careless with the disposition of refuse matter.

E. A. de Schweinitz, Washington, D. C.: 'Value and Use of Formaldehyde as a Disinfectant.' Anthrax, Tetanus, etc., are destroyed by formaldehyde. It possesses many good points as a disinfectant. It is a good deodorizer, only a small quantity being required, 1 cc. in ten liters of water. This is applied by spraying. It is a good preventative of decomposition. The amount of the gas in a confined space is determined by absorption in strong caustic soda or alkaline permanganate. One objection to its use has been the length of time necessary to remove the sharp odor of the formaldehyde. This can be largely hastened by spraying with ammonia.

E. G. Smith, Beloit College, Wis.: 'Observations on the Sanitary Nature of the Mississippi River Water at Different Seasons.'

AGRICULTURAL CHEMISTRY.

L. L. Van Hyde, Geneva, N. Y.: 'The work of the Agricultural Chemists of America.' The author gave a general review of the various lines of investigation pursued by the agricultural chemists. He pointed out what valuable service had been rendered in preventing fraudulent practices. An account was also given of the Association of Official Agricultural Chemists.

S. M. Babcock and H. L. Russell, University of Wisconsin: 'Conditions affecting the Normal Viscosity of Milk,' 'On the Restoration of the Viscosity of Pasteurized Milk.'

BIOLOGICAL CHEMISTRY.

V. K. Chestnut, U. S. Department of Agriculture: 'Andromedotoxin, the Poisonous constituent of the Ericaceae and its Relation to some Food Products.' It has been shown that honey from bees feeding on the plant contains the poison; further

that meat of animals feeding on the leaves contains the poison and is a source of contamination.

On Thursday the Council of the A. A. A. S. authorized the fusion of Section C with the summer meeting of the American Chemical Society, the first two days of the meeting to be conducted officially by those of the American Chemical Society. The members of the American Chemical Society are to have the privilege of reading papers in Section C, and vice versa.

This matter is subject to the action of the Council of the American Chemical Society.

Section C nominated Professor Wolcott Gibbs, of Newport, R. I., to be an honorary member of the A. A. S. The Secretary was ordered to cast the ballot.

Dr. William P. Mason was nominated for Vice-President of the Section and Prof. P. C. Freer, for Secretary for the year 1897.

> F. P. VENABLE, Secretary, and Chas. H. Herty, Press Secretary Section C.

THE EMBLEMATIC USE OF THE TREE IN THE DAKOTAN GROUP.*

The tribes of the Dakotan or Siouan linguistic stock aggregate in number about 45,000 Indians. Grouped according to a close relationship of language, we find in the United States: 32,000 in the Dakota; 4,000 in the Omaha, Ponka, Quapa, Kanza and Osage; 800 in the Iowa, Otoe and Missouri; 2,200 in the Winnebago, and 3,000 in the Hidatsa, Mandan and Crow tribes. The remaining 3,000 are widely scattered, with the greater part living in the provinces of Canada.

At the beginning of the seventeenth century a number of tribes belonging to this stock dwelt on a strip of the Atlantic coast, now within the limits of North and South

*Address by the Vice-President, before Section H-Anthropology.

Carolina, extending as far west as the Alleghanies and north to the Maryland line, and controlling the headwaters of the streams flowing westward. They were in constant warfare with their Algonquian and Iroquoian neighbors, and were exterminated as tribes within the historic period. The majority of the Siouan Indians were already beyond the Mississippi, where they were met by early explorers, and where they now dwell. We find the purport of their traditions to be that they were slowly driven from their eastern home by implacable enemies, and that once beyond the Mississippi, they spread to the northern tributaries of the Missouri, westward to the Rocky Mountains, and south to the Gulf of Mexico, where recent investigations have brought to light a remnant of the Biloxi.

Contact with Algonquian, Iroquoian, Muskhogean, Caddoan and Kioan stocks, during the period of progress over this vast tract of country, has left its traces in the Siouan rites and customs; but the uncertainty that still clouds the past history of this people makes it difficult to determine when certain rites were adopted, or to gauge with accuracy the modifying influences of other stocks upon native usages and beliefs. From the scant records left by early travellers, with the fragmentary nature of the information still obtainable from the few scattered survivors of the eastern and southern tribes, a full reconstruction of their social and religious customs is impossible; but enough can be discerned to indicate that the eastern, southern and western tribes were all under the influence of cults which seem to have been fundamentally the same.

In this paper is offered a slight contribution to the early history of social and religious development, inasmuch as in tracing the emblematic use of the tree in the Siouan linguistic group we follow a people from a comparatively primitive condition, living in isolated bands, independently of each other, to their organization within the tribal structure, compacted by the force of common religious beliefs.

That ideas are the ruling force and 'the constructive center' of human society is readily conceded as applicable to our own race. It is equally true of the Indian; but in according this power to ideas the modifying influence of environment is not to be overlooked. One cannot conceive of man apart from environment; his contact with it is the very condition of being. As Herbert Spencer has phrased it, life is 'the continuous adjustment of inner relations to outer relations.'

This 'adjustment' of man to his environment is the work solely of ideas, and the process, as evinced in this group of Indians, goes to show that those ideas which have formed 'the constructive center' of the tribe are religious ideas.

Indian religions seem to have been subject to the same laws that have governed the development and growth of religions on the eastern continent. There, we know the several systems to have been begun with the simple utterances of a seer, which, as they were passed from mouth to mouth, became more and more clouded with interpretations, gradually expanded in detail, and finally formulated into ceremonials with attendant explanatory and dramatic As time rolled into centuries, these ceremonies, with their accessory priests, came to be regarded as of supernatural origin, endowed with superhuman power, and authorized to exercise control over the affairs of the tribe or nation; but the one living germ within the ponderous incrustation of doctrine and ceremony, that had accumulated throughout ages, was still the surviving, vitalizing thought of the seer.

Turning to America, to the group of Indians of our especial study, we find traces of a similar history; for, penetrating beneath the varied forms of their religious

rites, we come upon a few fundamental conceptions or thoughts, the most dominant of which, perhaps, is the idea of the all-permeating presence of what we call life, and that this life is the same in kind, animating all natural forms and objects alike with man himself. Coordinate with this idea, which has received the name of animism, is that of the continuity of life, that whatever has once been endowed with it must continue to be a recipient of it; in other words, whatever has once lived must continue to live.

There is no reason to think that, at any time in the past, it was possible for the idea of animism, or for any other idea, to have fallen into the mind of every savage simultaneously, as a cloud-burst drenches the plain. Ideas have ever made their way as they do now, slowly, and by being communicated and talked over. The idea of animism is a very remarkable one. It has been so built into the mind of the race that it is difficult to imagine a time when it was not; and yet there was such a time, a time when man stood dumbly wondering at the birds and beasts, assailed like himself by hunger and finding food from the same supply; at the alternation of day and night; and at the destructive and vivifying effects of the storm. But these wondering observations were like so many disconnected fragments until some thoughtful mind caught the clue that led to the bold and clarifying thought that all things were animated by a common life, and that man was not alone upon the earth with strange and alien creatures, but was surrounded by forms replete with life like his own, and therefore of his kindred.

This mysterious power or permeating life was called in the language of the Omaha and Ponka tribes, Wa-kan-da. This word is now used to designate the Deity. The original meaning, while conveying the idea of the mysterious, something hidden or un-

seen, also implied the power to bring to pass. Wa-kan-da-gi, an adverbial form of the word, is applied to the first putting forth of a new faculty, as when a child first walks or talks, but the word wa-kan-da-gi would not be used to express the resumption of faculties lost by sickness or accident.

Fourteen years ago, while sitting with me in his tent, a thoughtful old Dakota Indian, who had never come under missionary influence, spoke of his native religion, in which he was a firm believer. He explained the teaching of his fathers, and tried to make me understand that the mysterious power which animates all things is always moving and filling the earth and sky. He said, "Every thing as it moves, now and then, here and there, makes stops. The bird, as it flies, stops at one place to rest in its flight, and at another to build its A man when he goes forth stops when he wills; so the mysterious power has stopped. The sun, the moon, the four directions, the trees, the animals, all mark where it has stopped. The Indian thinks of all these places, * * * and sends his prayers to reach the mysterious power where it has stopped."

This Indian had evidently been taught that the power pervading all things was one in kind, and possessed of a quality similar to the will power of man. He said, "A man when he goes forth, stops when he wills; so the mysterious power has stopped."

The Indian conceives of Wa-kan-da as dowed with like, though greater powers than those possessed by man. The prayer chanted by every Omaha when he goes out to fast, seeking a vision:

"Wa-kan-da dhe-dhu wa-pa-dhin a-tan-he." Wa-kan-da here needy I stand, is an appeal to something that is believed to be capable of understanding the needs of a man, and implies a conception of Wa-kan-da that is anthropomorphic. But the

Indian does not apparently think of Wakan-da as apart from or outside of nature, but rather as permeating it, and thus it is that to him all things become anthropomorphized.

In a Ponka ritual the following address is made to the tree, as represented in the framework of the lodge in which the ceremony takes place:

- "Oh! Thou Pole of the Tent, Ethka;
- "Along the banks of the streams, Ethka;
- "With head drooping over, there Thou sittest, Ethka;
 - "Thy topmost branches, Ethka;
- "Dipping again and again, in very truth, the water, Ethka;
- "Thou Pole of the Tent, Ethka; (The Tree now speaks.)
- "One of these little ones, Ethka; (That is, the suppliant.)
- "I shall set upon one (of my branches), Ethka;
 - "The impurities, Ethka,
 - "All I shall wash away, Ethka."

The tree is supposed to take the man on its branches, as in one's arms, and dip him in the stream, where 'all within the body' is 'cleansed.'

Long life is desired, and the Rock is invoked;

"Oh! Aged One! Ethka;

"Thou sittest as though longing for something, Ethka;

"Thou sittest like one with wrinkled loins, Ethka;

"Thou sittest like one with furrowed brow, Ethka;

"Thou sittest like one with flabby arms, Ethka." (The Rock now speaks.)

"The little ones (the people) shall be as I am, whosoever shall pray to me properly" (i. e., ceremonially).

Many other illustrations could be given to show the Siouan Indian's anthropomorphic conception of nature.

With the acceptance of the idea that all

things were quickened with the same life, came the belief that a mysterious relationship existed between man and his surroundings, and it naturally followed that, in his struggle for food and safety, he should seek to supplement his own strength by appealing to his kindred throughout nature; should 'send his prayers to reach the mysterious power where it has stopped.' Said a venerable Indian to me one day, "the tree is like a human being, for it has life and grows, so we pray to it and put our offerings on it, that the mysterious power may help us."

Coordinated with these ideas concerning nature was that of the continuity of life, which could not but lead to a belief in dual worlds with interchanging relations; thus we find that these Indians were firmly convinced that the dead camp in the unseen world, as they did while upon earth, each gens having the same relative place in the tribal circle, and each person at death going to his own gens.

Among the Ponkas the Ta-ha-u-ton-a-zhi division of the Ni-ka-pa-shna gens, whose totem is the deer, put deer-skin moccasins upon their dead, that they may be recognized by their kindred, and not lose their way in the other world. Among the Otoes, when an Indian dies his face is painted in a manner peculiar to his gens, by one having the hereditary right to perform this act, who says to the dead: "In life you were with those you have now left behind. Go forward! Do not look back? You have met death. Those you have left will come to you."

The ancient chiefs, who 'first took upon themselves the authority to govern the people,' are still active, and through the rituals chanted at the installation of tribal officials, as through a medium, they continue to exercise their functions and to confer authority on their successors. The rituals call upon the animals which had supernaturally appeared to the first rulers, 'The Crow, with frayed neck feathers; The Wolf, with tail blown to one side;' and they appeal to both chiefs and animals to remember their promise, and to continue to guide the people into safety and plenty through their successors now being ordained.

The Legend of the Sacred Pole of the Omahas, handed down from generations, gives a rapid history of the people from the time when 'they opened their eyes and beheld the day,' to the completed organization of the tribe and the institution of the rites of the Sacred Pole. From it we learn that changes in the daily and material progress of the people did not come about through miraculous intervention, through the mind of their wise men; and that every step in the path of progress was the result of 'thought.' 'And the people thought,' is the constant prelude to every betterment or invention. By 'thought' they learned how to make fire, to build lodges, to weave, and finally to institute religious rites and ceremonies.

To quote from this Legend: people felt themselves weak and poor. Then the old men gathered together and said: Let us make our children cry to Wa-kan-da. * * * So all the parents took their children, covered their faces with soft clay, and sent them forth to lonely places. * * * The old man said You shall go forth to cry to Wa-kan-da. * * * When on the hills you shall not ask for any particular thing, * * * whatever is good that may Wa-kan-da give. * * * Four days and nights upon the hills the youth shall pray, crying, and when he stops, shall wipe his tears with the palms of his hands, lift his wet hands to heaven, then lay them on the earth. * * * This was the people's first appeal to Wa-kan-da. Since that time, twice in the year, * * * in the spring * * * and when the grass is yellow, * * * this prayer is said."

A study of this practice, as still found among the tribes, shows that the youth, who uttered his prayer during days and nights of fasting, was not only asking help from Wa-kan-da, but was seeking a manifestation, in a vision, of the mysterious power. The form of this manifestation, which should come to him, he believed to be that to which he must appeal when in need of help. The symbol of this form, which the youth ever after carried with him, did not in itself possess the ability to help, but served as a credential by which the youth reminded the manifestation, be it of bird or beast, of the promise believed to have been received from it in the vision.

The dream and the vision were not the same; the dream of sleep came unsought in a natural way, while the manner in which the vision was striven for indicates an attempt to set aside and override natural conditions. The natural dream has exercised an influence in many ways, but it has not had the constructive force of the vision.

The cry to Wa-kan-da was the outcome of 'thought' during the long barren period of primitive life. Whither this 'thought' had tended we have seen in its culmination in the ideas that all things were animated by the same continuous life and were related to each other. These generalizing ideas were not strictly in accord with the evidence of man's senses. The Indian could not help seeing the unmistakable difference between himself and all other objects. Nor could he help knowing that it was impossible for him to hold communication, as between man and man, with the animals, the Thunder, etc. The ancient thinkers and leaders met this difficulty by the rite of the vision, with its peculiar preparation. The youth was directed to strip off all decoration, to wear the scantiest of clothing, to deny his social instincts, and to go alone upon the hills, or into the depths of the forests; he was to weep as he chanted his

prayer, and await the failing of his bodily strength and the coming of the vision. In this vision he saw familar things under such new conditions that communication with them was possible; and his belief in the reality of his vision could not but reconcile the animistic idea with the normal evidence of the senses.

The psychological conditions favorable to a belief in the visions, and the ethical influence of the rite of fasting, in its results upon the individual and upon society, cannot be considered here, but the constructive power exercised by the religious societies, which had their rise in the vision, claims a moment's attention, as pertinent to our subject.

From the legend already quoted, as well as from customs still existing in these tribes, we learn that men who had had similar visions became affiliated into groups or societies, and acknowledged a sort of kinship on the basis of like visions. For instance, those who had seen the Bear or the Elk, formed the Bear or the Elk society, and those to whom had appeared the Water Creatures or the Thunder Beings, were gathered into similarly defined groups. Within these societies grew up an orderly arrangement or classification of the membership, the institution of initiatory rites, a prescribed ritual and the appointment of officers.

An important stage in the secular organization of the people was reached when the acceptance of Leaders—'men who took upon themselves the authority to govern and to preserve order'—came to pass. It would seem, from the evidence of traditions and rituals, that the establishment of these Leaders, which implied the segregation of the people into groups of followers, was of slow growth and attended with rivalries and warfare. During this formative period, the early Leaders appear to have used the popular belief in the supernatural

to strengthen their authority, so that they came to be regarded as specially endowed, and the efficacy of their vision was thought to extend over all their followers. In this way the symbol of the Leader's vision grew to be recognized as sacred to his kindred, and was finally adopted as the sign or totem of a common kinship or clan. This being accomplished, the taboo was instituted as a simple and effectual reminder of the totem of the Leader, and of the mutual obligations and relations of the members of the clan, which were further emphasized by the adoption of a set of names for each clan, all of which referred to its totem. Among the Omahas and Ponkas these names are called ni-ki-a, that is, spoken by a chief. In the ni-ki-a name and the ceremonies. attending its bestowal there is a twofold recognition, that of a natural ancestor and that of the supernatural manifestation of this ancestor's vision. We have already seen a similar acknowledgment of a dual source of authority, where, in the rituals, the chiefs and the animals of their visions are both invoked.

In the clan organization the totem came to be representative preeminently of kinship; and its sign, as we have noted, was placed upon the dead, that they might be recognized by their kindred in the other world, and led directly to their clan. The function of the totem was social, rather than individual; the Indian depended for his personal supernatural help upon his own special vision, and his clan totem in no way interfered with his entrance into any religious society.

The resemblance which exists between the rites and rituals of the religious societies, and those which hedge about the office of Chief and Soldier, and Herald, marks the influence the societies have exercised upon the development of the tribal structure.

The control of the Thunder people runs

like a thread through all the tribes of the Siouan group. The character of their vision was such as easily to win popular recognition as preeminently authoritative, and they seem to have been singularly dominant from the earliest time.*

The Thunder gentes had charge of, or took an important part in, all ceremonies which pertained to the preservation of tribal autonomy. To them belonged the rituals and the ceremonies which inducted the child into its rights within the gens and the tribe; the adoption of captives and strangers; and the ceremonial preparation of the tribal pipes, without which there could be no tribal ceremony or enforcement of order. They had charge also of the rites for the preservation of crops from the devastation of insects and marauders. were some of the exclusive functions of the Thunder gentes; but the rites of the worship of Thunder itself, and the ceremonies pertaining to war, of which Thunder was the god, so to speak, were in charge of other than the Thunder gentes.

In the Omaha tribe the Sacred Tent of War was set apart for the rites and ceremonies connected with Thunder. It was pitched in front of the segment of the tribal circle occupied by the We-jinshte gens, its Keeper. It stood apart as a special lodge and was regarded with awe by the people. In it were kept the Sacred Shell (a large Unio alatus); the Wa-in (a bird-shaped bundle of raw hide, containing the skins of certain birds believed to be associated with Thunder); the Pipes used in the ceremonies of war, and a Pole of cedar.

*The members of the Thunder society claim that at death they join the Thunder Beings, although they do not thereby lose their kinship rights in their clan in the other world, but an Indian born into a Thunder gens could not at his death join the Thunder Beings, unless they had appeared to him in his vision. The people believed that the voices of noted Thunder men who were dead could be heard in the mutterings of the approaching storm.

In the myths the cedar tree is spoken of as the particular abode of the Thunder Birds. The Thunder Beings had their village amid a forest of cedars, and the club of these mythical beings was of the same Cedar leaves were put upon the War Pipe after it was filled, so that when it was lighted it was the aromatic smoke of the cedar that was offered to the Four Directions, the Zenith and the Nadir. cedar Pole, representative of Thunder, was called Wa-ghdhe-ghe, which means the power to confer honors. This name refers to the custom which prescribed that all war parties should start from this Sacred Tent and on their return report to it; and that all honors, namely, the right to wear certain regalia indicative of a man's prowess in battle, should be ceremonially conferred in this Tent.*

The vital point, in the ceremony of conferring honors, was when the warrior, standing before the Wa-in, and reciting his deeds of battle, at a sign from the Keeper, dropped a small stick upon the bundle. If the stick rested thereon it was believed to be held by the Birds, who thus attested to the truth of the warrior's claims. If it rolled off upon the ground it was the Birds who discarded it, because the man had spoken These Birds, representatives of falselv. Thunder, were the judges of a man's truthfulness, and rewarded him by honors, or punished him by disaster, even to the tearing out of his tongue by a lightning stroke.

Naturally, in course of time, those warrior chiefs, who by favor of Thunder had been successful in war, whose truthfulness had been attested by the Thunder Birds,

*All these regalia, which are graded in rank, refer to Thunder. In several of the tribes these are feathers of certain birds, worn in a particular manner; the peculiar painting of a man's face, body or weapons; and, as among the Osages, the tattooing of the body and arms with lines so drawn that, when the highest rank is attained, the tattooed figure will represent the Thunder bird in outline.

and who had received their regalia, began to assume for themselves some of the authority conceded by all to Thunder itself. A song belonging to a Dakota chief says, "When I speak, it is Thunder." Gradually the exercise of the punishing power was extended to social offences; as, for instance, a man whose persistent evil conduct threatened the internal peace of the gens or tribe, might suffer loss of property or even of life, his fate being determined by the warrior chiefs assembled at the Sacred Tent around the cedar Pole, the representative of the Thunder; the function of the chiefs thus becoming augmented by affiliation with the supernatural.

When the first Thunder was heard in the spring the ceremonial of the worship of Thunder took place at the Sacred Tent. The Wa-in was opened and the bird skins exposed; the Pipes were smoked, the ritual sung, and the cedar Pole anointed. one participated in these rites, except members of those gentes whose totems were believed to be related to Thunder. Some of these totems were of creatures predatory in their habits, and therefore allied to the destructive lightning; others, like the eagle and the hawk, could soar to the very clouds, while the flying swallows heralded the approaching storm. This fancied kinship of their totems was the basis of recognition of a sort of relationship between the gentes themselves, which became the ground upon which these people united in the performance of ceremonies directed toward a common object of worship.

Although important steps had been gained in social development, none of the rites and ceremonies of the Sacred Tent of War tended to bind all the gentes together, but the Omaha ceremony of the He-di-wa-chi seems to have been adapted to meet this requirement. It is impossible to state as a fact that the He-di-wa-chi grew out of the experience of the people during the centuries

when they were being slowly driven by wars, farther and farther from their eastern home; but, according to traditions preserved in the different tribes, it was during this period that group after group parted company, and the enfeebled bands became a tempting prey to active enemies. Nor was the danger always from without; disintegration sometimes resulted from the rivalry of ambitious Leaders, and, to quote from the tradition, "the wise men thought how they might devise some plan, by which all might live and move together and there be no danger of quarrels."

Many points in its ceremonial indicate that at the time of the institution of the He-di-wa-chi the people had entered upon agricultural pursuits, and were not wholly dominated by those ideas which had been the controlling power when hunting and war were the principal avocations. The He-di-wa-chi took place in the summer. solstice, or, according to Indian designation, at 'the time when all the creatures were awake and out.' The choice of the tree from which the Pole, the central object in this ceremony, was to be cut, is significant. It was either the cottonwood or the willow, both remarkably tenacious of life, sending forth shoots even when cut down and hacked into posts. In the Indian's words describing the time when this ceremony was to take place, we catch a glimpse of a shadowy idea of peace, for when danger stalked abroad the animals which were 'awake' would not be 'out' but in hiding; and in the choice of the tree with its abounding life we note the beginning of an apprehension of the idea of the conservation of life. This helps us to open out and understand the terse and poetic expression of the Indian tradition concerning the ceremony, that 'it grew up with the corn.' The ideas embodied in this festival found their birth and growth in the cultivation of the maize, which held the people to their fields, preventing their constant wandering after the wild animals, and so inaugurating village life and developing an appreciation of tribal unity.

The first act in the preparation of this ceremony was the cutting, by the Leader having it in charge, of seven cottonwood or willow sticks which were stripped of leaves, with the exception of a small spray at the end, thus making a miniature pole. These were sent to the chiefs of the seven original gentes, who, in their turn, sent out the men of their gentes to cut similar sticks, which were to be painted red and carried in the great tribal dance about the Pole.

While this was being done, the Leader selected runners to represent warriors, who were to go out, as a scouting party would go in search of an enemy, and when they found the tree which was to be cut for the Pole they were to charge upon it and strike it as they would strike a foe. In this ceremony of selection, where war is so simulated, the recognition of the power and authority of Thunder is manifest, for no man could become a warrior except through his consecration to Thunder, the god of war. Moreover, it was believed that no man could fall in battle through human agency alone; he fell because Thunder had designated him to So the tree, which had been struck as a foe, fell because Thunder had selected it. The tree thus chosen was now approached by the Leader, who said, "I have come for you that you may see the people, who are beautiful to behold." Then with elaborate ceremonies, in which the Four Directions were recognized, the tree was cut down; the bark and branches, all but a tuft at the top, were removed and buried at the foot of the stump, and the Pole, with much ceremony, was carried to the camp, where it was painted by the Leader in alternate bands of red and black, symbolic of Life and of Thunder. When this was done the Leader said, "It is finished; raise him up that your Grandfather (i. e., Thunder) may see him."* The Pole then, being placed in position in a hole prepared for it, stood before the people as approved by the ancient Thunder Beings. Then the Herald went forth to call the people to make ready to welcome the Pole with dancing and gifts.

Now the camp is astir with preparation: every one dons his gala dress and hastens to take his place with his gens in the tribal order, forming an immense circle around the Pole. The singers, seated at the foot of the Pole, strike up the first of the ritual songs; at its close the war cry is given by all the people, who then advance a short distance and halt. Four times the song is sung, four times the cry is given, four times the people advance and halt, and at the last pause they are near the Pole. At this point the men of the In-ke-tha-ba gens, led by two pipe bearers, face about to the west, their right side to the Pole, and the women face to the east, with their left to the Pole. Each of the other gentes falls into like order behind the In-ke-tha-ba men and women, and when the second ritual song is begun the entire double circle begins to dance around the Pole. During the dance four halts are made, and at these halts if any dancer has passed beyond the line of his gens he must return to it. The songs become more and more rapid in measure and the dance fuller of mirth and gaiety. At the close of the ceremony the men, women and children throw their sticks at the foot of the Pole, to which they are tied and left for the sun and wind to dispose of.

The manner in which the Pole was approached by the whole people in the order of the tribal circle, with war cry and charge, was a recognition of the victories gained through the war god, Thunder. The entire ceremony was a dramatic teaching, to old and young, of the necessity of union

^{*} These words, in the original, are of the nature of an invocation and consecration.

not only for defence, but for the preservation of internal peace and order, in the security of which industry might thrive and prosperity be within the reach of all.

The He-di-wa-chi, all the details of which cannot here be described, is a festivity of joy; the words of the opening song are, 'Come and rejoice!' The whole scene vibrates with color and motion; there is no hint of sacrifice; the Thunder selected tree is a symbol of Life, held in the fruitful grasp of the earth, and touched by the beneficent rays of the sun.

The so-called Sun Dance of the Dakotas and Ponkas seems to have sprung from the same parent stem that bore the He-di-wachi; but it shows marks of the influence of tribal environment during the past few centuries, as well as traces of contact with other stocks. For a considerable period prior to our first knowledge of the Dakotas, these tribes had dwelt in the most northern range of the Siouan linguistic stock, and had almost lost their knowledge of the cultivation of corn. Omaha traditions say that their own tribe turned back from the region where the Dakotas were when first discovered by us, because corn would not grow well there, and they sought sites for their villages farther south, where they could raise the maize in large and unfailing crops.

The Sun Dance and the He-di-wa-chi have fundamental features in common. They take place at the same time of the year; both Poles are cut from the cotton-wood or the willow tree; the ceremonies attending the cutting and planting and decorating the Poles are practically the same, differing only in the elaboration of detail. Both are consecrated by and to Thunder, and about both the tribe must gather in the order of the gentes. The special rites of the Sun Dance are performed within a communal tabernacle erected about the Pole. It is made of one or more poles gathered from the tent of each family in

the tribe, and covered with green branches. It represents the living branches of the tree, as well as the great congregation of the people, whose tents enclose it in a circle, often more than a mile in circumference.

The elaborate character of this ceremony precludes the mention of any of its parts, except those which pertain to the subject of this paper.

The symbol placed upon the buffalo skull, and drawn upon the U-ma-ni—a space of ground from which the sod had been removed, and the earth made fine—is a circle with four projecting points equidistant from each other. This symbol, to quote from Dakota Indians who had been instructed in this ceremony, "represents the tribe and the Four Directions. It means that wherever the tribe may travel it will be kept whole. Its circle of tents will not be broken, the members of the tribe shall live long and increase. The symbol also stands for the earth and the unseen winds that come from the Four Directions and cross over the earth and bring health and strength." The people were told that "as long as they observed the ceremony they would increase and grow strong, but if they should neglect the rite they would decrease in numbers, lose their strength and be overpowered by their enemies."

The dramatic character of the adjuncts of self sacrifice and torture has diverted the attention of observers from the true purpose of the Sun Dance, which has been clouded in the minds of the people themselves, but has not been lost sight of by the Indian priests, who still insist that the ceremony is necessary to the preservation of the people as a tribe.

The torture practised at the Pole seems to be a transference, to this ceremony, of the ancient rite known as Hanm-de-pi, where the man suspends himself while seeking a vision through fasting; or when, fixing his mind upon a particular desire, he expects

through torture to render its accomplishment certain. Even in the Hanm-de-pi there are indications of foreign influence which tended not only to keep alive, but to intensify the more primitive forms connected with Thunder worship—forms which had almost died out in the more southern tribes, surviving only in certain modified rites observed in mourning for the dead and the leading of a war party.

In the absence of agricultural avocations and their attendant corn ceremonies, the belief that the Pole was selected and consecrated by Thunder came to be more and more pronounced, as is indicated by the fact that the Thunder men only could take charge of the Sun Dance, whereas, in the He-di-wa-chi it was the red corn people who were the Keepers of the ritual and Leaders of the ceremony. It is easy to see how, through the influence of Thunder, originally represented in the consecration of the Pole and augmented by the dominance of the Thunder men, the torture rites came to be grafted upon the ceremony, which, owing to environment, had lost something of its early significance.

When witnessing the Sun Dance its composite character was impressed upon me, and the lack of unity between the parts was evident. Further study has shown how different rites have been united, and what are some of the influences which have brought about this grouping.

The Dah-pi-ke or Nah-pi-ke of the Hidatsas resembles the Sun Dance. It takes place at the same season of the year. The Cottonwood Pole is selected and cut with similar ceremonies; about it the communal tabernacle of willow boughs is erected, and all the people must gather to the rites. Like the Sun Dance, it bears evidence of the same influences, which have overlaid a tribal ceremony 'that grew up with the corn,' with those other rites wherein self torture was practiced.

As in the He-di-wa-chi, the tree or Pole of the Sun Dance, and of the Dah-pi-ke, is left at the close of the ceremony to the destruction of the elements, or powers, to which, in the mind of the people, it belonged.

In the Sacred Pole of the Omaha tribe we have another off-shoot from the same parent stem. In its rites, however, the fundamental ideas embodied in the ceremonies already considered have been still further developed and specialized. The selection of the Pole, its cutting, decoration, etc., the season when its ceremonies took place, and the compulsory attendance of the people, were all practically the same as in the Hedi-wa-chi, the Sun Dance and the Dah-pi-ke.

In a paper read before this Section last year the Sacred Pole was described. Your attention at this time will be called only to a peculiar function in reference to the tribal autonomy.

A tradition in the tribe says: "At one time the seven original bands wandered about independent of each other; each band had a pipe and a leader. The Hungagens thought that if this continued there would be fueds between the bands.*

* * So the Sacred Pole was made, around which the different bands might gather. The seven chiefs were called together, and they all united and have been so ever since." The Legend corroborates the tradition, for it says: "The ceremonies of the Sacred Pole was devised to hold the people together."

The institution of the Sacred Pole marked a political change in the tribe, from the government by hereditary chieftians to an oligarchy of the seven chiefs who attained their position by personal ability to perform certain deeds, called Wa-dhin-e-dhe. The name of the old cedar Pole of the Sacred Tent of War, Wa-ghdhe-ghe, which, as we have seen, meant 'the power to bestow honors,' was given to the new Sacred Pole,

which became the fount of honors won in peace, for the Wa-dhin-e-dhe were not deeds of war; for their achievement, industry and accumulation of property, as well as valor, were required. So also, whereas the honors, bestowed in the Sacred Tent of War, were worn by the warrior himself, or tattooed upon his own body, as ghdhe-ghe, or mark of honor authorized by the power represented in the Sacred Pole, was placed upon the daughter of the successful aspirant, the woman being the industrial factor in the tribe. The mark of honor consisted of two symbols; upon the forehead of the girl was tattooed a small round spot representing the sun, and upon her chest and back a circle with four equidistant points; the same symbol that was made upon the earth and the buffalo skull in the Sun Dance, and bearing the same idea, of strength in unity.

The seven chiefs who formed the oligarchy must act as one man, for without unanimity in their councils nothing could be done. In their decisions all the seven men must be alike represented, and the resultant unity was believed to be derived from Wa-kan-da, present in and acting through the mysterious Sacred Pole. quote from the Legend: "The chiefs are slow to speak, * * * no word is without meaning, and every word is uttered in soberness, * * * believing the words come from Wa-kan-da, so the words of a chief are few. They (the seven chiefs) have all one heart and one mouth * * * After a question is decided, the Herald proclaims it about the camp circle, * * * none of the people dare dispute it, for they say, It is the word of our Chiefs."

The two avocations upon which the life of the people depended were agriculture and hunting, and these were controlled by the ceremonies of the Sacred Pole. From the Pole was decided the time for planting the corn, and about it the ritual of the maize was sung. The great tribal hunt was under its immediate direction, the rules and regulations of which were an important part of its function. On this annual hunt the people left their village and their fields in care of a small guard and followed the herds, under the strict control of the Chiefs and of a body of men called During the entire time, two Soldiers. months or more, the rights and inclinations of the individual were held rigidly subordinate to the good of the tribe. The Sacred Pole was carried in advance of the people, as they moved from camp to camp. From its presence the runners went forth in search of the buffalo, and to it they reported upon their return. At the close of the hunt the ceremony of thanksgiving and anointing the Pole took place, when the entire tribe gathered about this central object. erecting a communal tent for some of the particular ceremonies and offering gifts. Finally, the men enacted before it the events of their career, thus presenting a sort of dramatic current history of the tribe.

At the inauguration of the Pole and its ceremonies, to quote from the Legend: "The Leader said, this (the Pole) belongs to all the people, but it shall be in the keeping of one family." For over two centuries this Sacred Pole was preserved, and its tent was pitched a short distance in frontof the segment of the tribal circle occupied by a subdivision of the Hun-gagens, its Keepers. It was regarded with fear and reverence, as the supernatural protector of the people, as the power that insured to them an abundant supply of food, and commanded the coordination of the gentes and the unification of the authority of the Chiefs.

In all these rapidly considered ceremonies, marking periods in social development of this group of tribes—development more or less modified by shifting environments—

we note the constructive force of the religious ideas of the people; ideas which, represented by the word Wa-kan-da and its kindred terms, imply the existence of an ever active, mysterious power, permeating all nature, including mankind, with the same life, thus making all things related and anthropomorphic. We have seen how these generalizing ideas become concrete, through the medium of the vision, and capable of exercising a practical, formative influence. We have traced this practical, formative influence in the unifying power of the totem, which welds together an extended though partial kinship within the clan or gens. We have seen it also operative in the religious societies, where an indestructible bond holds the members together upon a basis other than that of blood relation-The same influence has been found at work in the association of certain clans for a common worship, the tie of their association being a supposed relationship of their separate totems to Thunder, the object of their worship. We note also that the authority of Thunder was still further extended so as to embrace the entire tribe, inasmuch as every man was brought under its control through the rites and ceremonies connected with war. Furthermore, we discern that out of the ancient ceremonies connected with Thunder, wherein primarily the cedar tree was the mythical abode of the mystical Thunder Beings, and later, the cedar Pole stood as emblematic of their power and authority, were evolved the ceremonies that made use of the old symbols, but clothed them with ideas born of newer conditions.

In the He-di-wa-chi has been found preserved the outline of one of the simplest and probably oldest ceremonies instituted to draw the people together and unite them into an organized body. And it is apparent that the Sun Dance, the Dah-pi-ke, and the Omaha Sacred Pole, from the same root,

kept the same fundamental aim in view, performing their ceremonies about the same central object, the tree or Pole, selected and consecrated by the all-powerful Thunder, recognized as the judge and rewarder of all the people. We have seen the Chiefs summoned to the He-di-wa-chi by a tree stick, sent from the Keeper of the ceremony, each Chief in turn sending forth the men of his gens to gather each man sticks for himself and family, and all the people assembled and dancing about the Pole by gentes, each one carrying his stick, which at the end of the ceremony was given back to the Pole. A simple object lesson: to teach that the tribe was, like the tree, animated by the supernatural mysterious power; and that the Chiefs were its strong limbs, upon which the smaller branches grew.

In the Sacred Pole ceremonies, the constructive idea was still further developed, until not only unity of gentes was required, but unity of authority among the Chiefs was enforced. This unity, whether as demanded in the enunciations of the Chiefs, or, as necessary to the formation of the tribe, to the instituting of the religious societies, or to the development of the clan, depended upon the conception of Wakan-da, as manifested in concrete form through the medium of the Vision. ancient thinkers among the Siouan people. in the long centuries of an unknown past, came gradually to realize the helpfulness and power that lay in social unity. Out of this realization these ceremonies were slowly evolved, wherein the Pole, bearing the topmost branches of the living tree, stood in the midst of the assembled people, as an emblem of the presence and authority of Thunder, the universally accepted manifestation of Wa-kan-da, and also, in its life and growth, as typical of tribal unity and strength.

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