twenty or thirty years. The sorcerer-priests (*brujos*) are less numerous, and the performance of the ceremonies is now of a less extended character. Nevertheless, the cult is still full of vitality, as is shown by the amounts the votaries are prepared to pay the *brujos* for the performance of a ceremony, such as that of the opening of a new house, or in connexion with the birth of a child. The cult is said to flourish with most vigour in San Francisco (Veracruz), where Tepehua emigrants are numerous.

The ritual ceremonies are many in number. Of these, some, connected with the routine of cultivation, or the climatic cycle, are periodic; others are occasional and indeed, it was stated, had not been performed for twenty-five or thirty years. Again, the ceremonies may either be associated with an individual misfortune, such as an illness, or a collective disaster, such as a river-flood.

Dr. Gessain describes in detail a number of ceremonies, or magical practices, in which the services of the *brujos* are sought: the opening of a new house or sugar cane mill; the ceremony of the maize harvest or general harvest festival, in which the whole community takes part, and at which all *brujos* are present, but receive no fee; a ceremony in the dry season for the protection of the maize and the other crops from both drought and the depredations of birds and vermin; for the bees, this a fertility ceremony when an insufficiency of wax is being produced, wax being of more importance than the honey on account of its use for ritual purposes; the installation of a sorcerer-priest; when the river floods, again a ceremony at which several *brujos* are present, and most or all the members of the community; for curing disease and ill-health; against epidemics; for curing sterility in women; at and after child-birth; to secure the fertility of young girls; for the dead and

after death; and numerous enchantments to procure or retain love; to ensure fidelity in the married; to avert jealousy, and the like.

Without entering into an analysis of the details of the ceremonies, which Dr. Gessain describes, attention may be directed to certain characteristics which afford a general idea of the nature of the ceremonies. They usually include offerings and a sacrifice, normally a fowl or a turkey, which is decapitated by the *brujo*, either with his *machete*, or with his hands. Sometimes, especially when the ceremony is intended to secure a personal benefit, such as the cure of sterility in a woman, or at the installation of a *brujo*, the blood of the victim is drained into a vessel, and used to make the mark of the cross on certain parts of the body of the individual in question. The head of the victim, sometimes also the dismembered body, may be buried, but more often among the Tepehua, the victim is cooked for the sacrificial feast; or with the other offerings it may be thrown away in the river or buried. Among the Otami, of the village of San Gregorio, the offerings of food placed on the altar raised to the dead are thrown away at a customary place at the end of the village, instead of being eaten as among the Tepehua. It is essential that the meat for the sacrificial meal should be cooked and served by women who are not members of the household in which the ceremonies are being held, and this rule applies also to the women who perform the office of laying out the dead. The ceremonies are led by the *brujo*, or sorcerer-priest, who performs the sacrifice, supervises the laying out of the feast, censuring the food and table with copal, and leads the dances and chants which make up the greater part of each ceremony, apart from the offerings, the sacrifice, and the sacrificial meal. Should a procession form part of the ceremony, as in that for rain, it is headed by the *brujo*.

The ceremonies take place at night, often lasting the whole night through. They usually take place in the house of the individual concerned, for example, when an illness is being treated, or in the death ceremonial; but ceremonies in which the whole community takes a part may take place in the house of one of the *brujos*, as, for example, happens at the celebration of the harvest festival. This is interpreted by Dr. Gessain as evidence for the survival of a hierarchy among the priests. Among the Tepehua of San Pedro a special house is set aside for the celebration of ceremonies in which the whole community is interested or concerned.

A fee is paid to the *brujo* for the performance of all ceremonies, except the communal harvest feast. The installation of a sorcerer-priest costs the candidate a fee of several hundred pesos,

which is paid to his sponsor, under whose instruction he has been for the preceding twelve months. He also provides his sponsor's clothes, which includes two scarves which have been woven by the women, strangers to the household, who are responsible for the preparation and serving of the sacrificial meat. These scarves must be woven and completely finished in the two days before the ceremony takes place.

It is interesting to note the relation of these ceremonies to Christian ritual and concepts. The harvest festival, for example, is held on September 16, which is the feast day of St. Michael, as well as the national day of Mexico; and the ceremony for the protection of vegetation in the dry season takes place on Palm Sunday. Among the Otomi of San Gregorio, at the time of the sowing of the seed, *munecos* (paper figures) are cut out in different colours according to the nature of the crops. These with sacred flowers, a species of *Dianthus* which plays a prominent part in all ritual performances, are placed in the church. There is no Catholic priest here.

It is perhaps worth noting, though Dr. Gessain offers no comment, that at the sacrificial meal at the installation of a *brujo* thirteen places are laid on the table, of which the thirteenth place is smaller than the rest, and receives a half-portion at each service, of which there are four. After each service, the meat is taken from the plates and placed in two *ollas* or jars standing ready for the purpose, prior to its consumption by the company.

Enough has already been said to indicate the function of the *brujo* or sorcerer-priest. It is a remunerative office. Should such a ceremony as, for example, the opening of a new house not be performed, any serious illness of an inmate which may follow, or any misfortune, will be attributed to that fact. Such stress, indeed, is laid upon it, that a *brujo* will often exhort the owner to borrow the money (six pesos) rather than omit it.

The *brujos* of Huchuetla are five in number. The initiate whose installation is described was a man of about fifty years of age. In the ceremony three altars were erected in the house of the initiate, in which the ceremony took place. The altars differ in size, and the largest is left standing after the ceremony to be the *brujo's* special altar for the remainder of his life. The head of the turkey which was offered at the ceremony, and with the blood of which he was marked with the cross, was buried in this altar. The altar is destroyed at a ceremony fifteen days after the *brujo's* death. During his lifetime it is always adorned with sacred flowers, paper figures and clay saucers. Burning tapers appear on the altar only while a ceremony is taking place. The crystal which he

uses for magical and divinatory purposes rests on it in a clay saucer. This crystal occupied the smallest of the altars at his initiation. Another property of the *brujo* is his *idolo*. This is an antique statuette or figurine, which has been dug up by the *brujo*, often at a great distance away. Frequently it may consist of no more than a head, in which event it is completed in wood and is dressed either as man or woman. This also rests on the *brujo's* altar and is the object of a cult. Some *brujos* may have several of these.

The *brujo* enters into relation with the spirit world on several occasions and by various methods. In the fertility ceremony of the bees he addresses "the advocate of the bees", and at the very close of the harvest festival on September 16 he sets up his *idolo* and addresses a chant of invocation to it. In the rain ceremony a procession is made to a certain marsh and the *brujo* addresses to the goddess of the marsh (*sirena della laguna*) a list of the offerings which are to be thrown into the water; and she is implored to appeal to "the Lord of the Sea" should she not control water enough in the marsh to cause sufficient rain to fall. Among the *munecos*, which are thrown with other offerings into the lake, is one in two colours in the form of a young boy which is said to symbolize the *brujo* himself. One of the most interesting examples of the relation of the *brujo* to the spirit world is seen in the opening of the ceremony for the harvest, when the sorcerer-priest retires under the table, which is draped with a fibre mat, thus forming a species of lodge. A cup of chocolate and a cake are handed to him, and here he remains in communion with the spirits for the space of one hour. At the ceremony of the installation of a *brujo*, when offerings of food are being served, twelve times he fills a vessel with cane spirit, and tenders it in the gesture of offering, first above, then below, the table before pouring it away into a bottle. When anyone who is seriously ill has been cured by the ministrations of the *brujo*, he offers apologies to the dead of the family.

The star cult, which is a prominent feature of Otomi belief, has also influenced the religious ideas of the Tepehua, while the cult of the moon appears in the ceremony for curing sterility in women. This ceremony is addressed to the moon, as it is believed that sterility is caused by the moon's anger.

The remarkable element in all these ceremonies, however, is the liberal use of paper 'figurines', the *munecos*, either decorative patterns cut in rectangular sheets of coloured paper, or in silhouette, the latter being most frequently employed for the human form. The decorative forms are conventionalized, as is the human form; but usually it is possible to recognize what it is intended to

represent, especially in the flower and corn forms, while the symbol for agricultural operations is readily to be identified, when it is realized that it represents the furrow made by the plough. The representation of the stars is more formal, but starlight in the sky is clearly intended. The human form, both male and female, though conventional in attitude and characteristics, which conform to certain standardized patterns, is otherwise sufficiently realistic. Many of the more decorative *munecos*, especially those in which crops and flowers are represented, recall the European cut-paper ornaments of the Victorian age, which perhaps may have influenced their development. European influence, even in the representation of the human form, seems to be clearly indicated. This, however, is not a question which has been discussed by Dr. Gessain.

Starr records the use of bark paper, but this apparently is now used only by the Otomi. The Tepehua always use paper which they purchase from the half-breed traders, and use for no other purpose. The *munecos* are not used singly. Not only are several different patterns used in each ceremony, each with its special function, but also a large number of each are cut out and used in various ways.

The magical function of the *muneco* is varied. In certain instances it is little more than an amulet with apotropaic power, as for example, when it hangs across a road to bar the approach of an epidemic to a village. The idea that the *muneco* may act as a detergent agent seems to be present in the ceremony of healing the sick, when *munecos*, sacred flowers and a live fowl are rubbed over the body of the patient. When the fowl has been killed, it is wrapped in the *muneco* and the whole, including the flowers, is thrown in the river. That they may symbolize a spirit, human or other, is indicated by the *muneco* used in the ceremony for the dead, which takes place on the bank of the river a week after death. It represents the *brujo* trampling on the corpse to prevent the spirit of the dead man from returning, while in another, used in the ceremony to ward off epidemics, the *brujo* is represented dancing on a devil, presumably the spirit of the disease. In its magical use the employment of a representation of the human form recalls the power given the European witch and others by the use of a waxen image. When a woman seeks the help of the sorcerer-priest to gain influence over her husband, or to prevent him beating her, in the former instance *munecos* are given her to place secretly in his pillow. These represent him at her feet, or in prefiguration beneath her feet; and the images are sometimes duplicated to enhance the influence she will have over him.

Further, spirits which are not human may be conceived as actually embodied in the *muneco*. When in the ceremony for rain the participants return from invoking the Sirena, two *munecos*, one male and one female, accompany the procession and are carried as standards. Before they start, water is dipped from the marsh and scattered over and around them, and this is kept up at intervals as long as is possible along the road. They are the helpers, or ministers, of the Sirena, who have been charged to carry water for the fields, which

will fall as rain. They are left hanging over the road at the entrance to the village, while others have been left along the road.

Comparative study of this body of ceremonial, which Dr. Gessain was unable to undertake, but it is to be hoped is only postponed for a future occasion, would be of the greatest interest. The magical use of the human figures recalls, for example, the appliqué needlework, showing European influence, of San Blas (Panama).

RECENT WORK ON EXPERIMENTAL PARTHENOGENESIS*

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IT is proposed here to outline some recent biological and cytological studies in experimental parthenogenesis. The rearing of reproductive parthenogones and parthenogenetic strains after experimental treatment has been achieved only once. The Russian worker, Astaurov¹, after subjecting unfertilized ovarian or newly laid eggs of the silk-moth, *Bombyx mori*, to increased temperature, obtained adults from which descended three successive parthenogonic generations. Out of 25,770 caterpillars only 11 were males. His work developed from Sato's² in Japan, adults of both sexes, males predominating, being obtained after the use of hydrochloric acid or other chemicals. As the female in Lepidoptera is the sex-determining sex, these different results are possibly due to the different agents affecting differently the sex-determining mechanism in the eggs, or to physiological conditions, for example, degree of maturity, in the different eggs.

The next most successful results are limited to frog parthenogones advanced enough to be sexed, only two cases being known. Twenty years ago Jacques Loeb, after needle-pricking of eggs, reared certain specimens which Parmenter³ later sexed: 21 metamorphosed tadpoles—18 male and 3 female; 34 tadpoles—12 male (one metamorphosed), 2 apparently changing into males, 18 female and 2 of doubtful sex.

Cases of adult, or of metamorphosed, but unsexed parthenogones are also few. So early as 1907 Delage⁴ reared metamorphosed sea-urchins and starfish, while, recently, Parmenter⁵ obtained five metamorphosed tadpoles after needle-pricking, and Kasansky⁶ reports his curious experiment by

which healthy adult carp were reared from eggs stirred in male human saliva.

Artificial parthenogones of worms Mollusca, echinoderms and amphibians attaining stages as advanced as the larval are more numerous but still comparatively few (Delage⁴). Recent additions comprise the echiurids *Urechis caupo*, activated with dilute sea-water by Tyler⁷, and *U. unicinctus*, for which Hiraiwa and Kawamura⁸ used ammoniacal sea-water (which gave the best results), shaking, or warm, hyper- or hypotonic sea-water, or sea-water containing potassium cyanide. The eggs of freshwater fishes are promising material, for those of poise, perch, roach, bream and pike developed when Trifonova⁹ used water at 28°–30° C., or distilled, while early embryos of pike developed after Kasansky's¹⁰ use of diphtheritic serum, sugar, salt, warm water, onion juice and mustard, etc.

Recent mammalian work presents remarkable features. In 1927 Champy (see Pincus¹¹) discovered an 8-celled stage in a virgin rabbit's ovary cultured in rabbit plasma plus fowl embryonic extract. In 1930 Pincus achieved astonishing success by taking unfertilized rabbit eggs from the Fallopian tube and culturing them *in vitro* in plasma clot, or in serum, plus embryonic extracts; of 213 eggs 63·8 per cent developed, ranging from the 4- to the 40-celled stage and even to the morula, the stages to all appearance resembling *in vivo* specimens. Results approaching these appeared also in Garufi and Oliva's cultures¹² of rabbit eggs from ovarian follicles. Further, Pincus¹¹ even obtained blastulæ by transplanting into the Fallopian tubes of pseudo-pregnant rabbits eggs artificially activated by agents commonly used for invertebrate eggs—hypertonic solutions, heat and

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