

CREATURES
OF MYSTERY

GRAY MEEK



CREATURES OF MYSTERY



Creatures of Mystery

By

Gray Meek



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DEDICATION

*Dedicated to the cause of wresting the great outdoors from
America's most deadly internal foe, and making the
same more inviting to all lovers of Nature
to whom it of right belongs.*

P R E F A C E

Perhaps the writer ought to explain in this foreword his reasons for offering this short volume to the public. It will be explained herein what it is intended to be, as well as what it is intended NOT to be.

It is not offered to the public because of its literary merit, but if it is worthy to survive, or to gain any worthwhile circulation, it must be on account of the practical information it contains, as the same relates to the wild life of the great diamond-back.

It is not a scientific treatise, and no effort has been exerted to have it appear as such. On the contrary, it is a treatise purporting to reduce to writing what laymen, in most instances illiterate men, have learned about the rattler. The author is painfully aware of his own literary shortcomings.

In absolute fairness to the simple truth, however, our reader's attention is invited to the fact that much of scientific value has been presented herein which, insofar as the writer knows, has not hitherto made its appearance in print.

All of the information contained in this volume was not gathered first-hand, but mostly gleaned from extensive interviews with reputable men who have spent many years of their lives in infested woodlands. The statement is made, and with becoming modesty, I trust, that the writer has spent many years in actual pursuit of this dread reptile, as an understudy of Uncle Dave, and has experienced many thrilling encounters and a few narrow escapes while invading the rattler's hibernating grounds in pursuit of him. It might be added that, for obvious reasons, all of the thrilling incidents credited to Uncle Dave were in reality not his own, but it can be said that he has had more personal differences with the diamond-back than any individual it was ever my privilege to know. It is my candid opinion that this old gentleman is in possession of more vital information touching the wild life of the diamond-back than any person in America. Those to whom we are indebted for the subject-matter contained herein have acquired all their knowledge by observing him in the wild state, while in pursuit

of his prey, and observing him otherwise about his native haunts, and his places of hibernation. If it were but possible to pool their lives and observations into that of a single individual, and had such person been born one thousand years before the Pharaohs came to power in ancient Egypt, then such individual would still be beating the sand ridges and shrub-oak hummocks throughout the wiregrass region of the coastal plains of Georgia, and with his observations still incomplete.

It dawned upon the writer, even during his early boyhood, that he had fallen heir to a natural craving for a better acquaintance with this particular creature. Our elders were heard to speak of his mysterious ways, but never explained them to our satisfaction, if in fact they offered any explanation at all. When we grew up no opportunity was passed by to gather in and read all that the "experts" had written on the subject. Frequently we would write the most eminent living authorities on the subject, inquiring of this and that, but always their answers were unsatisfactory, and wholly at variance with what appeared to be the true facts. It finally dawned upon us that there were not any experts in this particular field. It became increasingly evident that this was a field which had never been fully explored. Consequently, we tied our fortunes and our endeavors in with Uncle Dave and his "Suicide Squad" with a firm resolve to wrest every single secret from the diamond-back, if possible, and lay the groundwork for his complete extermination.

Friends have chided the author, asking, "Why do you spend so much time, and exhaust your energies writing about such a frightful creature?" Anyone living between Southern North Carolina and the Mississippi River, whether urban or rural resident, must live as neighbor with these creatures—yes, closer neighbor oftentimes than you think. It would, therefore, appear better policy to become acquainted. Those afflicted with surface cancer, eating its way slowly, but surely, into their vital organs, would not be so indiscreet as to draw their cloak closer about them, denying that anything was wrong. From the author's point of view it would be almost tragic to permit so much vital data to come to nothing with the final passing of

Uncle Dave.

It is the sincere hope of the author that this volume may fall into the hands of some who may be entitled to lay claim to expert knowledge of the rattler, and that they may become sufficiently interested to institute an investigation of their own concerning the claims of these laymen. If, however, any scientific society should assign one of their own members to this field, at an estimated salary of \$10,000.00 per annum for a period totaling 6,000 years, it would cost, as the reader can readily see, \$60,000,000.00 to prove, or disprove, what the layman has related herein. The guess of the writer is that it will never be done, but rather that the college-trained herpetologist will continue to bolster up his theories, that the layman will continue to stand by his actual observations, and that the public mind will remain, as heretofore, in a state of hopeless confusion.

Now we are by no means unmindful of the fact that the scientist may ask, and with no little show of indignation, "Just who are you to seek a quarrel with us?" Such is not the purpose of the author, but on the other hand if anyone cares to dispute the facts stated in this volume, then we have a perfect right to inquire of such person just where they acquired their knowledge. How many years they have spent in daily contact with him, baring their shanks to the rattler's deadly fangs, working, fishing, and hunting in the latter's favorite grounds, and in general loitering about his places of hibernation. These old woodsmen, to whom the writer is indebted for so much, have been trained in the hard school of necessity—to see things in their true perspective—because it would sometimes be extremely dangerous to misinterpret the meaning of their observation, particularly where the rattler is concerned. What they say cannot be lightly brushed aside by contending that they were mistaken in what they thought they saw.

It is a general feeling among those familiar with the rattler that one bitten by him has an immediate rendezvous with death. Such happening is contemplated with intense horror, notwithstanding the fact that science has developed a remedy for the bite which is, in most instances, effective, provided it

is properly and promptly administered, together with other first-aid treatment recommended elsewhere herein. If those who choose to go among them, or find it necessary to do so, would take time out to become better acquainted with their habits, where they are most likely to be found, and how they would most likely react to man's presence, then such information would make it possible to avoid much danger. This, within itself, we feel, makes the preparation of this volume well worth while, and is the chief reason actuating the author in his final decision to offer it to the reading world. Beyond this the writer "saith not."

THE AUTHOR.

CREATURES OF MYSTERY

Nations of the earth, from time to time, engage in bloody wars over boundaries, "living space," trade, or to redeem their national honor and prestige, but David Nettles, of Nicholls, Georgia, who responds more readily to the name of "Uncle Dave," has a little war all his own, and none who have ever learned at first hand of his reasons for declaration of hostilities are prone to criticize him for his unrelenting prosecution of a truceless war.

His little war, which is very much a personal one, is against the formidable and deadly diamond-rattler, one of which took the life of one of his sons many years ago. Up until that time he had not taken the aggressive, but satisfied himself with knocking off the heads of the ones which daringly, or carelessly came across his path, then pursuing the even tenor of his way. The son who was fatally bitten was not molesting the reptile, and the father of the victim bore stoically the inward pain caused by the dreadful suffering and final death of his son, being powerless to assuage the suffering of his son, or to stay the hand of death.

Subsequent to this dreadful tragedy suffered by the old gentleman he doubled his vigilance, at least to the extent of pursuing his dread adversary when circumstances and opportunity happily combined. In this manner he succeeded in running down his most loved (?) enemy and administering to many of his tribe the punishment all mankind considered, since the episode in the Garden, to be his just and proper due.

When a second son had been bitten while engaged in a perfectly peaceful pursuit, and a third had dodged a strike by the breadth of a hair, he concluded definitely that if it was war they sought, between themselves and the Nettles family, then they could have it. He would give them the war they asked for, and to the very hilt. From that day on he never passed up an opportunity to pursue them. No task was so pressing but that he would lay down his tools and go sleuthing, whenever and wherever he had good prospects of coming

upon their trails. Whenever his neighbors' cattle or dogs were bitten and they appealed to him for aid, the same was never refused by reason of the urgency of his own personal affairs. Year in and year out he pondered over their habits, and with the painstaking care of a general in the field, he sought to acquire a better knowledge of their vulnerable points. He knew that every beast of the field, bird of the air, and in fact every living thing possessed one or more inherent weaknesses. He would find their weakness though it took him years to do it. To pursue him through territory of his own choosing was literally making a companion of death. When the woodland had taken on a new coat of green, while last year's accumulation of dead pine needles, fallen bits of pine bark and other decaying matter which usually litters the forest, his camouflaged skin blends perfectly with this litter, and it would be an act of sheer foolhardiness to seek him in an environment he had chosen with such care on which to make his stand.

Perhaps there was a safer way. If so, he would find it. People who live in sections inhabited by snakes know that they will not find them traveling during cold weather. In fact, you will never see one during the colder months of the year, unless he be in captivity, or be dug out of his winter quarters. True, he may come forth from his place of hibernation during winter months when the outside temperature attains sixty degrees or upward and remains at such point for a protracted period of time, but on such occasions he remains near his "dug-out," refusing to wander far afield in search of food. At the first sign of winter they commence scurrying about in search of a suitable place to spend the winter. This applies to rattlers as well as other species common to this section. Some of the smaller species will select holes in the ground, such as mole runs and the like. Others prefer holes in hollow logs, cavities in the rotten wood of stumps, underneath rocks and fallen timber. In mountainous regions where caves in the rocks are common, such abiding places may house innumerable assemblages of these revolting creatures. Where large pine trees have died, or been cut away by farmers or logging men, the outer strata of soft sap wood soon goes to decay, thus leaving

an ideal place of hibernation about stumps for serpents. The home of the diamond-back rattler of Southern Georgia will be more fully described hereinafter. During this period of inactivity they eat little. Food is not so essential then. During the spring, summer, and fall months they simply do not know their own capacity for food. All they want is food, food, and more food. Due to a wonderful process of nature they store away the excess in the form of fat to be drawn upon during the long hard winter destined to follow. Due to the fact that they lie in a state of suspended animation during the greater portion of the winter months, the demands upon such body energy is very slight, their accumulated fat consumes away very slowly—they could remain in their winter quarters the greater portion of a year without fatal results if such should become necessary. Even in such lethargic state they are not to be trifled with. They have a decided preference for being left strictly alone and be permitted to sleep the winter away, but when dug out of their place of hibernation during winter months they not infrequently put up a furious battle.

Now Uncle Dave, as well as all other people who live among diamond-backs, knew that they retire from circulation during the winter months. Few ever stopped to think, or even cared to know, where they go. Men will live on heavily infested lands they inherited from their father, who, in turn, inherited it from his father, and fear to go in for a campaign of extermination of this dread warrior. They concede to him his right to certain areas—they refrain from entering such territory. They know by the number of sloughed skins to be found there that it is a regular diamond-back camping ground, consequently abandon this portion of their estate, forbidding their children to enter these danger zones. It is the custom of this unschooled old master of arts to inquire of such places. Of every landowner, on whose premises he would like to hunt, he asks, "Have you a corner, or hardwood hummock, along the river with such a bad name for rattlesnakes that no one will go into it?" If the answer is favorable he invariably asks to be directed there. He has a reason for wanting to know. It occurred to him that if he could definitely, and with certainty,

locate their place of hibernation, he would thereby acquire the advantage he sought, and needed so badly.

By noting the direction from whence they came in the spring of the year when they were coming out of their winter quarters, and also observing the direction they traveled in the fall, he finally found what he had long sought. On the great sand deposits and oak thickets found along the eastern sides of rivers and small streams they made their winter quarters. The hard-shell gopher (as he is called in this section of the country), or to be more specific, the burrowing land tortoise, had preceded him and had built convenient dugouts which the rattlers freely appropriated to their own needs. Ordinarily the rattler chooses a dugout which has been abandoned by its former owner, but he does not obligate himself to do so. When he finds a hole to his liking which already has a tenant (in the person of Mr. Gopher) he walks boldly in and shares the comforts thereof without so much as saying, "By your leave, sir." No particular discomfort is occasioned either of them by such trespassing. The gopher is one of the most peaceably disposed animals to be found anywhere—he has no desire to harm the trespasser—the trespasser could not harm him if he so desired. There being no inconvenience or special discomfort occasioned either of them due to such dual occupancy, then it would be so ordained.

Thoughtful persons have long observed that these sand deposits are always found on the same side of streams in this section of the State. Such sand deposits, if I may be permitted to digress slightly, present a geological mystery. Presuming upon the reader's kind indulgence we shall touch upon this mystery very briefly, even though it is related only indirectly to the main subject being treated. It is not recalled that at any time during the past we have ever read an attempted explanation by any reputable geologist. These deposits are invariably found on the east side of all streams running south along the coastal plains, evidently the result of some invisible and hitherto inexplicable force of nature. If a single exception should ever be found the reader should not jump too quickly at conclusions. It is not impossible that while the mists of

early dawn of creation hung like a pall over a newly created world such stream might have shifted its channel, cutting through to the east, leaving a short stretch of sand deposit on the west shore of the stream. Consequently, a single exception would not necessarily disprove anything.

On the west side of these streams is to be found rolling land, usually of clay formation, with steep cliffs marking the western boundaries of the channel. These cliffs show the effect of some invisible force not exerted upon the eastern side of the channel. One cannot see this mysterious force, but we do witness daily the effects of it—these cliffs are eternally caving in—toppling giant timber into the river channel—the waters of the raging stream is ever “scouring” the western banks of the river while the eastern banks remain free from the effects of such corroding force. Men have long wondered why. Oak, hickory, and other hardwood trees grow in profusion along the eastern boundaries, and the land is rolling in character. Such deposits of sand varies in width and depth, depending upon the size of the stream it fringes. Anyone taking the time and trouble to make a casual investigation by traveling east from such streams will observe that these sand deposits are gradually swallowed up in palmetto flats, ponds, and swamp lands which extend eastward for a distance of several miles from the shores of the larger rivers. These sand hills, unlike clay and heavier types of soil, do not adhere or form a cohesive substance, but like unto sugar, have a tendency to crawl when thoroughly wet. Consequently, as we approach the eastern borders of such sand deposits the land is practically level—the result of the combined influence of excessive rainfall and the power of gravitation. Finally such investigator, if he continue his course toward the east, will observe that he is coming out of the flat country and again entering the rolling clay hills. If one but possessed the power to reverse the time-keeping device of the universe for eons of time he would find the river stream under observation many miles in an eastward direction, paralleling the channel it now follows.

With such facts well established in the mind of the reader, it might prove profitable to visit the channel of some large

river and there view the mute evidence of this ever-present, if invisible force. Even within the river channel, invariably on the east shores, one will find new sand dunes in the process of formation before your very eyes—mammoth mounds of snow-white, “barking” sand. The deep part of the channel, where the waters move with more force and velocity are to the west always, the waters of the river being impounded exert a constant pressure against its western embankment. As the waters of the raging torrent form a whirl the sand crystals, being heavier and less buoyant than the finer structure of the corroding clay banks on the west, are dropped as they whirl into the comparatively still waters on the eastern shores of the river, thus forming new sandbars, eventually extending the boundaries of the sand ridges farther and farther west as the river channel consumes more and more of the clay hills in its silent march westward—ever westward.

The next step in our process of reasoning might well appear to bear no relationship whatever to the subject under discussion. But let's see. Galileo, that profound thinker, who gave so much to the world when Roman culture was in full bloom, braved the wrath of his church by attempting to prove that the sun did not really move, but instead the earth revolved upon its axis from west to east, thereby giving us night and day.

Living as he did during an era when science had made no worthwhile strides—being without any instruments of precision whatever—it became necessary that he blaze his own pathway in his advance toward the truth he sought. Most school children will recall the result of his experiment with a pendulum suspended from the overhead ceiling of the leaning tower of Pisa, how the pendulum which was not anchored to the earth, swerved gradually toward the west as it made its way back and forth across the spacious room.

The writer sees in all this the silent operation of the same force which caused the pendulum to veer toward the west in its flight. Water, being a non-rigid element, is neither definitely anchored to the earth, and the same force which influenced the pendulum's westward movement also exerts a constant pres-

sure of the river waters against its western walls, resulting in the eternal erosion, with a consequent shifting of the river channel in a westerly direction.

Now, the rattler himself is not greatly interested in how these sand deposits came to be here—the very fact that they are here suffices for him. These sand hills swallow up excessive rainfall as would the desert wastes. Such fact, coupled with the free circulation of air down these holes, provides him with dry, comfortable quarters, no matter how long, cold, and wet the winter might prove to be. Similar excavations made in clay hills would fill to overflowing during periods of heavy rainfall. These periods of heavy rainfall are almost invariably followed by intense cold in winter months, thereby creating a most distressing situation for tenants who indiscreetly chose to spend their winter there. The gopher, being a rather stupid animal, often commits such error, but pays with his life by reason of his indiscretion.

Having definitely located their winter quarters, he now proposed to take the same advantage of them which they had been taking of him during summer months by means of their protective coloring and devious crafty ways. During cold, damp weather, they lapse into a numb, stupid appearing condition which suited his needs admirably. Uncle Dave, armed with this vital information, was now ready for “total war.” A war of annihilation, so to speak, where no quarter would be asked—none yielded. So, for many years he has carried the war to them on their own soil. Notwithstanding his more than three-score and ten years, rapidly failing eyesight, plus partial deafness, he is still a familiar figure armed with shovel, flashlight, and burlap bag as his only weapons. All winter long he meanders up and down these sand ridges, hardwood hummocks, spring streams and bamboo bayous adjacent to creeks and rivers, with murder in his eye. One by one he searches these gopher holes, and the nonchalant manner in which he goes about it would give anyone as many thrills as a tender-foot reporter gets out of his first assignment as war correspondent in an exposed position.

With gloveless hands he clears the opening of all obstruc-

tions, such as half-decayed leaves, loose earth, etc. Then, pushing his flashlight down into the hole, he darkens its depths by pressing his face squarely into the mouth of the hole. Nothing unusual to see him arise, leisurely remarking, as much to himself as to the writer—"Yep. He's in thar, an' a big one, too." And he should know, since he was looking him squarely in the eye, and at close range. Then comes the arduous task of excavation. These holes often practically parallel the surface of the ground. Where such condition prevails, it is a very simple operation, provided one proceeds quietly, to excavate beyond the reptile, thus trapping him between the original doorway and the newly dug hole.

The rattler is little disposed to fight while in winter quarters, and will not do so until actually uncovered and exposed to broad daylight, which he did not welcome. His one desire is to sleep the winter away in peace. He shows little resentment of an intruder, provided he is not crowded out, or drawn out, into the open. He is not exactly at himself when cramped for room in which to strike, and he does not feel disposed to strike until everything is in his favor—he wants room in which to rear his head, and such room is not available in either a hollow log or the gopher's dugout.

When the rattler has been uncovered with the spade he usually rears his horrid head out of the loose earth, begins singing his rattles, while his black, forked tongue darts out challengingly in the direction of his tormentors. At this stage a noose is fixed on the end of a stick and let down easily over his head, with the aid of which he is gently drawn from his cozy quarters and deposited in the burlap bag awaiting him. Once in the bag he can be carried along as safely as a kitten, provided the necessary caution is exercised.

Mates usually find quarters conveniently near each other, and it not infrequently happens that a small colony is established on a single hillside. Uncle Dave rejoices when he makes such a find. True enough, he is none the richer by reason of such a lucky find, but it is not for profit that he hunts them, but rather that his revenge may be more complete.

The following line of the Scripture leaves no room for doubt

in our mind that Moses, the author of it, really knew his serpents—"NOW THE SERPENT WAS MORE SUBTLE THAN ANY BEAST OF THE FIELD WHICH THE LORD GOD HAD MADE" (Gen. 3-1). Uncle Dave was as much aware as Moses that he had taken on a crafty adversary, and the more he pursued him, the more his respect for his cunning grew. But every single bit of knowledge acquired touching his daily habits served to render it more difficult for these crafty creatures to elude him. One of the very first things he learned was that it was by no means safe to tread upon ground which had not been thoroughly combed with a stick or rake, if it were suspected that one was nearby. When pursuing one he invariably parts the grass and weeds before him as well as to the right and left. A stroke in the right spot would either cause him to move, or sing his rattles. In either case his presence would be revealed. Merely to give any patch of grass or weeds the "once-over" would not reveal his presence, so artfully and ingeniously has nature camouflaged him.

When a new trail is encountered, he loses no time following it up, but before wasting any time, it is imperative that he first learn which way his enemy has gone. The tracks of most animals speak readily, and to the point, but in the case of the serpent a mere glance reveals nothing of value, and the novice would, often as not, get on back-track instead of following the course the serpent actually went, thereby losing much valuable time, and perchance his quarry. So, bowing down upon his knees, in order to view the trail at close range, Uncle Dave will soon be in possession of this vital information. He views things in their minutest detail, overlooking nothing. Every tiny stick over which he has crawled, every clot of earth which has been moved all tell an unerring story. Should he push a clot of earth to one side, it is a very easy matter to locate its original position, and then take note of the direction in which it was moved. A small stick might likewise be moved in the same manner. Its original position can very easily be determined, provided there has been recent rains. The direction of its new position is sure to be the direction in which he has gone. The direction of his travel can be determined in still another

way: if he should chance to crawl over a small weed which had been trodden down and lying parallel with the ground, Uncle Dave and his boys look with care to see just where the impression of it was made in the earth over which it lay. The impression would never be found directly underneath the object itself. In his forward movement it would be pressed to one side, but when the pressure was released it would regain its original position. Such evidence also points unfailingly in the direction of the course he has followed. Such are the signs by which they are invariably governed, and an unfailing adherence to them will be sure to yield satisfying results.

Those not initiated into the ways of the serpent will very naturally wonder how the trail of the rattler is to be recognized when so many other species abound in the same territory. There are giant rattlers, medium size rattlers, and baby rattlers hunting over the same ground. There are also varying sizes of moccasins, king snakes, gopher snakes, etc. What, then, is the secret? The secret is very simple. The rattler possesses a different principle of locomotion to the others. By moving his skin back and forth over his form, in sectors, he is able to travel a course straight as an arrow stem—he does not resort to the principle of slithering as do many other species. Consequently, all straight trails are recognized instantly as that of the rattler.

The rattler is not addicted to the habit of meandering about aimlessly—he makes up his mind where he wants to go before starting out and then holds to a true course, unless, perchance, his course should be found blocked by some enemy with which it would be inadvisable for him to risk an encounter. He crawls about with his rattles pointing upward at an angle of forty-five degrees that they may be saved from wear as he travels. Should he pause for any reason, he relaxes, permitting them to rest upon the ground. If he chances to be upon soft earth at the time, a clear impression of them may be left upon the sand. This old snake charmer (we refer to Uncle Dave) often is in possession of the true size of his string of rattles before he ever encounters him. Hunting them during their period of hibernation, they frequently leave such telltale

signs in the opening of their underground bungalows with the result that his pursuer gathers in this information before he is ever uncovered.

Before Uncle Dave got wise to so many of the mysterious ways of this crafty serpent he completely lost the trail he was following. It came to an end upon ground where, in the light of all knowledge then in his possession, he felt that a very plain trail should have been left. The ground where the trail ended was covered with soft, white sand, but interspersed hither and yon with deposits of dead pine needles. Literally, as well as figuratively, he had come to the end of the trail. Deep in his heart he could not but feel that he had been outwitted, but how? That was the question. Before many moons he had another similar experience, but knowing already of their habit of continuing on their chosen course, he concluded he would continue in the direction he was so confident this fellow had taken. He did not have to go far before he came upon him. Regardless of all evidence to the contrary, he was confident that he had crossed over this roadway where he had observed the alternate deposits of sand and straw. Returning to the spot where he had lost the trail, he proceeded to examine it with the painstaking care of the secret police. Finding the spot on which he felt sure that a crossing had been effected, he proceeded to remove all loose straw without disturbing the surface of the soft sand beneath. When such operation had been performed, everything was clear. The trail was visible, but consisted of criss-cross markings of the straw upon the impressionable sand, the same width of the serpent he had just slain. With this information he could supply the remainder, i.e., why he had left no signs upon the sand spots. He had simply bridged these treacherous deposits of sand with his body in order that he might leave no evidence, realizing as he did that he was hotly pursued. Such operation required that he arch his body over these bare spots, bearing only upon the straw covered spots, thereby getting his traction without leaving the slightest visible impression. As he learned later, this was by no means an uncommon practice. In entering or leaving his hole, he climbs in and out over the back side where there is

a deposit of grass and leaves that he may leave no trail. Exercising still more caution, he does not permit his body to contact the floor of the hole for two and one-half or three feet down the hole. The result is that no one but this old snake chaser would ever observe his sign or detect his presence.

From his early experience he stood convinced that his chosen adversary possessed intellectual keenness far greater than one would expect in any form of animal life, save man. Little wonder that Uncle Dave came around to the point of view that back of his every move or action there was some carefully determined motive. Little by little he learned to speak their language, read their thoughts, and to correctly interpret their every secret deed.

Once he permitted to grow up in the center of a large field he was cultivating, a spot of rough, untilled acreage. It was well covered with plum shrubs, briars, cactus, etc., so that no animal or man found it an inviting spot. During the spring of the year, when he had commenced the cultivation of his crop, he took notice of one's trail leading out from a rough fence row in the direction of this rough spot already described. Abandoning the task which was engaging his attention at that time, he followed the trail, but before he had covered one-half of the distance intervening between the rough fence row from which the trail led and the rough center, the trail came to an abrupt end—and there was no snake there, either. This was something new in his experience. How could he, even allowing for the fact that he was a true wizard, make a trail into the center of the field and then completely vanish? There was no indication whatever that a tragedy at the end of the trail had wrought his undoing. It would bear looking into most carefully. Much as Mr. Rattler would have liked to conceal such fact, yet evidence was visible to his discerning eye that he had done "about-face" and had retraced his course back to the rough spot from whence he came. Now it would have satisfied the average person to know just what had happened at this point, but not this old gentleman. What he wanted to know next was "Why did he do it?" This necessitated some clear thinking. Then he remembered that he had shrubbed out this

rough spot in the center of the field and Mr. Rattler had observed from afar that someone had destroyed his hunting ground of yesteryear where he had caught so many rabbits and birds—no use going back there—he must, of necessity, find more promising hunting ground. The serpent reasoned that the less trail he made the less likely he was to be apprehended by that pesky farmer—his mind was eternally upon him—and on this occasion it stood him in well, since his enemy was upon his heels no sooner than he had re-entered the rough woodland. By no means unlike the average fisherman who is lured again and again to the spot where he made good catches during years gone by, this rattler, no sooner than he emerged from his place of hibernation headed straight for this rough spot in the center of the field. Had he not caught many rabbits and birds there who sought shelter from the burning sun?

It would be difficult for the average non-resident of the Deep-South to believe that such giant reptiles, and so much dreaded by man, could exist in such numbers upon land so densely populated. It would doubtless be even harder to believe that the thicker a section is settled, provided sufficient hunting ground be left to him, the more rapidly they multiply and the more they thrive. The cultivated fields produce grain, which in turn attract and provide sustenance for birds, squirrels, rabbits, and rodents upon which he feeds. Another point frequently overlooked is that the thicker the settlement, the more “man-wise” he becomes, thus enabling him to steer clear of the path human beings normally pursue. He is quite familiar with the paths they daily travel in pursuit of their tasks and makes it a point to shun them as much as possible.

Naval stores operators, particularly those engaged in the task of chipping trees in the timbered lands, relate experiences almost unbelievable, so unmistakably do such experiences indicate a degree of intelligence which is simply uncanny. Ordinarily the same employee works a given area of timber for an entire year—maybe several years. They work the trees in drifts, taking a strip of timber of given width and always work toward a definite objective. Sooner or later they acquire the habit of pursuing the same course from one tree to the next

nearest. The rattler comes to know the route the worker is going to pursue as well as he does, and is wise and cautious enough to see to it that their paths never cross. Proof of this is to be found in the fact that when a new man is put on the job, disregarding the order of travel of the one he succeeded, he will encounter them. Occasionally one or more helpers is assigned to help the regular man, which throws the reptiles into a state of confused mind—they commence crawling, feeling that for them to get out of the area altogether is the safe thing to do. This leads to their detection. He works himself into a situation he did not anticipate—gets caught in between two workers—a predicament he was striving desperately to avoid.

So greatly do men fear this fellow that they do not take time off to frequent his haunts, thus cultivating a better acquaintance with him. Most men shun places where he is likely to be encountered. Both exercise the greatest endeavors never to meet. Yet, the rattler is, by nature, a very peace-loving sort of fellow—his one desire is for peace, so long as peace can be had on terms compatible with his dignity. He seldom invades cultivated fields, particularly during their period of cultivation, and he is slow to venture about man's premises unless the pang of hunger is prodding him. He knows the danger between men and women—not hesitating to come about the place and commit depredations when he discovers the fact that same is guarded only by female members of the family—seems to realize that their fear and inherent weakness will guarantee him a wider berth should he get caught at his nefarious work in or about the barnyard. Seeing that he and man are destined to live in the same world together, he makes a division of the territory, but allots to man that portion best suited to his needs. If a man elects to cultivate the high, dry land, then he will accept without protest such places as may be left to him. Pond land, rough fence rows full of briars, abandoned areas, he finds quite sufficient for his needs, but when man permits his dog to trespass upon his territory, harrying his rabbits and driving them into other areas, then a fight will sooner or later take place, and a most bully fight it will be, provided the dog

knows his snakes, otherwise the advantage will be with the snake. The rattler's hate for the dog is of long standing. To his way of thinking the dog will not fight fairly—he will not attack and he will not go away, but persists in hovering around, barking until his master arrives upon the scene to determine the cause of the trouble. Then it resolves itself into an uneven battle with all the odds pitted against the reptile.

But to return to the thought previously expressed. The old hero of this story has really taken time off in order to promote a genuine acquaintance with Mr. Rattler, and we would gladly pit him against the most eminent authority on reptilian life anywhere to be found, particularly in matters touching the wild life and habits of this one species of reptile, which is one of the largest, most ferocious, and most deadly reptiles known. Quite true, Uncle Dave has never seen the inside of a high school or college, and does not know what it is all about, and though he has never said so, it is quite evident that it "Nettles" him when the writer projects some thought into our field of discussion—some theory expressed by college men or scientists, who probably learned all they know by reading college text books, or maybe by visiting the serpents down at the zoo and studying them behind bullet-proof glass. Permit me to repeat that when such theories are flashed before him, and happen to be completely at variance with his own observations, he dismissed the subject with a visible show of impatience, but never going out of his way to criticize scientists, who would seek to match their theories against the knowledge he has gained by a lifetime of observation in the wild.

He was endowed with an inquiring mind, never permitting anything, no matter how trivial, to pass his observing eye without being checked and re-checked. Few men seem capable of establishing any relationship whatever between cause and effect, but he is not one of them. It appears perfectly natural for him to adopt the philosophy that nothing ever happens without a cause. He gives the most painstaking study to the herbs of the woodland, their well recognized, or maybe potential medicinal value, but in doing so does not permit the fixed stars, nor the planets in their orbits, to pass by unnoticed.

As a mere boy, his interest was thoroughly aroused as he listened to older people comment on one peculiarity of the rattler, the same centering around his habit of coming almost immediately to the spot where his or her mate had been killed. This was a matter of general knowledge, but where the great mystery lay was—how did the survivor know of the tragedy? It is a well-established fact that during the summer months they never travel together, neither do they habitually follow each other's trails. When they emerge from their winter quarters and choose their hunting grounds for the summer months, one will take to one side of a large field, and the other the opposite side, probably a distance of a thousand yards apart. Yet when one of the pair is killed, the other, if living, will invariably visit the spot where the death occurred within a day or two. His sign will be found there, without fail, provided the earth is sufficiently soft to leave an impression.

Accepting the above as true, and there is ample evidence of its truth to be had free, if one will but ask of those who have spent long years convenient to their habitat, and who have had opportunities to study their wild habits. Then there is only one logical conclusion to be reached, and that is that there exists between them some secret means of communication. This seemed incredible to Uncle Dave. Try as he might to dismiss the thought from his mind, it nevertheless continually confronted him, and without solution.

During the early period of his life, while too young to be of any great service on the farm where he was reared, he often amused himself by pursuing a rather puzzling note coming, seemingly from nowhere. It sounded very much like the cry of a tiny turkey which had become separated from the brood, but he knew well that it was not, since they had no turkeys on the farm, and there were none in the neighborhood. At first he would hasten to the spot from whence the sound seemed to come, but when he advanced toward the location from which the cry seemed to emanate, all was quiet, nothing visible, and to add to his disappointment and confusion, no further note was uttered. He checked his movements with the utmost precision for the purpose of learning, if possible, why his tactics

had been yielding no satisfying results. Concluding finally that his impetuosity was driving this elusive creature to cover in advance of his arrival upon the scene, he decided in favor of a change of tactics. He would stalk this will-o'-the-wisp like a panther when he again took notice of the same note. When his opportunity came again, he lay prone upon the earth and literally elbowed his way to it, observing closely, in the hope that he might finally learn the identity of this strange creature. His patience was rewarded when he finally came within sight of a black racer with his head protruding from a hole in the decaying wood at the base of a large pine stump. There was no doubt left in his mind but that this call was coming from the black snake. He was as much elated over his simple discovery as any modern inventor could possibly be, should he stumble upon a secret which would revolutionize the world's industry.

He pondered this incident of childhood in his mind as he sought to learn the secret of the rattler's mysterious means of communication with his mate. He had never heard from anyone that the rattler was capable of uttering a mating call, and he had never read anything coming from the most learned men intimating that such was even a possibility. But to him there was some likelihood that he was drawing near to another secret which might very easily prove the means of unmasking this old wizard of the wiregrass regions.

Once, while sitting upon the porch of his little log cabin, at the setting of the sun, he heard a note of which he had never before taken notice. It came from a dense oak thicket containing a liberal scattering of palmettoes. It was more of a whine than anything he could describe—very much the same as a dog makes when he yawns. The note was soft on the ears, lower pitched than the dog's whine, gradually ascending the scale as it drew to a conclusion, ending each time with a distinct "T-u," somewhat the same as a human would make ejecting a crumb from the point of the tongue by a sudden exhalation of the breath. It might be described as a sort of wailing call. This continued for almost a week. It was noted that this call would always be answered from a rough fence row, bor-

dering a field not so far away. Finally his hound dog ran upon a rattler while in pursuit of a rabbit, the location of the rattler corresponding with the locality from whence the call seemed to come. Thereafter all was silent in the vicinity where the serpent was found, and from whence these mysterious calls seemed to come. It meant something to him that the call was not heard again during the entire summer. This was merely an incident and did not prove anything, but you may rest assured that it stuck in Uncle Dave's mind like a bee in a tar bucket. It is worth noting that there is a variation in the call, sometimes wailing as described above, and on other occasions chirping, chattering, squawking and crying very much after the manner of birds when their young are being disturbed.

Other incidents came hard upon the heels of each other, all of which seemed to lead this old scientist (without degree) nearer and nearer to definite proof of the theory he had evolved as to the origin of these unusual calls. On another occasion he took note of the same sunset call coming from a rough spot within his field, which was completely surrounded by land which had been thoroughly pulverized in the process of cultivation. He kept a vigilant watch as he ploughed his crops just to determine if he might discover tracks made by some animal, whose identity was not yet known to him, but not the slightest clue did he ever find leading in this direction. The note continuing, he took a walk through the spot of ground the next time the call was heard at sunset, to learn if he might flush some strange nocturnal bird which might have chosen this as a nesting place, but without so much as flushing a sparrow. He found no sign of animal life there; could this cry he had been hearing be that of a diamond-back? The final and convincing proof came when his dog ran upon one on this very spot, he having failed to find him while searching the place. This, along with other evidence already in his possession, it seems, should have been sufficient proof on which to base a conviction of one charged with murder, but whatever vestige of doubt that might have lingered in his mind was dispelled when the serpent, himself, supplied the final link in the chain of convicting evidence. He became so enraged at the

dog as he and his master began closing in on him, that he, probably without intending to do so, uttered the same identical note he had heard on the other occasions.

If any herpetologist has ever admitted that the rattler is capable of uttering a mating call of such volume as would prove readily audible at long distances, then it has never come to us through the medium of their writings or through other channels. The above evidence, it would appear, should thoroughly establish our contention. No matter how reputable and sincere the student of this particular reptile may be, and no matter how conscientious those who write about them may be, their studies are conducted under such circumstances as would preclude them, definitely and forever, from acquiring more than a smattering of the many habits and secrets of this most interesting serpent. The rattler is a rather peculiar creature, prone to be a bit temperamental. He will not perform freely for the benefit of students who might run down from the great metropolitan centers for the day, armed with kodaks, news reel cameras, sound-recording devices, etc. You must live as neighbor with him in order to learn much of his secrets, and even then one may rate himself as lucky should he encounter him more than once in a lifetime engaged in the application of his magic arts. Take him captive and remove him to the city and he immediately desists from the practice of the arts he knew and applied regularly in the wild. For the reasons stated, members of scientific bodies chide laymen, often unmercifully, because of their foolish contentions, labeling them as laymen's myths, and dismissing them from serious consideration for the reason (they say) that laymen have not the trained eye of the scientific observer, and consequently are not sure of what they see, etc., etc., etc.

Ignorance on their part of facts known to those who have learned about the rattler by actual daily contact with him for many years, does them no discredit whatever, when we stop to consider that their studies, of necessity, must be conducted under circumstances so utterly disadvantageous to them. It must not be forgotten that this fact was learned by Uncle Dave at the expense of a lifetime of study and observation. No scientist

of which we have any knowledge has ever spent much time in these lonely spots where he is to be found, but on the contrary have made practically all their observations of him at times when he knew well that he was being watched. It is far from his practice to utter his mating call when he has company, and especially if it be the human kind. In the first place, when a rattler is confined in some public park, and his mate was also caught and brought along with him, then nothing is to be gained by uttering his mating call. If, in the process of his capture and removal from his native habitat the couple are separated by long distances, then surely he senses such fact and for perfectly good reasons would not utter a sound. Their protective instinct is so keen that in the wild state they would not dare chirp if they sensed the presence of any human being, so that it becomes all but impossible to both see and hear them at the same time. For generations and generations rural residents of the Southern states have doubtless heard this same call, but passed by, supposing that it was the call of some shy and unknown nocturnal bird or small animal.

When one of these dread reptiles has bitten some animal or person, people living adjacent to the spot where the tragic incident occurred are so filled with horror that they shun the place for days and weeks. As long as they live they will remember the incident, and will point out the place to friends and passersby. If he was not destroyed at the time of the tragedy they know he is still at large in the community, and they will exercise every possible precaution, when going places they think he might be found. The opinion is universal that he leaves the spot without loss of time, but the exact reverse happens to be true. He finds a secluded spot only a few feet away where he coils up and remains for practically a week. This was learned through the application of the trial and error method. When such tragedies occurred friends would appeal to Uncle Dave. On the first such call he had a feeling that it was useless, but out of respect to the family went and conducted a diligent search. He even surprised himself—he found the reptile and slew him. Gradually he extended the period, finding them on a few occasions on the sixth day, but never on

the seventh. Six days appears to be the limit of his stay upon the spot where he has made a kill. Inquiring ones would very naturally wonder why he would tarry at the place of the killing. The prevailing opinion is that he is weak and emaciated due to the loss of his store of venom, and due to the physical processes set in motion while re-charging his venom sac. Being without venom, and in addition having lost his appetite for food, he sees nothing to be gained roaming about in such a condition. Those who have observed them very closely will tell you that following a killing he appears shrunken, and shows less prowess in battle.

When the first cool nights come in the fall of the year rattlers begin doing much stirring about, seeking suitable places for hibernation. It is a busy time for him until he finds a suitable winter home. At such times they are likely to be encountered anywhere. They usually choose a straight course from their feeding ground to their winter quarters, disregarding for the time being their usual rules of precaution for "safe motoring."

Considerable pains is taken in choosing a hole in which to spend the winter. They prefer one on the south side of a hill or surely one pointing downhill. Those on the south side of hills are not so badly exposed to the cold north wind. Those opening from down the hill do not catch water when it rains. They prefer holes that turn sharply as soon as they enter the ground. Such serves a double purpose. First, the crook in the hole serves to check the cold winds. And second, the turn provides them protection against the peering eyes of their enemies. They surely want a quiet corner where there is no traffic, and invariably they choose a hole only a few feet from the dense undergrowth. They prefer to winterquarter by the side of small spring streams running into the creeks or rivers from the east, rather than being too close to the large streams. They never seem to camp along extremely steep inclines by the side of the large streams. Just what reasons enter into their decisions as touching this particular point is very difficult to determine.

His habits about his winter quarters appear to be governed by certain strict rules. He will not crawl out over the soft

earth the gopher excavates in digging the hole. Such would leave a trail to betray his presence. Rather, he crawls out over the back of the hole where the litter and sod have not been disturbed. In coming in and going out of his hole he so manages that he will not leave the slightest impression for two or three feet down the hole. He will not choose a hole upon ground that is barren. He prefers to do his sunning of warm spring days to the rear of his hole, since he usually enters and leaves his quarters through the back door. For the reasons stated he usually chooses a hole with palmettoes in the rear and delights in coiling or stretching out underneath the dead leaves which rest upon the ground. Such a location for sunning, on the south side of a cluster of palmettoes, serves a double purpose. These dead leaves very nearly match the color of his skin, and the clusters of palmettoes serve to shield him from the biting north wind. If the back of the hole be not exactly to his liking, yet the front provides well for his needs, he occasionally goes into his front yard to do his sunning. In taking his sun bath there are two essentials—he must be able to expose himself to the warming rays of the sun and at the same time be rather well concealed from the eyes of passing men or other enemies. It is nothing less than remarkable how he can so completely conceal himself, even underneath the sheerest deposit of dead wiregrass. A ten-pound rattler can thrust his head and neck inside a small tuft of wiregrass, then draw his body after him, and so coil himself inside that no passerby would so much as suspicion that this harmless-looking tuft of grass was literally a den of death. Hunters and others who might have occasion to pass his way on warm spring days should exercise never-failing precaution—passing in front of the hole and never to the rear. A safer rule is to miss these holes by twenty feet at least—they seldom, if ever, stray more than twenty feet from their holes to do their sunning.

This old gentleman once related to the writer in detail his experience having to do with finding a female rattler's nest. According to his story it was located underneath a pile of pine logs which had, at some time or other, been partially consumed by fire. The flame had hollowed out the logs underneath, thus

forming a natural shelter against excessive sunshine or rain. Neither would the average passerby take notice of the fact that an enemy was utilizing the spot as an incubator. The fire had killed the roots of the wiregrass within the top soil. Such fact, together with a liberal accumulation of pulverized ashes, provided Mrs. Rattler with an ideal nesting place. The soil was dry and brittle as well as being free from roots and grass. With her hard nose as her only weapon she had drilled a large round hole into this firm but brittle earth, and had deposited her eggs therein, again filling the hole and pounding sand and ashes around her eggs. The eggs were encased in a soft shell. When they had been well prepared for the final process she coiled herself upon them, and with her body had ironed the place over as smoothly as if it had been done by a Chinese laundryman.

“But wait a minute, Uncle Dave,” we interrupted. “You are telling me something directly opposed to the contentions of men who claim to be well informed about the life of the diamond-back. I have read much of what they have to say on the subject and I never saw it admitted that they lay eggs as non-poisonous snakes do. They claim that they give birth to their young like other animals. What do you have to say to that?” Looking off across the timbered lands as he ran his fingers through his long gray hair, he said: “Wall, seein’s believin’, ain’t it?” His query carried its own answer with it.

The very circumstances suggested to him that there was something going on there concerning which he would like to know more. So, after disposing of the female rattler, he scratched into the soft soil where she had made such a cozy nest and uncovered twenty or more soft-shell eggs. To make sure that he was not in error he broke some of them and examined the contents. They contained rattlers, all right. That he might have his testimony substantiated by others, he took many of the eggs home where they were broken in the presence of other members of the family.

Once during the late summer he was engaged in the task of following the trail of a large one through an oak thicket along the river. Laying aside his tools with which he had been work-

ing pine timber, he gave his entire attention to the chase. Soon he came upon a pair of baby rattlers. This was gratifying but not exactly what he sought, so continued his hunt. Another, and then another pair were found along the trail of the mother. He continued "mopping up" with the young ones about 18 inches in length, hoping all the while that he would come upon their mother. The day was rapidly drawing to a close while the really big prize had eluded his grasp. Nonetheless, he counted it a fair day's work and then turned homeward. To many, her habit of scattering her children about after such a careless fashion might have been somewhat of a mystery, but not to Uncle Dave. It was simply weaning time, and she was putting them out in territory which, according to her own best "snake judgment" was promising hunting ground. She reasoned that if they would get out and hustle they could, in the midst of this oak thicket, abounding with mice and birds, provide for themselves an abundant table.

Taking his midday nap upon his porch one hot summer day during August or September, he awakened to peer through an opening where a board was missing to observe a baby rattler, about weaning size, coiled upon the sill of his little log cottage. "Well, how do you do?" he greeted him. Only a few inches had been separating their noses as he slept in fancied security. After giving him the attention his kind deserved, he called his sons and said to them: "I want you boys to go underneath the house and look for the other one. Where there is one of this size there belongs to be two, so get busy and look him up, but remember—be careful." They had not been gone long before they emerged with the little mate dangling from the end of a sharp stick.

This incident set the old gentleman thinking. He recalled his experience with the old mother out on the sand ridge. He recalled also, in the case just mentioned, the sign which had been left all about his premises the preceding Sunday while the family were away visiting. Now he was able to piece all the evidence together in such fashion that it would make sense. This old mother had been occupied with the task of scattering her little children about as the one he once pursued down by

the river swamp. All had been quiet about the premises on the day she visited him, and the place abounding with chickens of all sizes—well, she reasoned, “What could be nicer than to leave two of her children to partake of such bounty?” There was only one flaw in her process of reasoning, but it was a fatal one—she left them at Uncle Dave’s house.

A risky thing to do—kill a rattler about one’s premises and drag him up to the house for purposes of exhibition. He made this mistake once, and the very next day, while returning to his labors in the field, he met the mate following the trail over which the dead one had been dragged, and with the ease of a foxhound. Better leave them where they are slain, and when the mate calls at sunset and receives no reply he immediately picks up the trail, following it to the scene of the execution. Crawling about his unlucky mate for a time, thoroughly satisfying himself that she is dead, he departs, and most likely will entirely leave the environment in search of another mate.

Should the average person observe two trails converging, it would attract little more than a casual notice, but this old wizard is able to piece together a fairly long and interesting story from such tiny thread of evidence. One or the other of a pair had his sunset, or maybe his dawn call, go unanswered. Having received no response, he takes no chances, neither loses any time. Fearing that some evil has befallen his silent partner, he suspends his hunting for the day and goes in pursuit of her. He picks up the trail at the point where they had been observed to converge. Why had the fleeing one left the spot so precipitately? Perhaps she had come dangerously near having a brush with some human. Maybe she was hungry and decided very suddenly to seek more promising hunting ground. Whichever was her motive, she knew well that there would not be the slightest danger of eluding her mate, so keen is their sense of smell.

Doubtless when the writer projects the thought into the field of discussion that this interesting reptile is capable of hypnotizing its prey the scientific world will stand aghast at the presumptuousness of a layman advancing such a thought. Yet, this is exactly what we propose doing. Is it not recorded

on Divine authority that the serpent is more crafty than any beast of the field? Laymen have insisted for years without number that the serpent can do this very thing, but men of science scoff at the very thought. They do not hesitate to admit that Old Leo (the lion) is the original ventriloquist, and that he is a psychologist of no mean ability. When he observes a deer grazing peacefully upon the tender grass and herbs of the tundra, he realizes that to offer chase is ill advised, since the deer would be sure to observe his approach while he was still afar off. He solves his food problem by employing such art, with the result that he is thereby enabled to throw the herd into confusion. Lowering his mouth to the very ground he makes a mighty roar. The effect is that the sound waves are scattered evenly in all directions. Each deer fancies that the roar came from the direction he was facing at the time, and as they dash to safety, one or more of them will be sure to approach his place of concealment. Provided the first effort failed to produce the results hoped for he has a good chance of improving upon matters by repeating the process until some member of the herd is driven within springing distance. Thus we observe that he is about as adept at the art of ventriloquism as man, and employs such gift regularly as a means of taking his prey. Such is freely acknowledged by students of animal life.

When a herd of wild zebra chance to graze near a lion's lair, and he pursues them without success, he goes into a rage, or would have them believe that he does. He roars like the thunder of a raging storm until the earth fairly quivers about him, but gradually he lowers his volume until it amounts to little more than a growl. The herd, seeing that no harm has come to them, and having distinctly heard, with their own ears, that he had entirely left the vicinity, they reason that it would now be safe to return and crop the grass about his lair, since it appeared to them to be greener there than elsewhere. Tomorrow, or during many weeks to come, they would reason entirely differently—just now they feel secure, since they have clearly heard him retreat into the deep jungle. This is exactly the thought he sought to establish in their minds. They do return,

and Old Leo has tender zebra for lunch this time. That's psychology of a high order.

So we see that nature has given to all her creatures some definite advantage over all others, in order that they might be guaranteed a sufficient supply of food. Why, then, deny the rattler that skill which is his just due? For obvious reasons he declines to enter into speed contests with the hare. He cannot climb trees in pursuit of squirrels, neither fly as do birds of the air, yet all of these make dainty meals for him regularly. What, then, is the secret?

If we should reduce to print here all that we have on the subject—testimony offered by the most reputable witnesses and observers, it would only serve to bore the reader. Hence we shall resort to a limited number. Uncle Dave came upon a rabbit at the mouth of a gopher hole, apparently dead, yet warm and limp. Nearby was sign where a large rattler had coiled—the sign was fresh. A careful inspection failed to reveal any fang wounds whatever. A puzzle to many, perhaps, but he could ferret out the mystery readily. It was quite evident to him that the rattler had the rabbit completely within his power as he came upon the scene; not only powerless insofar as locomotion was concerned, but completely hypnotized—reduced to a condition of complete unconsciousness, or maybe suspended animation. When he heard the sound of human footsteps he slid quickly and quietly into the underbrush which proved to be conveniently near; abandoning his prey for the moment.

It seemed ordained from the beginning that the Nettles and the rattlers should never live as neighbors in harmony. Fate seemed to have decreed that there was never to exist an amicable relationship between them. Uncle Dave's mother, a pioneer woman, recalled very clearly atrocities committed by the Seminole Indians. Each night she would aid in driving their herd of sheep into the corral near their little log house as a safeguard against the depredations of the wolves. Not infrequently did the Red Men disturb their slumber, raiding their fowl house. True enough, they were not always bent upon murder, but the peace of mind of the household to which

she belonged could never, on such occasions, be any too serene. The one season of the year when they could always count on being raided was the occasion of their annual corn dance. No telling when such raiding party might conceive the idea of adorning their belts with a scalp or two, in the hope that it might enhance their prestige at such festival.

It so happened on just such an occasion that his mother and grandmother were alone. A disturbance on the outside among the cattle and the fowls suggested to them both that the Seminoles were about the premises. Arising silently and peering through a hole mortised in the logs for just such emergencies, she saw clearly, in the moonlight, a group of Indians surrounding their fowl house. Escaping through a trap-door in the floor, they stole a march on the Indians and made their way into the timbered lands. Helping themselves to all the chickens they felt that the occasion might demand, they supplemented the results of their raid with some sweet potatoes scratched from their cow-pen land, and, as they hovered underneath a dense growth of briars, in the jam of a split rail fence, they could hear them, in the stillness of the night, as they passed on through the cornfield breaking ears of corn.

Reared in such an atmosphere her utter fearlessness of either man or beast can be readily understood. The women of her era did not retreat when faced by the dread diamond-back, as we shall presently see. They learned that valuable lesson of self-reliance and self-protection against all manner of danger. To make the life of the women-folk all the more hazardous, Uncle Dave's father was a fisherman as well as a great lover of the chase, which kept him away from home most of the time. For the reasons stated, he chose to establish residence convenient to good hunting ground. Wild turkeys and deer were plentiful during his young days, and one can rest assured that wherever the country will support an abundance of wild life, the rattler will establish himself and get his full share of the smaller game.

This inveterate foe of the Nettles seemed to possess an uncanny knowledge of the coming and going of the menfolk belonging to the household, and would on occasions take ad-

vantage of their absence to stage a bold daylight robbery about the premises. Once, during the late afternoon of a summer's day, Mrs. Nettles, the mother of Uncle Dave, was mending garments while sitting on her front porch. Suddenly she observed her large white rooster, which had ranged out into the wiregrass, gall shrub and palmettoes, jump straight up, cackling, and came running toward the house. While he was even afar off she observed that his snow-white breast feathers were stained a crimson color. He weakened before reaching the house, fell to the ground, fluttered and died. She had arisen and was observing all this in utter silence. Her mind being completely satisfied as to the cause, she dropped the garment she was mending, remarking to herself, "I'll bet it's a hateful rattlesnake." By the time she had partially given vent to her feelings she was already on the way, bent upon taking him on for battle. She observed at the cow-pen gap a very suitable weapon, in the likeness of a small split piece of timber. She lost no time locating the scene of the tragedy—the ground was all but covered with snow-white feathers from off her rooster. Parting the weeds and combing the grass with caution as she advanced, she presently came upon him. Instantly he reared his head to strike—she struck first—he struck out, and the fight was over.

On another occasion, and under circumstances identical with the above, Mrs. Nettles referred to in the preceding paragraph, observed a gray squirrel gathering pine cones and hulling them for the enjoyment of the mast they contained. He had come unusually close to her little log house which, incidentally, had been his custom for several days in succession. He appeared to have a decided preference about a few things. He would climb the tall timber for a cone, then come down and run up a slender bent-down sapling which formed a flat rainbow, and would utilize this for his dining table. A storm had evidently toppled it over, but since it had not been completely uprooted it remained alive. She rather enjoyed watching this little fellow—he appeared to have everything arranged exactly to his liking.

On this occasion, however, when she first took notice of him,

he appeared in great distress. He was racing wildly back and forth on this natural arch. Each time he ran toward the top of the tree he shortened the distance as he retreated, and each time he ran toward the root of it he advanced to a point nearer the ground. He appeared to be under the greatest imaginable nervous strain, and yet there was no enemy within her range of vision. Finally he ran all the way to the ground and stopped as motionless as a statue, tail uppermost. She had heard others relate stories of being witness to diamond-backs "charming," or hypnotizing small animals and birds. Such information, coupled with woman's intuition, influenced her to do some investigating. As she went forth she picked up a small pole, just in case her suspicions were well founded. At the root of the tree she found, just as she had expected, a large rattler, coiled, and motionless, except that he was singing his rattles gently. The squirrel appeared sleepy and weak. His tail had fallen down limp over his back, reaching the point of his nose, while the heads of the two were almost touching. The rattler had not attempted to fang him, nor in any other manner, other than that just described, molest him in the slightest. With her weapon she rained blow after blow upon the reptile, but it was not until she struck him the second time that the squirrel took the slightest notice of her presence. He staggered off through the weeds, scarcely able to move along.

As much reverence as Uncle Dave had for his mother, who was richly endowed with all the primitive virtues, it is fortunate that he does not have to rely wholly upon her testimony to establish proof of his contention that hypnotism is a common practice among reptiles. It was his good fortune on one occasion to occupy a grandstand seat and observe such an act from the beginning of the performance. Sitting quietly on his front porch one day he observed his kitten in the front yard behaving in the same manner as the squirrel. With bushy tail and arched back he was parading back and forth between the porch and the split rail fence surrounding the yard. As he retreated toward the porch he covered less distance each time, but as he advanced toward the fence he drew nearer and nearer. He was meowing all the while, and seemingly in very great physi-

cal pain or mental distress. Observing with care, having already suspicioned the reason for the cat's trouble, he saw clearly the head of his ever-present foe, the rattler, protruding slightly through the crack of the fence. He could not coil and accomplish his design, but he drew his rattles around in such manner as to play them by the very side of his head. He was not singing violently, but with sufficient volume as to keep the attention of the cat. When the old gentleman sought to rescue the cat from his approaching doom he found it a difficult task. Each time he kicked him away from the danger he came running back, drawing nearer and nearer each time to the source of his torment. It was not until he had thrown him underneath the house with violence that the spell was broken. The kitten left the house afterwards and did not return for several days, something he had never before done. On his return he was poor, emaciated, and could not be induced to eat the most appetizing food for a time.

Now, Uncle Dave is not the type of person to become wedded to an idea until it has stood the acid test. He goes about proving or disproving his theories with as much pains as a chemist working out his formula. He reasoned that if all this queer behavior on the part of the cat was not attributable to some uncanny power the serpent possessed, then the cat should respond to the presence of a dead rattler in like manner as to a living one. So, keeping such thought in mind, he took another cat one day and dropped him head foremost into a barrel containing the carcass of a dead rattler. The result was that the cat bounced out of the barrel after the manner of a rubber ball. He could scarcely believe that his feet ever touched the bottom of the barrel. He spat once or twice as he regained terra firma, and with bushy tail standing out, clawed up the front yard leaving the scene.

Another observer of unquestioned veracity reported an incident quite convincing if one will but recognize the truth when face to face with it. This individual was working in his field when his attention was attracted to the cry of a rabbit down in a rough piece of woodland. The rabbit cried so piteously and persistently that he abandoned his work and went down

into the woodland to investigate the cause of his trouble. He came upon the rabbit crouching before a great cone-shaped growth of wiregrass, trembling and crying, but seemingly unable to move out of his tracks. Looking upon the top of this growth of grass was the head and a portion of the fore part of a great gopher snake with his black, beady eyes focused upon the eyes of his little victim. Neither of them seemed conscious of the presence of the third member of this "murder-party." Picking up the rabbit in his hands, it had the appearance that its mental balance was immediately restored, the spell being broken no sooner than his eyes were taken off his tormentor. Being deposited upon the ground again he left the spot with the proverbial speed of the hare.

Of all incidents ever reported to the writer, it is considered that the following presents the most convincing proof that the diamond-back stands without a peer as a hypnotist, among either the beasts of the field, or members of the human family. Except naturalists and zoologists be as obstinate as the brothers of Dives, then they will readily accept this as positive proof of our contention. The incident occurred not more than three-fourths of a mile from the residence of the writer. The parties to whom we are indebted for the story have been known to us since childhood, consequently the writer needs no one to vouch for their absolute trustworthiness.

Our informants, a young couple, lived in a cottage by the side of a sand-graded road. Between the front yard and the roadbed there was quite a growth of green weeds, briars, and grass. The front yard was covered with a light growth of grass except for the walk leading from the front gate to the doorsteps. The wife had been alone for quite a time. Mention is made elsewhere that the rattler will not hesitate to venture about the premises of man when they know for sure that it is guarded only by the womenfolk and small children.

The husband returned, finally, with an automobile truck and unloaded some heavy articles among the weeds by the side of the road and directly in front of the house. Having finished with the task he drove away to another part of the plantation. During his brief absence his wife chanced to walk out and sit

down on the front porch. Soon she observed the mother cat playing with something in the grass on the lawn. The cat kept advancing in the direction of the house as it played with whatever it might prove to be which engaged her attention. Yielding to her curiosity she looked closely. It was a large diamond-back crawling slowly toward her, with head slightly reared, and with rattles pointing upward at an angle of about forty-five degrees. The cat was following the reptile, playing with its rattles, slapping them with first one paw and then the other. The two soon disappeared under the house, but at that very instant the husband returned. Directing his attention to the strange carryings-on of these two creatures, the husband seized a piece of stove wood from the woodpile which was conveniently near. Throwing same at the rattler with force, he coiled immediately to make a stand. The cat took no notice whatever of the disturbance, but on the contrary sat down by the side of the coiled rattler, looking upon him with not the slightest show of fear. At the direction of the husband his wife had brought him his loaded shotgun. It became necessary for him to do some maneuvering in order to shoot the serpent without doing injury to his cat, so close did the latter cling to its captor.

Thinking the incident ended, the young man threw the rattler in his truck and drove away to another part of the plantation a mile distant from the scene of the killing. There he found a stump of a pine tree about eight feet tall. The thin outer shell was of rich pine wood. In the process of decay it was left with serrated edges, thus providing convenient sharp points on which to hang the carcass. Hours later the cat appeared upon the scene, climbed the stump, and lay down in a depression upon the top, as close to the rattler as she could get. A darkey working nearby, seeing this, went to investigate the queer behavior of the cat. She was driven down more than once during the afternoon and frightened away from the spot, but on each occasion she would return, climb the stump again and lie down by the side of her captor, dead though he was. On the following day the two men visited the spot again, finding the cat upon the top of the stump, dead by the side of the

rattler—a victim of his deadly fascination. The cat was never fanged. It is significant that she had a litter of young kittens at home requiring, and heretofore receiving, her constant and tender care.

This part of the story is founded wholly upon supposition, but we gladly leave it with the reader as to whether our deductions are logical and reasonable. When the young man unloaded the contents of his truck almost upon the diamond-back he doubtless reasoned that he had best move on to a more secluded spot. Realizing that he had the cat under perfect control, he moved on toward the house with full intention of devouring the cat when she had completely succumbed to his mysterious charm. We even believe that the rattler knew positively, as he moved across the lawn, that he was absolute master of the situation, and that the cat would move in obedience to his every desire.

Knowing the rattler as we do, we simply cannot imagine any other creature, either man or beast, walking up boldly and slapping his tail without receiving immediate and fatal attention at the hands of the rattler. He evidently was as sure of the behavior of his captive as any professional hypnotist is of his subject, once the subject's conscious mind has been lulled into hypnotic slumber. Of those that be of contrary minds—those who would deny with such vehemence that reptiles are endowed with power to “charm” or hypnotize—we would ask by what process of reasoning you would seek to explain the queer behavior of the cat, and the death of her, following her rendezvous with the rattler? What mysterious power directed the cat, in her hypnotic state, to the spot where the carcass of the reptile had been concealed? Was it by her sense of sight? No! The truck had been gone several hours before the cat attempted to follow. Was it by her sense of hearing? Positively not! By her sense of smell? Perhaps. But let's see. The carcass of the rattler had no contact with the ground, and whatever odor might have been absorbed by the atmosphere, if any, surely would have been blown away by the passing breeze long before the cat set out in pursuit of the reptile.

Every wild creature, even those domesticated by man, recog-

nize the diamond-back as their traditional enemy, and will flee from their presence—even from the smell of them—which they recognize instantly and without fail. Whether they have ever encountered one before or smelled one before makes no difference. Just why, then, was this cat found fraternizing with her dread enemy? Just why did she abandon her family of kittens, stand vigil over him, and die by his side, unscathed by his fangs?

Observations of reliable persons, practically without limit, could be had, but they would not serve to strengthen the evidence already presented. Lay observers from far distant points, and who never heard of each other, testify alike as to the behavior of both the reptile and his victim, be it rabbit, squirrel, bird or cat. Any impartial body of men would readily sustain our contention, basing their verdict on what courts of law define as a preponderance of the evidence. Men are almost daily sentenced to death on circumstantial evidence less convincing.

This unschooled old master of arts once performed a post mortem operation on a rattler he had slain, having noticed that he had bagged an unusual supply of food. His digestive organs contained a grown rabbit and three squirrels. Anyone familiar with the habits of the gray squirrel knows that he spends most of his time in the tops of trees, and without some unusual gift which would enable him to induce the squirrel to come down from the treetops, then he could not possibly bag so much game in so brief a period of time.

While we are shocking the professional pride of many who offer contrary contentions, we might as well relate some other circumstances tending to prove that the power of hypnotism extends even into the insect world.

Laymen and scientists alike have long been aware that the black wasp, or commonly termed dirt-dauber, possesses some undefined and mysterious power which enables him to put other insects and spiders to sleep and store them away in his mud house for long periods of time as fresh as the day they were caught. Each little room of his house is liberally stocked, and when the eggs of the wasp are incubated by the warm

spring weather he has everything he could possibly desire to provide his young with sustenance until they reach the adult stage of development. To him this means as much as man's cold storage plants, since he is provided with living food which, were it not for his mysterious powers, would be utterly unobtainable, it being out of season. The scientist insists that he injects a paralyzing fluid into his prey. I would like to suggest, and that with due respect to their profession, that the observation of this old scientist (without degree) is worthy of study. He declares with much confidence that the dirt-dauber hypnotizes his prey into a state of suspended animation. I am in position to add my personal testimony to that of Uncle Dave's, having once witnessed the black wasp reduce to a state of utter helplessness a grown spider whose home he was raiding. He did not sting him, but accomplished the spider's utter undoing, seemingly, by the power of his hypnotic eye. Should any scientific body take it upon themselves to disprove his contentions that the rattler can both utter a mating call and hypnotize its prey, then it would surely entail more patience and expense than any institution of which we have any knowledge would be willing to expend for the information. Experts, or so-called experts, might be sent out into the wild by the score, and at an expense of countless tens of thousands of dollars annually, remaining in the field for half a century and never catch up with him applying his hypnotic art nor hear him uttering his mating call. The old gentleman of whom we write, according to his own testimony, has spent more than sixty years at Mother Nature's knees, so to speak, daily being instructed by her as touching her many and varied secrets, verifying them, not by reasoning from this to that, but by looking facts squarely in the face. He has swapped ideas, observations, and experiences with perhaps half a hundred men who, too, have had better opportunities by far than the average person for horning in upon the secret ways of Mr. Rattler, and by availing himself of the knowledge gained by them and freely imparted to himself. By availing himself of the knowledge thus gained he has been enabled to cut many corners on the diamond-back, taking short-cuts to a better knowledge of him.

He has, by the same token, learned how, when, and where to look for this, that, or the other, all of which means a great deal to the lay observer in his field as much so as it would to an astronomer scanning the celestial world. One observer, though he live for seventy or eighty years along the river swamp, he will be witness to very little of scientific value. To be sure, he may destroy scores of them in a lifetime, but this within itself reveals very little, if anything, of their mysterious and unbelievable powers. It is only when great numbers of laymen add their observations of a lifetime together that one can begin to construct a true picture of this crafty serpent.

But let's hear what Uncle Dave has to say about the mud-dauber's mysterious arts. He relates that once while he was resting from his labors during the noon hour he took notice of a mud-dauber and a spider facing each other as though they were about to have some personal differences. Both appeared to be in a belligerent mood. The black wasp started it all by creating an agitation at the door of the spider's home, who quickly came out to investigate. It happened, so he states, that he witnessed the difficulty from the very beginning. As the spider advanced upon the intruder, he stopped short within two or three inches of the latter, which seemed intent upon robbing his home. The black wasp kept a close watch over the spider, facing him at all times, flitting his wings, moving about from right to left, side-stepping, as it were, and all the time uttering that frying noise which one hears when he is spreading the mud in the process of constructing his house. (For the benefit of those who may never have heard this talented craftsman as he works away, plastering his house, the frying sound spoken of resembles very closely the sound of a wireless sending set, using the Morse code.) The spider stood motionless while Uncle Dave observed with interest, wondering when, and in what manner he was going to attack. Just at this time the mud-dauber lunged forward, and with his long black legs, thrust one of the spider's legs to one side. The spider quickly replaced it to its former position, but otherwise did not move, or take heed of the wasp's threatened attack. The latter continued as before for some time, apparently afraid to draw

near so long as the spider showed any sign whatever of life. He made another quick thrust at the spider as before, with the result that the spider was powerless to replace his legs—he had completely succumbed to the wasp's magic. Other than this one insignificant act the wasp did not touch the spider, yet he lay helpless before him. As an added precaution the wasp did not lay hold upon his prey from the front, but performed a half circle—taking him in his arms from the rear, he flew away.

As a hunter, the rattler always brings home the bacon. Whether he hypnotizes his prey, trails it down, or merely lies in wait for it until something chances to come near—well, we shall leave this to the keeping of Uncle Dave and the scientists. There is no question whatever but that the rattler knows the weakness of every single animal and bird to be found in the forest. He has the "low-down" on the blue-jay, that old disturber of the peace and tranquillity of the woodlands. When he desires to promote excitement among the birds, he knows full well, when his appetite demands bird for lunch, that he can always rely upon the co-operation of the old blue-jay. So when he observes one nearby he starts his chattering, squawking, and crying as hereinbefore described, possibly accompanied by a violent whir-r-r-r of his rattles, and the work is done. The jay sets up such a cry that birds far and near, of whatever kind, are possessed of a feeling that birds by the score are being murdered where the blue-jay has set off the alarm. They must therefore go and see. With the aid of his rattles and the power of his eyes he experiences no difficulty overpowering them one at a time, or so long as he has a desire for food. All observers agree that there is always one bird appearing more under his power than the others. This one draws nearer and ever nearer until he finally seems to freeze up within easy grasp of the serpent which takes him in at leisure, then centers his glare upon another.

Insofar as the author of this little volume is concerned, he cannot escape the conclusion that the cause of general science would be best served if those chiefly responsible for its advancement would accord a more respectful hearing to the con-

tentions of laymen. It seems certain they would find some things worth investigating. We feel most confident that superstition could not possibly account for the fact that almost everyone, learned and unlearned alike, within the territory infested by the rattler, stands convinced that he possesses some mysterious power, or force, by which he attracts his prey, and weaves some mysterious spell about him. Hypnotism, as practiced by man, is a fact not to be denied, even though we may not understand it. When all the facts are in, pertaining to same, it will doubtless be learned that it was first practiced in the Far East, and that these wise old men, in turn, learned the rudimentary principles from reptiles. We wonder if anything really helpful to science will ever be gained by denying anything as a reality, which is readily apparent to the layman. We are even led to wonder just how much of the scientist's purported knowledge about the rattler is theory, and how much of it is stubborn fact.

Every well-read person recalls that during the recent Spanish Civil War countless thousands of prisoners were driven hopelessly insane by nothing more than weird markings and designs upon the walls of the cells in which they were incarcerated. When such odd designs first came under their observation, they thought little or nothing of them—they appeared to make no sense whatever. They would dismiss it from their minds completely. They would return to it, however, much the same as the small animal or bird which appears to be thrown completely off their mental equilibrium by the gaudy array of colors and odd designs to be found on the back of a diamond-back rattler. No one understands just why such unfortunate inmates of these old Spanish prisons were thus affected, but we do know that they were driven insane under such influence. Perhaps in these thoughts may be found the solution to the whole mystery, or to say the least of it, lead those who have heretofore doubted, to an admission of the reality of this power of the rattler. In the light of such recent revelations, science should not suffer the loss of any prestige. We shall return to this thought later.

It came as a bit of good fortune to Uncle Dave when he

discovered that one of a litter of half-grown hound pups possessed real "snake-sense." This is a rather rare occurrence, but occasionally a dog's natural instinct teaches him that he is up against a deadly foe when he encounters his first rattler. So, putting this pup through a course of preliminary training calculated to impress upon him the dangerous character of the rattler, he utilized this dog in the pursuit of him. When some member of the family came upon one and permitted him to gain the underbrush, or some other impenetrable wild place, he would lose no time enlisting the services of his snake dog. By the time he scented his quarry he knew well the hazards of the venture upon which he was embarking and refrained from racing about as though he were in pursuit of a rabbit. He would trail quietly, treading with caution, peering behind every object, and listening for strange noises. His master would follow close behind, but would under no circumstances speak to the dog. He realized all too well that the hazards of the game required that he utilize every one of his senses to the utmost. Should the dog unfortunately permit himself to be caught off guard at a critical moment, then the decision would go to the rattler. He would smell as well as look into every single cluster of shrubs, briars, or palmettoes, prepared at all times to withdraw his head in haste should he observe something which did not appear so inviting. By these means he succeeded in chasing down many, with the aid of the dog, which might have eluded him had he been unaided in the chase. The hatred of the rattler for the dog is proverbial, and for many good reasons. In the first place, they are both contenders for the rabbits which abound in the rough fence rows and swamp regions, neither of them appearing disposed to yield any privileges. Then, too, as the rattler views it, the dog does not play the game fairly. Instead of making it a fight between two brave and chivalrous contenders, the dog persists in keeping a safe distance and alarming the whole region with his barking—refusing to either fight or maintain silence. Finally his master comes to the rescue, and it develops into a one-sided battle.

Even allowing for the dog's advantage, in that he is able to summon his master when in dire distress, the results of their

eternal warfare run about fifty-fifty. In the dense undergrowth which abounds in these spring places one finds pig trails leading into the pools of cool and refreshing water. Rabbits, squirrels, rats and mice also utilize these paths for the above-stated purpose. Knowing all this, the reptile coils in the narrow path, or either lies outside it with his head and neck inside the trail. There is less resistance for the dog if he follow these paths, since there is often a network of briars and bamboo where no trail has been opened. Now any man or animal daring to molest the rattler's food supply incurs his undying hatred. Knowing full well what the dog is up to, the latter cannot count upon any generosity should he stumble upon one unaware. In all such cases the decision goes to the diamond-back.

One by one nature is yielding up her secrets to men of inquiring minds. All men do not possess a common interest, but rather cover the whole of the created universe, ever increasing, and enriching man's accumulation of knowledge pertaining to that with which he is surrounded. It was not until recent years that the spawning ground of the eel was located, though it had been sought by men for centuries. All the rivers, and their tributaries in the United States, flowing into the Atlantic Ocean, are infested with them. There they feed and grow until they feel that urge of nature warning them that spawning time is at hand. When they must take their leave of the environment in which they have waxed fat, nothing short of force can stop them. Finding themselves blocked by a newly-constructed dam, they bore through, if possible. Failing in this, they would not hesitate to attempt passage over desert land, re-entering the water below the obstruction, then continuing their journey to the sea. Once they have gained the high seas, they head straight for the Sargossa. They are not without their reasons for selecting this quarter of the globe as their spawning ground. The ocean floor at this point is far below the normal level of the sea's bottom, thus giving great depth of water in which to take her last and fatal plunge into the realm of Old Neptune. Once near the ocean's floor she encounters such terrific pressure, due to the weight of the sea above her, that her eggs are yielded up by sheer force. When they ascend to the surface

they become entrapped in the great pasture of sea-weed, and while thus locked within its embrace, being exposed to the warm rays of the sun, are soon incubated. The mother ends her earthly existence in the process, paying the supreme penalty as a duty to her posterity. No sooner than the little ones have seen the light of day they proceed immediately to the waters their parents knew, and the whole process is repeated.

Thus have men in all ages spied upon nature's creatures, never permitting them to have a secret all their own, if within their power to wrest it from them. The greater the mystery surrounding their lives the harder men try to solve it. Little wonder that the eel clung to her secret for so long. Even ancient mariners purposely surrounded this great void, lest their craft become hopelessly entangled and all perish.

It was for neither wealth or fame that this old master (without degree) went in for a better knowledge of the diamond-back. He seeks no publicity, but on the contrary is exceptionally modest, forever shrinking from the crowd rather than being drawn into it. Aside from the attacks made upon members of his own family he has been witness to the mental anguish they have visited upon others. If it so happened that a bear, or some large member of the feline family, should pounce upon some luckless human being down in the river swamp and tear them limb from limb, the community would be so stimulated into action that a great posse would be formed, scouring the entire region until the offender was brought to justice. When some innocent child has met with the same fate at the hands of this outlaw of the animal kingdom—the diamond-back—neighbors and friends speak words of condolence to the bereaved ones. When the last sad rites have been performed they will, in hushed tones, talk at length in terms of what the county, state, or Federal Government ought to do about it—someone ought to do something, they insist, but when asked to join in a campaign of extermination, they disperse—one returning to the plow, another to his merchandise, and a third to his office. Their dread of these creatures is such that it chills their very blood as they look upon one. In just such an atmosphere was his high resolves born—a

resolve to hunt them down and destroy them as long as he lived.

Now he is beginning to suspect that his foe possesses other and even more amazing secrets than those already disclosed—secrets which the cunning of men of all past ages have failed to uncover. Profound wisdom does not necessarily accompany great learning—you may find profound wisdom in the unschooled, while those who have studied all the books and committed all the facts contained therein to memory may be seriously lacking in wisdom. Uncle Dave, as we have so often stated, lays no claim to any very great learning, yet he reached the same conclusion as that wise old king of Israel whom we hear complaining that certain ways of the serpent were among four mysteries in this world which he could not understand—which he admitted puzzled him exceedingly.

The admonition, “Be ye, therefore, wise as serpents,” was not uttered by mere man, neither by prophet, but by the very author of all creation. If a wiser being existed among the beasts of the field, then doubtless such creature would have been employed as a symbol of wisdom rather than the serpent. With even the limited knowledge of the reptile which we at present possess, we do not put it beyond him to perform in any manner credited to him. He appears never to resort to the employment of all his tricks and devices—it seems that he always has a store of secret arts in reserve.

We have known this old gentleman long and intimately, and can testify to the fact that he has a sacred regard for the truth, refraining from advancing anything as a fact until he has in his possession evidence which is conclusive—sufficient to remove all reasonable doubt. He admits that he knows nothing of science as revealed by men of college degrees, but, to quote his own words, “What I see with my own eyes, I believe.” When he has a discovery securely “pegged down,” he does not care particularly what any scientist thinks of it. Knowing him as we do, we regard him as a natural scientist—one, unfortunately, without college degree, but deserving of the same high respect.

It is his firm conviction, though he admits that he does not

as yet have the positive proof, that when the rattler hypnotizes his prey, he often leaves him in this condition pending his future needs. Hunting with him, as with men, often yields little return. He has long periods when luck is rotten, and other periods when he succeeds in bagging more than his immediate needs require. Knowing him as we do, we can scarcely imagine him permitting a large, sleek squirrel to parade past him unhailed—he would surely bring his magic wand into play. It is known to men of science and to laymen as well that the black wasp possesses some mysterious power of reducing his prey to a state of complete unconsciousness—keeping them in such condition for months, during which time they neither die, revive, nor waste away. The only point at variance between the college master and this unschooled old master is the method by which he accomplishes this unusual feat. Scientists contend that he administers an opiate—Uncle Dave insists that he hypnotizes somewhat after the fashion of the rattler. Then we take just one additional step to arrive at the conclusion—if the spider's victim will sleep indefinitely, then why not the squirrel or rabbit?

If the reader is convinced, from the evidence adduced in this volume, that the rattler possesses the power of hypnotism, then is it unreasonable to believe that he would let anything fit for food go by? Why not hypnotize every squirrel and rabbit which chanced to pass his way, cover them with litter, and return for them when his needs required? Animals in a state of suspended animation do not waste away at a very rapid rate, the functioning of the major organs of the body being reduced to the lowest level required to sustain life. The casual observer would judge them to be dead. In cold climates the cold itself automatically brings such state upon the bear, but when the warm days return he emerges from his place of hiding, somewhat reduced in weight, but thoroughly fit, and otherwise prepared to resume his normal activity.

We leave this thought with the reader, together with the assurance that this keen old observer, to whom we are indebted for most of the subject-matter contained herein, will continue his investigations until such time as his findings of fact are

definitely accepted by men of science, or are by them shown to be untrue. A mere shrug of the shoulder accompanied by the half-contemptuous remark, "sounds fishy," would scarcely impress Uncle Dave.

While he claims no credit for this particular observation, and cannot vouch for the truth of it, yet he stands convinced because of the reliability of the friend from whom he learned of the occurrence. When two rattlers have occasion to fight over a mate, as they often do, the rules of the contest absolutely preclude the use of their deadly fangs. In this particular they are decidedly more decent than men. While the latter boast of their culture and high morality, they are eternally engaged in destructive wars, out of which little is to be gained that is calculated to render their lives upon earth more tolerable. The rattler religiously refrains from doing any permanent injury to one of his clan. They settle their differences by resorting to more praiseworthy tactics. Doubtless they reason that their own enemies will sufficiently decimate their ranks without they themselves joining in a slow process of self-extirpation. This friend was hunting wild turkeys during the early fall. In the dense river swamp he was busily engaged stalking a flock, utilizing his turkey call from time to time as he crept noiselessly through the underbrush. Other than the call uttered by the turkeys, and his occasional reply, there was a deathlike stillness pervading the entire swamp. His attention was finally attracted by a noise coming from the farther side of a large growth of palmettoes. The strange nature of it puzzled him—he could not quite determine the cause of it. Though of much less volume, the sound slightly resembled that of two he-goats paired off in combat. Being at last overcome by curiosity he called off the turkey hunt until he might satisfy his mind as to the source of this peculiar noise. When he drew near to the spot from whence the noise seemed to emanate, he witnessed something he had never before seen, neither at any time since. He had never suspected anything like it. Two rattlers were staging a rather furious combat. Their mid-sections were twisted together. Their tails and necks were free from the twist and they stood in an upright position, hammer-

ing each other with the points of their noses. They appeared to take no notice whatever of his presence, which afforded him an opportunity to discover the cause of the disagreement. Conveniently near he found a female rattler, coiled and patiently awaiting the result of the contest. She would serve the winner faithfully, be he her mate of last year, or his challenger. She owed a duty to posterity and took that duty rather seriously. Her progeny would always have their enemies, consequently it was imperative that they remain strong. As free from sentiment as nature may prove herself, nonetheless her laws are effective, since by eliminating the weaker ones in such manner, the strong always father the coming generation.

Such process of eliminating the unfit is by no means limited to reptiles. By a somewhat different process, certain migratory water fowl resort to the most cruel method of eliminating the unfit of their kind, before the flock ever becomes burdened with their presence and care. The process is different, to be sure, but the objective to be attained is the same. They build their nests near the lakes and some height from the ground. When the young have attained such physical development as will enable them, in their mother's opinion, to swim, she tumbles them out of the nest with her beak. If the fall kills them, then well and good. Those who survive the fall will be taken down to the lake for swimming lessons, as well as to be taught something of the art of fishing. Consequently, when the time comes to make the long flight South the flock is not impeded by reason of weaklings.

While the story was entirely new, we could readily see that the many points involved were entirely reasonable. That they do use their heads as weapons every one knows who has cultivated much of an acquaintance with them. Dig a hole in the ground and drop one into it. It will be observed presently that he commences pounding the sides of the hole, presumably in the hope of finding a soft entrance leading into a side cavity, whereby he may make his escape.

We have encountered many who were wholly unacquainted with the ways of the serpent who learned this one secret by losing a rattler they felt confident they had marked for their

own. Finding him in the doorway of a gopher hole, they would block his exit with care, intending to return the following day with spade and dig him out. To their surprise they would learn, on their return, that he had dug himself out first. Thus trapped and left to his own devices he will lose no time drilling a round hole through the earth, thus evading his captor.

The python finds his hard beak a convenient weapon with which to subdue his prey. Suspending himself from a limb overhanging a trail through the jungle, he delivers a blow with such force as to take all the fight out of the average animal. Then, before he can completely recover from the shock, his bones are all crushed.

As we listened to the details of this rather unusual combat, considering the posture of the two rattlers, we could not but reflect over the incident, vainly endeavoring to establish some connection between this habit of the serpent and the caduceus, that ancient emblem, dating back to ancient Egypt and Greece. Previously we had treated the subject very lightly—never for an instant did it occur to us that artists of the past had accurately depicted an actual event, but rather regarded it as a bit of the creative genius of some artist or craftsman possessing an overstimulated imagination.

It is a matter of common knowledge that the rattler is more in love with dry land than with water, but anyone who fancies himself safe from their menace while out in the water would do well to revise his views on the subject, since they swim lakes, ponds and rivers with as much ease as a duck, and might be encountered almost anywhere. They are capable of inflating themselves like an innertube. Their buoyancy, therefore, enables them to devote all their energies to swimming, and none is consumed in the process of keeping afloat.

Uncle Dave's war, sport, or pastime, whichever one might elect to term it, is by no means without its hazards, as the reader might readily surmise. The rules governing the game are by no means as liberal as that of baseball—one strike, and you're out.

When a sufficient inspection of one of these holes has been made, and his telltale signs warrant the conclusion that such

a dugout has a tenant, then comes the dangerous task of locating him. The danger is somewhat remote, provided he is inside the hole, as would be the case during cold or rainy days, but on warm winter or spring days he delights in coming forth from his damp quarters and taking his sun bath. In doing this he employs all his serpent cunning to the end that no possible passerby may discover his presence. First, he shuns with meticulous care all holes with barren surroundings. Occasionally he takes up a position in front of his hole to sun himself, but only in cases where the front yard is ideal but the back yard too barren to enable him to hide himself. While he endeavors to cover his tracks like a spy, he will leave some sign which the trained observer will take note of. An occasional heavy rain during his period of hibernation will serve to obliterate all sign, but should rain fail, then he takes no chances—he does not like the idea of being betrayed by his own markings upon the ground. Hence he slides quietly away, taking up residence across the branch on another hillside, or maybe some distance away on the same knoll.

Such tactics are often the cause of the most skilled hunters excavating a dozen holes before they finally come upon the culprit who has been the cause of them thus laboring in vain.

Once it has been determined from the fresh sign encountered that the rattler is about his premises, then comes the thrilling task of finding him—an undertaking fraught with the greatest imaginable danger unless one has been painstakingly coached by some person thoroughly conversant with his manner of life. The thrills to be had lion hunting in the wilds of Africa surely rate first by the barest margin, if danger and difficulty of detection are to be considered as part of the excitement. On one occasion we witnessed one fully six feet in length and weighing eight or nine pounds hiding underneath a sheer deposit of wiregrass little larger than an average size straw hat. He was so nearly invisible to the human eye that the most skilled hunter would have passed him by time and again without discovering his presence. He delights in tucking himself away in a deposit of dead wiregrass. When enemies come near he often thrusts his head and neck outside the grass to observe

every movement of those seeking him. Due to the nature of the markings about his head and neck, or should we say lack of markings, these parts of his anatomy are about as nearly invisible as anything imaginable. The sheerest deposit of grass or straw over his main body will render it completely invisible. Under such circumstances, if one values his life, he must comb every single inch of ground trodden, and at all hazards avoid stepping upon deposits of grass which have not been pried into. The least departure from such practice might very easily terminate in fatal consequences. During this crucial phase of the hunt he dares not move his head, neither dart his black forked tongue, lest it betray his presence.

Unless trodden under foot, or deliberately provoked, he is very docile and slow to anger. Those of nervous temperament, or highly excitable natures, should under no circumstances hazard their lives by engaging in such a dangerous pastime. One has not the slightest assurance that they will not be found standing within six inches of his head before discovering his presence. Under such circumstances it takes a man with cool and steady nerve to pass on without behaving unseemly. To jump like a frightened mule, screaming at the same time, is likely to call forth instant action on the part of the serpent. His reflexes take care of the situation for him, and you are likely to be bitten, when it was his will, purpose and desire to remain at peace.

Reptiles do not trust men, and for good reason. If it were possible for all mankind to adopt a wholly uniform attitude toward them, then an eventual and enduring truce might be arranged. Where the same men work with the same reptiles for long they lose their desire for war with them on sight, and can be handled with comparative ease. If an utter stranger shows up among those who normally visit with him he almost invariably goes into a rage. The following incident serves to illustrate the point. A darkey who was engaged working pine trees in the woodland ran upon one, but, being afraid, passed him by. The reptile crawled into some nearby shrubbery, knowing full well that he had been seen. It finally came to the point that the serpent didn't mind an encounter with the

darkey, they being pretty well acquainted by this time. Eventually the overseer came along and the darkey related his experience. Being asked to look the rattler up for him, he shot the head off him. So——.

This warfare between men and reptiles is as old as the human race, and it is but natural that he should regard the slightest menacing gesture as a threat upon his life.

One whose nerves have been thoroughly steeled by reason of many such previous experiences would pass on out of danger with steady stride, pretending that he had never seen the rattler, then turn back and take him captive, or either make an end of him. To the uninitiated this would appear more like the conduct of a nitwit, but when undertaken with perfect calm, soon becomes mere routine.

We had occasion once to take the lead in the capture of as large a specimen as it has ever been our privilege to view in captivity. He was lying outside the hole on a warm day in early March. He was lithe and full of action. It was an occasion seldom enjoyed to make some really worthwhile photographs and general observations. This, incidentally, being our chief interest in the hunt, we assumed all the real danger, permitting the assistant to stand at a safe distance for the purpose of rendering aid if called for.

Lowering the noose directly in front of his nose, we gave it a few backward thrusts to get same past his large square jaws. Using a stick only one-half the length of the serpent, we were secretly hoping that he would not make a scene. Even while we speculated over such eventuality he dashed with such speed that we lost sight of him. This six-foot stick of dynamite raced through the noose with such speed that we were defeated utterly in our effort to take up the slack in the loop. It became necessary to turn our head quickly and focus upon him again. He performed a semi-circle, going about ten or fifteen feet down the hill, then wheeling suddenly and heading directly for his hole. We had blocked the entrance to his underground quarters with the spade and took up a position almost immediately in front of it. As he sped over the dead wiregrass and litter his "ground-grip" tires literally whistled—"Z-e-e-e-r"—

slithering as he went, thereby getting double traction. Heading straight for our feet he stopped short within three or three and one-half feet of us, turning his head quickly in all directions, looking for his hole which had, to his complete discomfiture, vanished from view (as explained, it had been closed with the spade). He was faced with a situation which required that he evolve new strategy. Being thus outwitted, he sank slowly down into the wiregrass, lying as flat as possible upon it, even bearing upon the very ground with his chin, kidding himself into believing that he had never been seen. Then came our opportunity. Easing the noose over his head and jaws, we succeeded in taking up all the slack. With a firm grip upon him, the end of the short staff was pressed into the ground. With him securely tied, the real labor and risk incident to his capture was at an end. During all this time his general demeanor did not change—he appeared more frightened than angry—the expression of his eyes did not change. He at no time assumed a menacing posture, but was interested only in making his escape.

Growing out of this adventure we gained a bit of knowledge shared by few people, i.e., when occasion demands he possesses real speed. Ordinarily they travel snail's pace. It is so universally believed that their slothful manner of travel is all they have that almost everyone is lulled into a sense of false security.

In addition to his many and varied arts, he is an adept at psychology. When he is encountered in the woodland by those unacquainted with his ways, they usually take note of the direction in which he is crawling as well as the pace at which he is traveling, and then turn aside for a distance of fifty or one hundred feet to get a pole with which to kill him. No sooner than he observes that his antagonist has taken his eyes off him he speeds at the pace of the hare for the nearby underbrush. On the return of the man to the scene, though he had taken his eyes off him for no more than a quarter or half minute, there was no rattler anywhere to be found. Such incidents are frequently being reported, and those victimized by his craftiness spend the remainder of their lives wondering how he managed to perform such a seemingly impossible physical feat.

They have been known to dodge the blow aimed at them and slither up the pole to the very hands of his assailant before the latter discerned fully what was happening. By forming his body into two or more "S's", climbing with his tractor grip and slithering at the same time, he managed to span the distance in the twinkling of an eye, maintaining his balance upon the pole in the process.

It is quite evident that few people are aware of the speed of many species of reptiles. Even experts are very easily deceived. One observer, whom I have no reason whatever to doubt, related having seen a coachwhip outdistance a hare in a fair foot race. As the hare passed him he realized that he was, or appeared to be, in grave danger. The color of the snake blended with that of the dead crab-grass littering the field in which he was working at the time. The above factors, combined with the speed at which this slender snake was moving, proved to be just too much for his eyes—he simply did not see him. Soon the rabbit stopped and commenced crying. Then his mere suspicions became a grim reality—the coachwhip had him wrapped all about.

Insofar as Uncle Dave's experience with them, and the experience of his boys, it has been much safer hunting them than leaving them alone. Two were bitten before his declaration of war, and none since, and it might be added that the closest shave the old gentleman ever experienced was while he was engaged in a perfectly peaceful pursuit. However, he makes no denial of the fact that on more than one occasion he has been literally fanned by the breeze from off "Old Father Time's" whiskers.

Once, in the process of clearing up the opening to one of these holes, he raked the leaves off one's back with ungloved hands. On another occasion, while in a sitting position, digging for one, he arose to find himself sitting upon the one for which he was digging.

Again, thinking the one he was trailing to be in the hole, he lay down upon him, and the rattler did not register the slightest displeasure at the presence of his uninvited bedfellow.

He and a fellow worker were busily engaged blazing a trail

through a dense swamp for a lumber company. Walking up to a stalwart slash pine to make the usual blaze with his axe in hand, he paused, looked straight up the body of the giant pine, placed his right foot upon a slight elevation at the root of the tree, throwing the weight of his body upon the left—"Look out, Uncle Dave!" shouted his companion in excitement, "You're standing on a rattler." Instantly Uncle Dave stepped backward a pace or two, responding without the slightest indication that his emotions were out of control, "Danged if I weren't." Without further ceremony the old gentleman stooped low and removed one of his shoestrings for the purpose of making a noose. With a keen-edged hunting knife he cut and trimmed himself a stocky "shoot" from a nearby cluster of tupelo gums, and was busily engaged adjusting the noose. "Uncle Dave," spake his companion, who had by this time somewhat recovered from the terrible shock he had just received, "Shorely the Good Lord mus' be awatchin' o'er ye." Uncle Dave was busy by now placing the noose over the rattler's neck. The reptile showed no sign whatever of anger. To the above remark Uncle Dave responded very simply, "Them things jes don't like the smell o' some people."

During the Revolutionary War, and before the United States flag with its stars and stripes was approved as our national emblem, some of our colonial soldiers fought under a flag with the likeness of a rattler delineated upon it, together with the admonition, "DON'T TREAD ON ME." Now, to the average person that is splendid advice, but Uncle Dave takes orders from no rattler—he'll tread where he jolly well pleases.

On one occasion to which reference has been made above, he had his closest call. Diamond-backs were far from his mind. He and a co-worker were bent upon finishing a job of "chipping" some pine timber along the lowlands adjacent to a small river. Amidst the pine timber was a liberal sprinkling of southern cypress, the limbs of which were draped profusely with tufts of Spanish moss, swaying rhythmically with the breeze. There had recently been tremendous downpours of rain, with the result that the lowlands were flooded with the

deluge which the normal channel of the river could not accommodate. Uncle Dave was leading the way as the two churned along the cattle trail through the underbrush. More than once he had gotten his legs fouled with long tufts of moss which had lost its grip upon overhanging cypress limbs and had fallen into the water. "Another strand of moss," he remarked to himself as he drew his right leg along through the water with difficulty, but his friend in the rear had different ideas as to what was impeding his progress—he was looking directly down upon Uncle Dave's lower extremity, and what he saw caused his hair to stand on end and his eyes to bulge and shine like peeled onions, while his lower jaw dropped down to an abnormally low position. He had a feeling that his blood had been heavily charged with powdered frost. He was speechless, and even if he had possessed the power of speech, and had thereby caused his companion to come to a standstill by telling him of his predicament, it surely would have brought upon him fatal consequences. This is an example of what rare presence of mind one engaging in this pastime should possess if they are long to survive the hazards of the game.

Forming a ring about Uncle Dave's right leg was a five-foot diamond-back. Each time he would "park" his right foot to advance the left, the snake would rear his head, mouth wide open, and with fangs exposed, make ready to deal him a deadly blow. Just at each fatal moment Uncle Dave would, as he walked leisurely along, advance the menaced leg, with the result that the rattler would be dragged beneath the surface of the water. Just how long this situation continued the observer could not say with any degree of certainty—he was paralyzed with fear. He knew well that if he screamed a warning to his pardner that he would stop to survey the situation and then the worst would happen. Finally, to his relief, Uncle Dave chanced to look down to see if he would ever rid himself of this troublesome moss. He leaped like a jungle cat, thereby extricating himself from the coil of the snake.*

Anyone being bitten in any rural community by one of these reptiles produces somewhat the same effect upon the morale of the residents as the raiding of some small village of Africa

*See sketch, page 126.

or India by a man-eating tiger. This often happens in these jungle countries, and the beast usually makes his getaway with his hapless victim which oftentimes is an infant in the cradle. Men tread with great caution both by day and night, and for weeks avoid going forth after nightfall unless urgent necessity drives them forth. As with the villagers of Africa or India, you can always count upon the fear subsiding as the horrifying occurrence takes on age, but the details of the tragedy will be related for two or three generations, never losing any of its shudder-provoking qualities.

We recall one particularly pathetic occurrence of the kind, within the circle of our friends. Any such tragedy is always to be regretted, to be sure, but particularly so in this instance by reason of other related circumstances. A blind old gentleman, in extreme old age, lived near a green bayou along a small river. He had never known ought but poverty, and withal a pious and venerable old gentleman. One of his sons, a mere lad though he was, had completely won his rough old heart. He was so solicitous of his father's welfare that he gradually, and it might be said almost unconsciously, assumed all the duties which his father in his blindness was compelled to call upon some other member of the family to perform. It was in early July. The blueberries in the bayou were ripe, and the season having been a particularly favorable one, they were both plentiful and luscious. It was felt that inasmuch as a beneficent providence had supplied these good things in such abundance almost at their door, it would be criminal folly on their part if they did not go forth and garner them, that their larder might be full during the long months of summer, fall, winter and spring. Like the dutiful son that he was, the young chap went forth with the party to perform the task the father had assigned them. Their labor was yielding a return which, if looked upon for long, would produce an uncontrollable flow of saliva—buckets full and buckets full of berries so blue that they were almost black.

This young fellow was walking along a fallen pine log, which rested slightly off the ground. The loose bark suddenly peeled off, letting the boy down on the ground astride the log.

Whatever Fate it is that determines men's destinies decreed that he should fall directly into the coil of one of these brutes. Immediately came the whir-r-r, accompanied by a swish and sickening thud. No member of the party need be told what had happened. The lad fell to the ground, not by reason of the paralyzing effect of the venom, but rather by the sheer force of the blow dealt him. He arose quickly, only to be dealt a second blow which threw him to the ground again. Arising once more, he took the third and final stroke. This time he failed to regain his feet. The other children quickly centered about him, forming themselves into a human chain, and reached him a hand that he might be drawn away to a place of safety. The remainder of the story need not be told.

On occasions such as this, when the last rites had been paid this unfortunate chap, men talked together in subdued tones. It is always the consensus of opinion that the county, state, or the federal government should take action. Somebody should do something, but it becomes the age-old story of what is everybody's business is nobody's business. Subsequent to this unfortunate occurrence came the attack upon Uncle Dave's sons. These tragic incidents so worked upon his mind that he finally reached the conclusion that, regardless, he would undertake the task himself.

Men of the community, neighbors and friends of the stricken family, conceived the idea of burning the old bayou, which afforded him almost perfect protection.

Now after this fiery tempest had spent itself, few casual observers, viewing the scene of it, would have voiced the opinion that such a creature could have escaped all this fury unscathed. The tallest living trees were seared to the topmost boughs. The smaller ones, including palmetto and underbrush, were reduced to heaps of bleached ashes. It being dry weather, most of the topsoil, composed almost wholly of decayed vegetable matter, had been consumed down to the natural soil. Yet the trail of the rattler pointed unerringly to the fact that he had escaped without injury. Fire had been strewn entirely around this dense jungle spot, leaving him seemingly without any possible avenue of escape.

To Uncle Dave it was readily understandable. He had had an experience once which served to lay bare this old wizard's strategy. He and his boys had gone hunting for them once during the winter months when the whole earth was all but inundated by reason of continuous cloudbursts. The whole face of the earth was so soft by reason of these continuous rains that the sod would quiver for several feet around when any member of the party stamped heavily upon the ground. The gopher holes were filled to overflowing. Severe cold had not followed these rains as ordinarily happens during winter months, so he reasoned that they would be lying out of their holes sunning themselves in this spring-like sunshine. His reasoning proved to be well founded. They had doubled and trebled their normal catch during this balmy period of winter weather when the rattler's quarters were rendered uninhabitable. Two factors were working in the old gentleman's favor just at this time, and he was not the type of person to miss such an opportunity. Much to their surprise, one large fellow determined that he would not be taken captive, so made a lunge for his hole, slithering all the way to the bottom of it, leaving the pool of water a creamy color and the surface frothing with yellow foam. Seating himself upon a nearby log, and with absolute calm, he said to his boys: "I suppose we can rest out here better than he can down there." So saying, he had one of them prepare a noose and "ring" the hole of water with it. Soon the water boiled violently and the old villain's uninviting countenance surfaced through the foam in the very center of the noose. One quick, firm jerk, and he had the halter on him. Having observed all this, it was no difficult matter for him to follow the mental processes of the one which fanged his neighbor's son gathering huckleberries. In these spring heads and bayous are always found spots where subterranean streams surface. Falling leaves and other decaying vegetable matter eventually transforms such spots into an impenetrable morass. The rattler had simply availed himself of the protection it afforded until traveling became safe and comfortable over the ash deposit left in the wake of the fire.

On another occasion a number of imprisoned rattlers were

left out in the open in a box with a watertight bottom. During the night there came a downpour of rain followed by intense cold. In the morning they were found coiled peacefully beneath six inches of water, completely imprisoned by an inch of ice on the surface of the water. Placed in a warm spot the ice soon melted and they crawled forth to sun themselves. Whether or not he is so classified by zoologists, he would appear to answer the description of a true amphibian. They have been found fifteen or twenty miles out on the high seas and getting along very nicely.

In many parts of the West the small black rattler, when the cold of approaching winter causes them to abandon their hunting and seek a place of hibernation, may locate a spacious cave in the rocks. They come for miles around and thousands of them share the comforts of a common rendezvous. The ground near such place of hibernation may be literally covered with them. Conditions along the coastal plains of Georgia are decidedly different. On rare occasions two may form a dual-occupancy arrangement, and three have been found in one hole. Then a dozen may be found in a single square mile of territory. But, generally speaking, they must be hunted down one at a time, and it is indeed a game of hide-and-seek. Sometimes Uncle Dave will hunt all day long without so much as finding the trail of one. On other occasions, when all factors happily combine to favor him, he may bag a dozen large ones. On such occasions, when friends inquire of his luck, he replies, "They bit well today."* With the above well fixed in mind, the reader will gain a comprehensive idea of the difficulty of tracking down the diamond-back as well as the labor and time which must have been expended tracking down three hundred or more of these killers. This old gentleman possesses no land of his own, yet he has rendered to others a service which could not be compensated for in dollars and cents. About the only compensation he has received for his labors thus far is the trifling sums paid him by operators of snake farms. He does not, however, pause to lament this fact, but continues the prosecution of his private war, notwithstanding his seventy-five years, semi-deafness, and seriously impaired vision. He has trained

*See photographs, page 132.

a small army of hunters, among whom are his four sons, that they may carry on the war when his vision has become so poor as not to warrant incurring further risk.

His labors were on one occasion rewarded by bringing in alive such a splendid specimen that he conceived the idea of keeping him in a screened box for a time that his friends might come and view him. Finally this became tiresome to the ladies of the household, so frequently were they interrupted from their domestic duties.

The last person to view him alive was an old darkey who came up out of a nearby woodland where he had been "streaking" his turpentine trees. He had imbibed rather freely some of the contents of a flask containing his favorite "snake-bite remedy"—raw, unrefined, Georgia corn liquor. Having viewed the rattler for some time, he turned to go away, but paused and inquired: "Miss, you sez you wants dis snake kilt?" The lady reaffirmed her intentions of having it done, but without the slightest idea of the thoughts that were taking definite form in his mind. Turning back, he picked up the box and emptied its deadly contents upon the ground in the back yard. Leaping upon him with the suddenness of a wild Rocky Mountain goat, he stamped the life out of him in less time than it takes to relate the story, while the lady stood aside, horrified, breathless, and too paralyzed to speak. After regaining her composure, but still under the influence of uncontrollable rage, she said: "Why, you crazy man, what on earth do you mean? If you are so anxious to die, then please go back into the woods. If the sheriff should find a dead man in my back yard, he might want me to do some explaining to a jury." Such a stinging rebuke served somewhat to sober him, and he said, apologetically, "Miss, d'as de way I allus kills 'em, an' I nevah is bin bit yit."**

We have read many articles by herpetologists, or reptile experts, holding forth to public ridicule the contention of laymen to the effect that some serpents will, in time of danger, swallow their young. They have, so they say, successfully exploded such myths. All they have offered, insofar as the writer is aware, has been purely from a standpoint of theory, such

**See sketch, page 126.

theories being diametrically opposed to many reputable witnesses personally known to the writer.

From early youth we felt disposed to believe the laymen's contentions due to the fact that they all followed the same general trend. Many to whom we are indebted for these stories had spent their lives in territory heavily infested by these reptiles, and surely they had every reason to know. As we viewed it, there were too many reports to admit of this being mere creations of their own imagination. We had read all that scientific men had to say on the subject and finally reached the conclusion that if anyone should know the whole truth it should be the layman who had spent his life among these creatures. But to find a person who had been actual witness to such an occurrence proved a task requiring great patience—it proved as elusive and difficult to lay hold upon as the proverbial pot of gold at the end of the rainbow. During the time we were in search of convincing testimony we pursued many a will-o'-the-wisp. But it proved to be one of those myths which appeared destined never to be crushed to earth to rise no more. Many investigations were abandoned for the reason that we were unable to contact parties actually making the observation. We did not want any hearsay evidence. By chance we came upon two highly reputable persons who had actually witnessed this unusual feat. Though the whole scientific world holds to contrary views, we are willing to present this to the reading world permitting them to render final judgment. We reproduce herewith two affidavits made by eye-witnesses exactly as they were given to us:

Saint George, Georgia
November 24, 1941

To Whom It May Concern:

This will inform anyone interested that I was born and reared in Charlton County, Georgia, and have spent my entire lifetime in close proximity to the Okefenokee Swamp, in a region heavily infested with diamond-back rattlesnakes. I am now thirty-three (33) years of age, and for a considerable portion of this time I have acted as caretaker for a large tract

of wild land, consisting of eleven thousand (11,000) acres, near the swamp. As a part of my duty as caretaker I am eternally vigilant in exterminating the diamond-back, and due to this fact have had opportunity to make some rather interesting observations, some of which are made mention of below:

Once I came upon a rattler at the opening of a gopher hole. She immediately sought refuge in the gopher's abandoned home, which necessitated some digging. When I came upon her, both the mother and the male were present in the bottom of the hole, together with eighteen little ones running loose in the "dug-out," all of them about seven inches in length. When all of the twenty had been slain, I was amazed to take note of two more little ones crawling out of the mouth of the mother.

On another occasion, while in pursuit of my daily duties as caretaker of the above-described property, I was attracted to a noise I was not accustomed to hearing. It very closely resembled the blowing, or hissing, of a goose. It was finally located and proved to be a large diamond-back rattler blowing in this manner to attract the attention of her young, who were responding beautifully. She was lying straight along by the side of a pine log with lower jaw resting upon the ground, her mouth wide open, and throat greatly distended, while the little ones went slithering along through her open throat into an inner receptacle. I witnessed six of the young crawl through her open throat, all of them about seven inches in length. When she had been killed, I opened the carcass with my knife and found eighteen of the young inside her.

(Signed) BRUCE THOMPSON.

Sworn to and subscribed before me this, the eleventh day of December, 1940. (Signed) L. N. Norman, J.P. Justice of the Peace, 59th District, Charlton County.

Mr. Thompson is highly respected and would be believed by anyone who ever knew him even though he made the statement merely on his honor as a gentleman.

If the above affidavit does not convince the reader, then careful attention should be given the one below. The affiant

spent twelve years of his life as prosecuting attorney for the Waycross judicial circuit of the state of Georgia and is now serving as representative in Congress for the eighth district of Georgia. This should speak for itself:

Douglas, Georgia
May 27, 1940

State of Georgia, County of Coffee:

To Whom It May Concern:

I am forty-seven years of age. Was born in Charlton County, Georgia, within three miles of the Okefenokee Swamp, and have lived an outdoor life practically all my years, and in territory heavily infested with the southern diamond-back rattlesnake. On many occasions I have been witness to their varied acts while in the wild state which indicate an intelligence and cunning which almost baffles human understanding. I consider the following incident to be very decidedly the most interesting observation I ever made:

At the time spoken of above I was alone in the timbered lands. Being fatigued as the result of the long jaunt I had taken, I sat down to rest and remained on the spot much longer than I had anticipated, remaining quiet and practically motionless all of the time. Finally my attention was attracted by a noise among the leaves and litter with which the spot was covered. Looking in the direction from whence the disturbance came, to learn the cause of it, I discovered a female rattlesnake crawling along, directly towards me, accompanied by her family of thirteen little ones, scurrying here and there, completely surrounding their mother. She was evidently surprised as I when she came suddenly to a realization of the fact that she was in the presence of a human being, her most deadly enemy. She lost no time sounding the necessary alarm for the benefit of her little ones. This happens to be the only point in this remarkable observation which I do not happen to recall definitely—just how she attracted the attention of her family of young, but as best as I recall, she pounded upon the ground with her nose several times. Then, resting her chin upon the ground, she opened her mouth wide, distending her throat to

several times its normal size, and the little fellows came slithering into her stomach just as though they were entering a hole in the ground. Having the little ones securely tucked away inside her she made ready for the battle in which she realized she would soon be engaged.

Procuring a suitable stick I struck her with violence, but did not inflict a fatal blow the first time. To my surprise, she heaved a time or two and rolled them all out upon the ground. When I had finished with the task of killing the mother I counted the little ones, and the above statement as to the number of them was verified by counting them again. They were about seven inches in length.

(Signed) JNO. S. GIBSON,

Prosecuting Attorney for the State of Georgia,
Waycross Judicial Circuit.

Sworn to and subscribed before me this, May 27, 1940.

(Signed) M. L. Preston, Notary Public, State of Georgia,
State at Large. (Seal)

I had occasion to question a third observer of this particular occurrence, and admit my own surprise on learning that the mother rattler did not employ exactly the same tactics on either of the three occasions. This observer stated that she employed her rattles as a means of attracting the attention of the young, not whirring them volently, but by a single click at the time making a noise somewhat resembling a hen calling her brood—"chick-chick-chick-chick." Such, however, should not be employed for the purpose of impeaching the testimony of the other two witnesses. It rather confirms what has been related hereinbefore, namely, that the rattler's storehouse of tricks seems never to be completely exhausted.

In the light of this testimony it would seem that men of science should abandon their present contention, unless they be literally obsessed with a passion for bolstering up tottering theories. When we came into possession of this valuable information we stood convinced that similar stories filtering in to us all through life were likewise true. There is little wonder that such stories are universally denied, since it is very doubt-

ful if more than one person in a million of those living in infested territory will ever be witness to such a rare occurrence. To admit that it is rarely observed is not admitting that it does not occur.

We once read an article in a splendid publication having a circulation of approximately one and one-half millions of the intelligentsia of the nation. The author of the article had evidently read all that was ever recorded on the subject, and consequently knew. This particular "pet myth current among laymen" was set at nought, wholly upon the theory that if swallowed they would surely be destroyed by the digestive juices of the mother's stomach, or be smothered before she could transport them to a place of safety. If they passed successfully through both these dreadful ordeals, then they could not possibly regain the open again due to the fact that the upper end of the mother's throat are to be found so many briar-like thorns, all pointing downward.

It has come within my own observation and experience that they do not suffocate so easily. I once saw one dug out of the earth where he had been imprisoned in a very small cavity for three and one-half months, being none the worse from the experience. The mother rattler is capable of distending her throat to such unbelievable proportions that a bountiful supply of fresh air can be readily admitted when needed.

In substantiation of Uncle Dave's contentions that mated rattlers keep in touch with each other through the aid of their sunset and dawn call, we offer this further item of testimony. The old darkey to whom we are indebted was part Seminole Indian, consequently good on observation. He was nearing eighty years of age and had spent practically all of his life following outdoor pursuits. Opportunity was never afforded him to exchange views with Mr. Nettles. He knew of his own knowledge that the rattler sings his song each night between sunset and dusk and at the dawn of each day. He recognized it when he heard it, and on such occasions would locate it definitely with the idea in view of trapping the singer when he again chipped boxes in the vicinity. Already having this fellow marked for destruction, when he next chipped his trees he

would depart from his usual procedure as he again approached the spot where he knew him to be. He would pursue the same general strategy as a pointer dog locating birds. When an experienced bird dog knows rather definitely the location of a covey of quail, he completely surrounds this spot for the purpose of verifying his belief, then getting the wind on them he proceeds to split the circle, and there you are. This old Negro would, with the idea in mind of confusing the rattler, disregard his usual order of chipping and would work boldly through the area where he knew the rattler to be. This would serve the purpose of throwing the rattler on the defensive. As a counter-maneuver, the rattler would start crawling, but the old Negro had become somewhat of a strategist also and would, to offset the rattler's move, start working in a large circle, gradually drawing in toward the center. Such tactics on his part seldom failed to bring the two together, to the rattler's complete discomfiture.

During his long years in the open, he came upon a female rattler which had swallowed her young, seeing that a fight was eminent. He was carrying his ax along through the woodland, holding it by the end of the handle with his right hand, jumping it along the ground as he advanced. Suddenly he found himself near the coil of a rattler, preparing to strike. With lightning-like speed he jabbed upon the coil with his axe, leaping for his life at the same instant. The sharp edge of the tool landed squarely upon the neck of the reptile, severing her head from the body. There before his eyes transpired an incident which he had heard since boyhood, but had never had occasion to witness. The small rattlers came running out at the end of her severed neck.

On the occasion to which we shall presently refer, the old wizard had a feeling that his quarry had definitely and for good eluded his watchful eye. He had trailed him over newly cultivated land and into a rough spot of ground in the center of his cornfield. There had once been a rail partition fence entirely across the field, but both ends had been torn out and the rails used elsewhere on the farm, leaving a small sector of the fence in the center of the field, with newly tilled soil en-

tirely circling it. The ground surrounding this section of the fence was completely covered with briars, grass, broomsedge, volunteer plum shrubs and sumac. As a precautionary measure, and to reassure himself that he had the rattler placed definitely within the small area, he made two or three trips around the spot, returning to the trail he had followed. Finding no trail leading away from the locality where he was confident he would be found, he commenced his painstaking search, and a painstaking search it later proved to be. Over and over the same patch of ground he peered, combing every square inch of it with a stick, up one side of the fence and then down the other, then returning to the starting point and repeating the process. Many times he would have abandoned the search as hopeless, had he not known positively that the reptile was tucked away in a concealed corner, observing his every move with black, beady eyes. Like the professional soldier who makes the terrain of the country aid him in fighting the battle, when Uncle Dave has one cornered, he is often called upon to abandon all strategy formerly employed and to adopt wholly different tactics, all depending upon the "lay of the land." The nerves of the average man would, just at this junction, have failed him completely and he probably would have fled the scene, but not so with one so skilled in his art as this old gentleman whose nerves have been long tempered for just such occasions. Finally, out of patience, he mumbled to himself, "Well, I reckon I will find you." So, selecting a small pole, he mounted the topmost rail of the fence. Walking along slowly, looking directly down upon the ground, searching every inch of it until he finally located him. The serpent had stretched himself along by the side of the bottom rail. It was flat and partially buried in the soft dirt so that he was lying as much upon the rail as upon the ground. The rail having gone almost to decay, with resulting discoloration, afforded a perfect background for his dull brown skin. He had deliberately chosen such means to elude his pursuer, and had not this rail provided what he considered perfect camouflage, then he would have coiled himself as is his usual custom.

Had this little fellow not committed this one indiscreet act

he might very well have escaped the penalty of it and lived to become a real rattler. The old gentleman was engaged in weeding out his rough rail fence row near the barnyard, and with five-pronged pitchfork was throwing the weeds over the fence into the "rough." The old "biddy-hen" and her brood were following along behind him scratching and garnering a bountiful supply of worms and bugs. The little chicks were beginning to cut their wing and tail feathers. One little cockerel had commenced, at a rather immature age, to assert his spirit of independence. He had advanced ahead of all the others where the weeds and briars had not been cleaned out, hoping, perchance, to find more worms. Suddenly he jumped straight up, flapping his wings and cheeping. Running toward his mother, he fell down by the wayside. The old mother hen lost no time going to investigate. Then, according to Uncle Dave, "She commenced one of the durndest fights I ever seed. She screamed so loud, fluttered so violently, and fought so hard, I almost got scared myself." So, going up the fence row to learn what it was all about, he found her trouncing a small two-foot rattlesnake. He had been coiled in the fence jam at the time he fanged the little chick, but she proceeded to straighten him to full length forthwith. With her anger thoroughly aroused, she was suddenly transformed into a fuming mass of feathered ferocity. Employing her thirteen weapons (ten scratchers, two wings, and a beak) with lightning-like speed, the snake could not so much as get organized for a fight. He had flattened himself out upon the ground, from chin to rattles, awaiting the passing of the storm. The old gentleman stood aside while he observed and admired her courage. When her desire for revenge had been somewhat appeased, she returned to her brood, clucking, and with feathers all uncombed. Advancing upon him with a pitchfork, Uncle Dave addressed him as follows: "Why, you durn little fool, ain't ye got no learnin'? Anybody could o' tol' ye not to mess up with an ol' biddy hen." Giving him a sideswipe upon the head with the flat part of his pitchfork, then impaling him upon the five prongs, he proceeded to rake him off his fork over the top rail of the fence, then returning to his work. Quite true! The old

biddy-hen was the true originator of blitzkrieg. Professional soldiers of the present day have merely modernized her art and applied it to the science of war.

When we write of the rattler's art of hypnotism we are not unmindful of the fact that many will be skeptical. Psychology and all of its related branches, of which hypnotism is one, is a highly complex subject—a subject which must be dealt with in the abstract. It is practically impossible to prove anything connected with it. None of the five senses seem able to lay hold upon it, yet the evidence of it is visible everywhere. Much has been learned by dissecting and studying man's mortal being, but when the wisest men the earth ever produced undertake to search for that invisible, intangible power called life—that mysterious divine spark which serves to make the whole of man's mortal form "click," they find themselves up against impenetrable darkness, and the search ends exactly where it began. So when we forsake the study of that which is mortal about man and enter into a study of man's mental processes which we call psychology we are leaving this material world and delving into the mysteries of the spiritual. Why worry, then, that we cannot comprehend it all? Why not accept the thought expressed by Sir Isaac Newton, discoverer of the law of gravitation, as he strolled with a friend upon a rock-strewn beach. Picking up a beautifully polished pebble of varied hue for a moment he gave expression to the thought that such tiny pebble represented all that man had ever learned concerning the natural laws—that an inexhaustible sea of truth lay hidden in the ocean's depths.

If it should finally be acknowledge that the reptile does really possess the power to hypnotize, then may we not treat the knowledge of such fact as another polished pebble from the ocean's depths of which he spoke?

All students of psychology will agree that the human mind wants a reason for almost everything when conscious or awake. It is known, too, that we possess a subconscious mind which operates when we are asleep, and that this subconscious mind does not want a reason for anything, but is controlled wholly by suggestion. The art of putting our conscious mind to sleep

may be accomplished by a variety of means, provided the subject can concentrate his thinking on a given theme to the exclusion of everything else, and at the same time relax completely. This is known as hypnotic sleep, when the subject may be controlled at will and is completely within the power of the one doing the hypnotizing.

This art is unquestionably employed by certain species of reptiles in acquiring their food. Such art is ordinarily referred to by lay observers as "charming," and is resorted to by rattlesnakes and perhaps other serpents as a means of procuring their food supply, such as birds, rodents, and other small game.

INTELLIGENCE OF "DUMB" ANIMALS

Considerable space will be devoted hereinafter to the intelligence of birds and animals, which would appear as straying somewhat far afield from the subject being treated. For this we beg the kind indulgence of the reader. It has been done to afford a contrast between the intelligence of the serpent and other members of the lower order of animal life.

Pity the man who discounts the intelligence of "dumb" animals. In reality they are dumb, and the animal kingdom could not properly aim any criticism at man for such reference, but when we confuse the meaning of the word dumb with the word stupid, as is done by so many members of the human family, then they grossly slander members of the lower order of animal life, many of which are capable of reasoning to a degree comparing favorably with proud man, and in many instances actually outwitting and putting him to shame.

We are indebted to an old pioneer for the following rather brief story relating to his experiences while trapping timber wolves: During his early efforts, when there was no scarcity of this animal, he succeeded in bagging them with comparative ease, but he was driven to the conclusion that among wolves, as among dogs, there was a varying degree of intelligence. It must be presumed that those rating mediocre and those of a low order of intelligence readily fell victims to his cleverly prepared traps, and consequently his bag of these crafty animals was very satisfactory for a long period of time. While it appears too uncanny to be true, yet there was good reason for believing that they were slowly but surely passing word down the line, acquainting every member of the pack with the nature of the man-made contrivances which were so rapidly decimating their ranks, and warning members to beware of them. Surviving members of the pack, which we must conclude were endowed with superior intelligence, inasmuch as they had eluded man's most cleverly concealed traps, finally would not remain content to leave these traps alone. As they moved to and fro in the wilderness in pursuit of game, they would abandon the chase and trail man from trap to trap until he had

finished locating them, then return at leisure and spring the traps, thereby rendering them harmless until man would return, re-bate and set them again. Not content with springing man's traps, they would then scratch earth and straw over the whole of it as if to make a show of their contempt for the trapper and his devices.

To merit the title of leader of the pack, such individuals must be strong, ferocious, bold and crafty: he must be leader in fact as well as in name. He must be worthy to give orders to subordinate members and strong enough to command respect for his authority. It is by no means an unusual occurrence for the leader to plan a deer hunt when they have tired of feasting upon rabbits and other small game. Realizing the fleetness and the endurance of the deer, he plans the chase with as much painstaking care and strategy as a professional soldier. He knows well that a single wolf could scarcely hope to run down a deer without the aid of other members of the pack. He realizes, too, that if all members pursue him as a pack, nothing more would be gained. So when his quarry has been definitely located within a certain area, he places his men on post and starts the chase himself. Each member thoroughly understands the part he is to play in the chase. Just what method or language is employed in stationing his men and giving them their instructions is as much the reader's guess as the writer's. When the leader has begun to weaken and the deer has been driven near a post guarded by some other member of the pack, the leader signals such sentry to take up the chase while he takes time out for rest. In such manner it is a very easy task to exhaust the deer and then all members enjoy venison, which proves a real delicacy and a refreshing change from rabbits, upon which they have feasted so long.

Should the reader feel disposed to attribute every act of the wolf, in which he displays evidence of reasoning processes to animal instinct, it might profit him to consider the following story, which proves conclusively to the writer that they are capable of formulating strategic plans for extricating themselves from situations wholly new in their experiences with men and hounds.

In the foothills and mountains of southern Europe, cattlemen were sorely troubled by reason of the constant and expensive depredations of a marauding wolf that had become sufficiently man-wise to elude all efforts, of whatever nature, devised by man to effect his destruction. Early in life he had met with the sad experience which served to sharpen his wits, and which might easily have accounted for his turning outlaw. A steeltrap had gotten a strong hold upon one of his fore feet and while he escaped from its firm grasp, he left the middle toes of this foot in the jaws of the trap, with the result that he was forever thereafter marked wherever he went, since he left a rack resembling that of some animal with a cloven hoof. Therefore, he avoided at all costs spots which presented the appearance of having been frequented by men. He viewed with suspicion every single spot trodden which bore the slightest signs that a trap might be concealed there. Efforts were made to poison him with tempting pieces of beef and lamb, but no matter how hungry, he would pass all such by. When he made a kill, he would not soon return to the same spot, nor would he eat a second time from the same carcass. Such precautions on his part only served to make his presence in any community all the more expensive to cattle men. He chose for himself only the sleekest and choicest of every flock attacked, and finally acquired the practice of killing for the sheer joy derived from the sport. He was pursued by individual hunters wherever he chose to roam and often by small hunting parties, but his craftiness proved too much for either men or hounds. Men vied with each other for the honor of bringing in his pelt. On a few occasions hunters had gained mere glimpses of him and had even taken a few shots at him from the hip, but always without results.

When the crimes charged to him had totaled thousands of dollars and the fame of Old Split-Foot, as he had come to be known, had extended far and wide, cattle men and lovers of the chase concluded that the time was opportune to stage one of the greatest hunts ever undertaken in their entire region. All the hunters within a radius of many miles were apprised of the plan. When he had again left his tell-tale tracks about

a partially devoured carcass, they knew that Old Split-Foot had abandoned his lair and had taken to the woodland and cattle range again. It was agreed that they would delay the chase until he appeared in a particular region where they felt that the terrain of the country would prove most advantageous to themselves. It brought great rejoicing when he staged a kill in the very region which they had chosen. A broad valley led away to the mountains, narrowing gradually, and finally ending in a deep gorge with walls so steep that no wolf could hope to scale them. Both sides of the valley were fringed with a ridge which afforded hunters on horseback a suitable vantage point from which to view the chase. They counted upon the hounds guarding the broad valley as they drove the wolf before them. All such details were worked out well in advance by the hunters who were to participate in the chase. At their "council of war," to which the wolf was not invited, the plan was carefully drawn, even to the minutest detail. It was not a healthy situation for the wolf, or would not have appeared so had he known what was in store for him at early dawn. The chase, once begun, moved along agreeable with preconceived plans. The hunters and hounds gained contact with the wolf at the broad end of the valley. They were driving him unerringly up the valley in the direction of the gorge. The valley was literally dotted with hounds, spread out like a fan in the direction of the plains from which the wolf had been driven. Seeing that there was no escape for him in that direction, the horsemen, more nearly resembling a division of cavalry than a hunting party, took up their positions, guarding both ridges. When all members of the hunting party had taken up their positions and were riding recklessly toward the mountain gorge, thrilled over the chase, each speculating as to how Old Split-Foot would react to the situation when he found himself hopelessly trapped, they suddenly observed that confusion reigned supreme in the valley below.

Now, the pursued one knew every inch of this ground, but had not invited just this situation. He knew where this beautiful valley would end. He saw both ridges guarded by horsemen. He knew also that to his rear was a legion of hounds.

Something had to be done, and quickly. As anyone can clearly see this had developed into a situation from which ordinary animal instinct would not deliver him. So, slackening his pace until the pack were upon his very heels, he feigned a stumble, permitting every hound to run over him. This proved a master stroke. The dogs had not expected it, while he had planned it with utmost care, and executed it with superb skill. Before the dogs could come to a standstill and to a full realization of exactly what had happened, he had disappeared in a great cloud of dust, back into the open plains, leaving dogs and men thoroughly chagrined.

During boyhood days we had the pleasure of birdhunting with a pointer whose intelligence was so keen that it was not only refreshing, it was downright uncanny. Hunting in such broad sweeps he frequently encountered quail when entirely beyond the range of vision of the hunting party. He would leave the birds undisturbed and go bounding back over the hills in search of the hunters. When he came up with his master he would run squarely into him. On such occasions he would not invite punishment by loitering, but would retrace his course back to the birds at full speed. It did not require a particularly bright hunter to understand that such behavior on the part of the dog was intended to convey some urgent message to his master. Following the lead of the dog he would invariably find him lying down near the covey of quail awaiting the arrival of the hunting party.

On another occasion we succeeded in bagging four quail on the first rise. The dog was unquestionably the best I ever saw in action, retrieving, combining smell with vision and sense of direction. He watched every bird that fell and when the shooting was over would go to the very spot upon which each bird had fallen. We counted four birds as they fell, and were quite sure that the count was correct. The dog had also counted them, and must have been equally sure of his count. When he had recovered three he continued hunting diligently for the fourth bird, but without success. Due to his vigilance, we were convinced that he knew, too, that there was some mistake, but finally he was called away from the spot that we might seek

another covey, or possibly scattered singles which escaped us on the first rise. When we had gone as far as a quarter of a mile, the dog broke away and returned to the scene of the shooting. We called him but in vain. He would not return to the chase. Seeing that he was determined to have his own way in this matter, we followed him, and to our amazement found him scratching at the end of a hollow log. The bird, which had been "winged," was soon recovered, and the dog left the spot well satisfied. Whether or not the reader believes it, the dog had solved two simple problems in arithmetic. First, he added up the birds to four. On leaving the spot he had done another problem in subtraction. The result was, three from four leaves one. He had gone back for the one and recovered it.

The crow, by reason of his intelligence, seems to have merited divine approval inasmuch as he was chosen from among the birds of the air and the beasts of the field to feed the prophet, Elijah, concealed in the mountain fastness, until the wrath of the wicked old queen, Jezebel, might subside. Now the crow has a solution to practically every problem, and an escape from every emergency.

We once knew a family that reared one from the nest, having stolen him from his parents before he acquired his wing feathers. In the process of rearing him, they had fed him milk, and he had learned to like it. When he had grown up, they had unintentionally provoked him to wrath. Lunch had been delayed, and the timepiece he carried in his "innards" told him that it was meal time. Visiting the dining room for the second or third time and observing that little or nothing was being done about his milk, he evidently reasoned that he might find a way to stimulate their interest in him. So, snooping about the kitchen, he observed that one of the young ladies had discarded her class ring that she might knead the dough for the biscuits. Seizing the opportunity, he took the ring in his beak and headed for the open doorway. He was discovered, but too late. Making his getaway, he headed for the timbered lands. Returning a few minutes later, he perched innocently upon the window sill. The owner of the ring won-

dered what motive could have prompted him to commit such a crime—she would have delighted in wringing his black neck. From a standpoint of revenge, such a course might have been recommended, but results would have been lacking. Finally out of the tenderness of her heart, she yielded to a finer impulse and gave him his milk instead. When he had his fill of it, he disappeared across the field and out into the timbered lands, returning presently with the ring, cawing to attract the attention of the member of the family from which it had been stolen and held for ransom.

The vulture has, at times, enlisted the interest of the writer, who has observed for many years that he will not hesitate to alight upon the crossbars of telephone lines, but avoids at all costs loitering about high tension electric lines. We cannot but wonder just which one of his senses reveals the fact to him that death is wrapped up in this whole contrivance—surely it is not his sense of touch, since none of the flock could ever have experienced a shock and lived to profit by the ordeal.

A friend once related to us some of his experiences with members of the fox family which he delighted in chasing. The one of which we write simply became too wise for the hunter and the well-trained hounds comprising his valuable pack. Many are the times when he felt confident he would have him in the bag when the chase had ended, and each time he eluded his hounds as if by magic. At long last he observed that he would lose him in the same area each time. Finally, when dawn found them in hot pursuit of the fox, one member of the hunting party observed him playing about the rosin vat at a turpentine distillery, dusting his feet off with the powdered rosin about the vat. Now, almost everyone knows that this rosin is a deodorant, completely destroying the animal smell, which caused the chase to end at the turpentine plant. The fox seemed to enjoy the chase as well as the hounds, and would invoke this trick only when he had had enough of the chase and wished to elude the pack and have his day of sleep and rest.

Old Bruin, in addition to enjoying the distinction of being the greatest playboy of the forest, is a skilled doctor as well. Most modern medical men would withhold their endorsement

from some of his practices, but such fact would not worry him in the slightest. When he suffers a gunshot wound, he simply pounds black mud from the bottom of some lagoon into the ugly wound. This, it is claimed, stops the flow of blood and cools the fever. A hunter returning from the great Okefenokee Swamp relates having killed a bear which had been suffering from gunshot wounds, which had later become infected with the larvæ of the dread "screw-worm fly." This, incidentally, was a new pest which the bear had never before encountered, a pest which attacks the living as well as the dead. Instinct would have failed him had such been the only guiding influence. He had resorted to a remedy wholly new in the jungle hospital—he had simply pounded the wound full of fresh turpentine gum obtained from trees men had been working. Every living larvæ had been destroyed and the wound was all but healed. Thus his skill compared favorably with that of the average veterinarian.

The following brief story from the pen of a gentleman who had spent much time in the wild, gunning for both birds and small game, deserves to be related and pondered well. This man was more than a hunter; he was an ornithologist of note, interesting himself as much in the life and habits of game birds as he did in bagging them. With dog and gun he had gone out for quail on the day the incident occurred. He had entered a pine thicket by the side of a cultivated field feeling that his chances of flushing a covey of quail were very favorable in the particular locality being hunted out. At the time he entered the wooded spot he had taken notice of a flock of crows on the farther side of the field. He was positive that they had taken notice of himself, inasmuch as he had been walking in plain view of them, and anyone accustomed to outdoor life will testify that they do not pass anything by unnoticed. To his amazement, a single member of the flock followed him into the timbered spot, and when the bird came within firing range he opened up with his shotgun, firing two or three times before fatal wounds were finally inflicted upon him. He was amazed at the queer behavior of the bird, taking notice at the same time that other members comprising the flock had remained at

a safe distance. He could not dismiss the incident from his mind, and finally recalled what another bird expert had related bearing upon the same subject. Then the unseemly behavior of this crow was perfectly clear to him. It was evident from what he saw that this crow had offended against the security of the flock by permitting some hunter to stalk the crow family and take a shot at them while they were down feeding in the field. All who are conversant with the habits of the crow know that they always station a sentry on duty in some tall tree to watch over them, before they alight in the farmer's field to appease their hunger. The average person is also aware that such watchman on the wall who, carelessly, indifferently, or otherwise permits injury to come to those who have trusted their lives to his keeping, is sure to face execution by the flock.

On this occasion it must be presumed that they had held a criminal session of their court and had adjudged him worthy of death. Seeing the hunter with gun conveniently near, he had been ordered to his death, to which he went freely. His only alternative would have been a slow and agonizing death inflicted upon him by the beaks of his fellows, which is their usual method of execution. Had the bird fled at the first shot, which was a complete miss, the hunter might have had occasion to reason otherwise, but the crow came boldly on for the second and even the fatal third.

THE SWALLOWS OF SAN JUAN DE CAPISTRANO

The mystery of why the swallows return to and depart from the old mission at San Juan de Capistrano, at a single flight, and on the same day each year, has proved unfathomable to ornithologists throughout the years. There is little doubt but that they follow a leader, which tends to render more simple some phases of their queer behavior, but how does their leader determine the day with such unerring accuracy? That is where the mystery lies.

But for sheer mysterious behavior, the crow rates second only to the serpent. There exists little doubt but that they have a language all their own, and that their vocabulary must contain many words, entirely beyond the grasp of all the other creatures. A large family of these mystery birds once invited themselves into a neighborhood as permanent residents. Their incessant cawing proved too much of a nuisance of nights to their human neighbors, who ganged up on them with shotguns night and morning. They set all manner of traps for them, explosives, live wires, and what have you, but night after night they returned to keep their unappreciative human friends awake with their noise. When finally the latter concluded that they had them on their hands for keeps, the crows scattered out to the four winds one morning, covering a radius of fifty miles in all directions, and that night not a single crow returned to their roost, and not one so much as flew over the place. What do you make of it all? Like the writer, you must of necessity arrive at the conclusion that they left their roost that morning under a binding agreement to shake the dust of this community off their feet.

It is necessary for the rattler to obtain his food supply as noiselessly as possible, inasmuch as he often does his hunting within hearing distance of man. On such occasions his power as a hypnotist stands him in good stead. If he should catch a rabbit, squirrel, cat, or bird while he was still in possession of all his faculties, then it is by no means impossible that man, his mortal enemy, would be attracted to the spot by reason of their outcry. On the contrary, if he foregoes the use of his

fangs and resorts to his magic art, then they are gently lulled to sleep, and when they awaken—if ever they do—they find themselves in cold storage.

Just what the attraction is, or what the power they wield, has never been determined or explained, either by scientific men, who deny it as a reality, or by the layman—the latter are frank to admit that they do not know. Some contend that the constant quiver of the rattles provides the necessary magic to throw the subject into a hypnotic sleep, or state of suspended animation, while others who have observed his Satanic eyes while at bay, just as sincerely believe this organ to be the source of his uncanny power.

On one of our many thrilling hunts we had carelessly permitted a large rattler to evade our vigilance and get to the bottom of the hole, or den, so that we were having to dig deep for him. We had taken our turn at the spade, while the old gentleman was taking time out for rest. Pausing for an instant, we asked: "Uncle Dave, I was reading an article in a magazine very recently by a herpetologist, or snake expert, if you prefer. He wrote as one who had gone to college and learned all there was to know about rattlers, or perhaps had studied them down at the zoo behind bullet-proof glass. It was his contention that a rattler would, under no circumstances, charge a human being. Do you agree with him?" He gave this very apt reply: "Huh! They'll attack ye like a Spanish bull if ye jes make 'em mad enough. Wunst I knowed a feller—knowed him personal—who come dang nigh gittin' bit jes bekase he didn't know how to handle one when he was being attacked. He, fool like, hit at 'im straight up an' down, an' him a'comin' fer 'im head on. He jest about clean missed 'im—jes' breshed 'im down one side. He drapped his pole jes' in the nick o' time." With no show whatever of superior learning, but with an air of finality, he concluded: "What he ort to o'done wuz to stoop low an' swing at 'im jes' like he wuz reapin' oats with a cradle—ye kin mow 'em down that a-way." Several cases are known to me where men have been pursued by them, but not all of them have been made a matter of record herein.

One old observer who had spent more than half a century out in the wild lands reported an incident which, if it does not prove definitely their power to hypnotize, will surely leave the reader impressed that they possess some other mysterious power hitherto undefined. As he was walking leisurely through the wiregrass he observed a cow behaving in such manner as would warrant turning aside and investigating. She was standing as motionless as a statue, with her nose almost in the grass, but was not feeding. How long she had been standing there was, of course, impossible for him to determine, but it was noted that the herd with which she usually grazed had passed on entirely beyond his range of vision. As he drew near to her she took no notice whatever of his presence. She could not be sleeping, he reasoned, in such a posture, so he struck her lightly with a limb. She jumped, apparently excited, then seemed to come to herself. When he got her on the march she again appeared normal, but he could not dismiss the incident from his mind, so concluded that he would return to the spot and look the ground over. On the straw-littered ground where he had found her with nose almost upon the ground was found a full-grown rattler. So, concluding this old gentleman's story in his own words—"I'm derved if them things can't charm a critter!"

Another trustworthy observer reports an incident like this between a swamp snake and a cat-squirrel. He is called a swamp snake because Uncle Dave has not provided us with a better name. He feeds after the manner of the rat-snake, but lives in the woodland. Brown in color, with a lighter band of brown running his full length on both sides of the spine. He is the terror of birds and squirrels, and can run through the top of a green oak with the speed of the latter. This old gentleman was fishing at the time, and the fish were biting well. At first he paid little heed to the barking of a squirrel in a dwarfed tree nearby, but when he pitched his voice higher up the scale and became so noisy and persistent, he dropped his fishing pole and went into the underbrush to see what it was all about. He found the squirrel face to face with the swamp snake, barking and beating the air with his bushy tail. He looked like an easy

target to the serpent, so he made a lunge forward, catching the squirrel firmly in his jaws. A fight of considerable intensity ensued, the squirrel biting, barking, and scratching while the snake attempted to tie him up in his coil. Finally, the squirrel extricated himself and retreated to the top of the tree, frightened almost out of his wits. He committed the almost fatal mistake of looking again upon the same creature which had so recently menaced him. After he had looked upon his assailant once more, and not for long at that, he returned to the fray. Seeing this, the fisherman remarked in disgust: "Fool squirrel! If it wuz any other enemy in the swamp ye'd run fer the life o' ye, but when ye looks into the eyes of a serpent, it 'pears ye lose all the sense ye ever had."

It was not the thoughts of being bitten which caused Uncle Dave some rather grave concern on this particular occasion. No, it was not that. He had long since conceived the idea that he was born under a lucky star, and therefore not destined ever to become prey for any rattler that ever jingled a bell. The cunning of the rattler involved in this story was simply uncanny, and this was what was worrying the old gentleman—not necessarily his presence upon the farm. In fact, it kept him thoroughly alert and in love with life to realize, or to have the feeling that his enemy was somewhere near at all times. The farm he was cultivating at the time was divided by a graded sand road, and the signs of this intruder were found first on one side of the road and then on the other, but for the life of him he could never find where he had effected a crossing. This state of affairs continued all summer, resulting in great perplexity of mind as he pondered the question. Finally, to put his mind to rest, he took it upon himself to survey every foot of the road just to see if anything might be revealed. The only thing which offered the slightest hint of a solution to the mystery was a corrugated iron drain pipe. It was not visible from the road. Both ends were concealed from view by briars and shrubs. Looked like a poor clue to him, but he would take a look into the pipe, anyway. A careful examination of the sand deposit within the pipe and at each end revealed unmistakably that he had been using it to

effect a crossing each time he had business over on the other side of the road. This being Uncle Dave's first year on this particular farm gave the rattler the edge on him—he had long ago discovered the pipe and saw wonderful possibilities in it. He would use it in making his crossings, thereby leaving no tell-tale sign on the road.

As might well be imagined, the longer the old gentleman pursues these fellows in the wild state, the more he learns of their varied tricks, and the more effective are the tactics he is able to evolve and employ in his war of extermination in which he has for so long been engaged.

When he first learned that, being mated, they call each other at sunset and at dawn, he utilized this information in locating them, to the end that he might be eternally vigilant and observing when in the locality from which the call came. Knowing this, he could then formulate his plan of action. They exchanged calls at the close of the day and at the dawn of another day merely for the purpose of checking on each other's locality of position. Should one or the other not answer at sunset or dawn, then the surviving mate knows that the worst has happened, or that the missing mate had run into danger which necessitated keeping silent. Then this disturbed mate would begin a diligent search for the missing mate, continuing until he or she was found, either dead or alive. Knowing this to be true, then why not tie up one and make use of it as a decoy with which to trap the other? Good idea! He would do just this! He knew positively that where there is one there belongs to be a mate not far away. He knew that the danger and difficulty of hunting out the remaining one was too great, and held forth little hope of yielding any return on his labor. So, when he encounters one about his farm, or while chipping his turpentine trees, he simply removes a shoestring for a loop, cuts himself a little pole, and proceeds to tie him out until he can go for his trapping outfit.

There were two witnesses to this incident, which proves conclusively that the rattler possesses the power to hypnotize small animals to the point of complete insensibility, or possibly unto death. Our informant was riding horseback, in

company with his father, along the wild lands of the Satilla River in Southeast Georgia. The task engaging their attention at the time was that of rounding up some cattle which had grazed far afield. For days they had not returned to the corral. Lest they fall into the hands of rustlers, they must induce them to return to their own grazing ground where they may be more carefully safeguarded. Riding along a lonely trail, they observed a rabbit sitting motionless by the side of the path they were following. At first they gave no thought to him, rabbits being so plentiful, but as they drew near and he took no notice whatever of their presence, they reined their horses in his direction for a closer inspection. His behavior was wholly foreign to the nature of such wild creatures. He was sitting nose to nose with a large rattler, neither of them paying any heed whatever to the arrival of the two horsemen. By this time they had dismounted but were still treated as uninvited guests by both the rabbit and the rattler. One of the men managed to lay hold upon a suitable weapon and struck the reptile a fatal blow. To his surprise the rabbit did not flee from the scene as he had expected. While the two turned their attention from the rattler to the rabbit, discussing such an unusual incident, he keeled over dead before their very eyes—or at least apparently. There was no sign of fang wounds upon him. They were sure that he had not been fanged. Diamondbacks prefer to hypnotize their rabbits, for by so doing they do not put up any struggle or possibly make an outcry, thereby attracting man or some other enemy to the scene. If famished, the rattler will, no sooner than he finds himself within striking distance of his prey, fang them, but does not endeavor to hold them, for the reason stated above. He bets on his keen sense of smell. He knows well that if they should run a distance of a thousand feet that he will be able to follow their trail, unerringly, to the scene of their demise, then have his fill. Father and son mounted their horses and rode away, sorely puzzled concerning the ways of the serpent.

This old gentleman lived in a region, as well as on the same homestead, where his father and his father's father had lived since the Seminoles roamed unchallenged through the primeval

forests and river swamps—a region, incidentally, where anything one can imagine might very easily happen. Reference is made to the lowlands bordering the Okefenokee Swamp. His humble log shack, split rail fence (Abe Lincoln style), and the scuppernong grape arbor situated conveniently near, constituted part of a picture which fitted perfectly into the whole of his domicile. Taking a look beyond his limited plantation, one observed a new and verdant growth of Southern cypress leading on and ever on to that certain point where the earth and sky appear to meet, the same fringing the borders of the great Swamp. Black bear roamed the woods at night, toppling over beehives, devouring the farmers' pigs, committing all manner of depredations—in general, seeking whatsoever he might devour. Pedestrians going forth by night consequently must keep a close lookout for bear, but in so doing could never be quite sure that all was secure behind them. The panther, one of the most ferocious members of the cat family, might still be encountered in this vicinity. The bobcats, with their topaz eyes and Chester Arthur whiskers, might be upon your very heels when least expected. They were eternally stalking men by night, not so much with the thought in mind of staging an attack, but rather that they might keep fit in their art. No matter what their reasons might be for trailing along, it does not give the average pedestrian a very secure feeling to look backward and through the pale moonlight observe a pair of burning eyes peering into his own from such a forbidding countenance.

As the old gentleman involved in this story sat down to his meals each day, his dining room being on the porch, he had an unobstructed view of his cherished possessions hereinbefore described. "Tabby," his old tom cat, usually occupied a seat upon the windowsill, with tail hanging straight down outside, facing the master of the household, waiting for some feminine voice to say, "Here, Tabby," as they placed a saucer full of milk upon the windowsill. But on this particular day Tabby was conspicuous by reason of his absence. In fact, every member of the household took notice of it no sooner than the table had been graced. Taking a look out of the window toward the

scuppernong arbor he was immediately observed, but on this occasion very sorely troubled, seemingly unmindful of the fact that lunch was being served. He was walking back and forth on the top rail of the fence—walking the same rail all the while—occasionally stopping and looking down upon the ground as though he had the impulse to jump down into the weeds and grass with which the fence jams were covered. He was meowing loudly and incessantly, conveying the thought to those observing him that all was not well. His bushy tail was pointing straight upward at the noonday sun, his back forming a rainbow. His evident nervousness, and the very intonation of his voice proved conclusively that his soul was sorely troubled—if in fact a tom cat is endowed with a soul.

One of the boys, sensing his need of aid, laid hold upon the old scatter gun, which was always kept convenient upon a rack over the mantel, and rushed to his aid. Just as he suspected, a rattler was found coiled in the jam of the fence, eyes riveted upon the cat. He had been employing his magic wand upon poor Tabby, and it was beginning to prove effective, but at the crack of the gun the spell was broken, and in the vernacular of the street, old Tabby treated himself to an airing—literally clawing up the earth through the cornfield all the way to the turn row. So, instead of eating his regular lunch that day he came dangerously near providing lunch for an uninvited guest.

The father had gone on a long journey. The mother and her five-year-old daughter were attending things about the house. The boys had been sent to a nearby field to pick cotton. The mother, observing that they were playing too much and working too little, left the child playing upon the porch and went out into the field to administer to the young chaps a “dusting-off.” She remained in the field longer than she had intended, endeavoring to inculcate in the boys, both by precept and example, a more decent respect for a life of diligence. The child at the house commenced crying. She was not crying as though she were merely anxious for the return of her mother, but rather as if some great dread or fear had suddenly possessed her—there was real distress in her cry. The larger of the boys was promptly dispatched to see to the safety

of his little sister, and was admonished to be in haste. Arriving at the house he observed that the child was looking at something upon the brick walk as she drew back against the closed front door, shrinking from something he had not yet observed. Focusing his eyes upon the same spot which seemed to be engaging the attention of his sister he observed a six-foot diamond-back with head reared six inches off the ground, looking intently upon the little girl. Gaining admission to the house by way of the back door, he seized his father's shotgun off the gun rack. On his return to the scene the rattler was making his getaway through the open front gate, having already sensed the fact that the situation was growing rather menacing to his well-being. A well-placed load of bird shot rolled him up into a writhing heap.

Where no attempt is made to keep the diamond-back menace under control, they eventually become highly expensive marauders—not alone by reason of the number of cows, hogs, dogs, etc., attacked, but because of the amount of food consumed as well. By way of parentheses, mention will be made of the fact that one farmer known to the writer, and a small operator, too, suffered the loss of five head of cattle during a single summer, one of the five a fine milch cow worth fifty or sixty dollars. By reason of his great losses he imagined that the corner in which the attacks were always staged was infested with a regular colony of the dread reptiles, but when finally hunted out and exterminated, it proved that a single pair of them had been doing all the damage.

This cotton farmer was having the fight of his life against crab-grass which threatened to completely possess his field of cotton. Labor being short, and being pressed for time, he enlisted the aid of his flock of geese. Every cotton grower knows how they welcome the sight of tender, juicy, crab-grass, at the same time spurning a diet of cotton. Furthermore, they seem to poison the grass with their saw teeth, thus giving the farmer an added advantage over the grass in time of emergency. Geese gather grass diligently from early dawn until the sun gets too warm for them, then they gather into a cool place and gossip until the shadows creep over the field in the cool of the

day. It was a matter of routine business with this particular farmer to conduct a casual survey of his plantation at rather regular intervals. It was not exactly necessary that he nurse any particular suspicion that anything was wrong, but on the contrary to satisfy his mind and to acquire the desired assurance that all was well. Where the field cornered in a low spot down by the river swamp was a spring place with willow trees growing in profusion about it, inside the field. This inviting spot was their rendezvous when the heat of the day drove them from the field. A pool of cool, refreshing water made the spot all the more inviting. Much as they might like it otherwise, birds and small animals will, when they gather themselves together in great numbers and begin to really enjoy themselves, attract a rattler sooner or later who takes his toll of their number. On Mr. Farmer's survey of his field he came upon a dead goose at the spring place, and the sign about the dead fowl afforded the clue as to the identity of his assailant. Had the wings of the goose been closed instead of open, as though in flight, he would have swallowed him with ease. After having killed the fowl he was compelled to push his platter of goose aside and return to the river and seek rabbits and squirrels, of which he had evidently grown tired.

When a diamond-back attains a length of eight or nine feet, which they often do, they would experience no difficulty in swallowing a small goat or lamb, or a twenty-pound pig. Their jaws do not lock, and their skin is as elastic as refined rubber. They are probably the world's most renowned gluttons. A large man, who would indulge himself as freely at the dining table as one of these brutes, would easily consume a half-dozen spring lambs at a single sitting, even then retire from the dining room in a half-famished condition.

In the magazine section of one of our leading papers a writer (an authority on reptiles) proved—to his own satisfaction—that serpents could not possibly disgorge their little ones, even if they did swallow them in time of danger, as laymen contend. His contentions (based wholly upon theory) centered around the fact that on his lower throat are numbers of small sharp teeth, all of which point down his throat. Such, he

reasons, would definitely preclude the possibility of his young making their way upward against such obstructions. Laymen (who, incidentally, did not learn about snakes in college) live among these creatures and are witness to them performing these seemingly impossible physical feats. Their testimony stands irreconcilably opposed to that of the scientist—they see them do these things, and to them such is sufficient. They are not greatly perturbed over the contentions of scientists to the contrary.

VETERINARIAN ERRS IN HIS DIAGNOSIS

Some farmers and cattle men once complained to the writer about a peculiar malady with which their cattle had become infected, describing the symptoms in detail. When their losses continued mounting, and the malady showed no sign of abating they called the nearest veterinarian, who visited their herd, accompanied by their county agent. As I recall, rabies was their diagnosis, but these farmers and cattle raisers had their suspicions. They could not determine the source of the infection whenever another highly prized cow became ill and presently died. The infected cattle would appear first in one farmer's herd, then in that of another. In a herd where the last infection was noted there might be no new deaths for months, but his neighbor would become the victim of this mysterious malady. It was an occasion for genuine alarm when such losses had attained the impressive total of one thousand dollars or more. One farmer had lost a pedigreed bull that cost him two hundred and fifty dollars. There appeared no help—the situation was truly discouraging.

Finally a member of this "suicide squad" took up residence in this community in the capacity of share-cropper. He was illiterate, and knew it. He, therefore, had no desire to criticize the professional verdict of these two graduates of college, but just the same he had his own ideas and opinions, but these he kept to himself until hibernating time. The first winter he hunted in this small community his efforts yielded him a half-dozen large rattlers. Needless to say, the infection quickly subsided. A diamond-back hates a cow and seldom permits one to pass within striking distance without administering a deadly injection of venom. They dislike the odor of cattle, and also live in constant fear of being cut with their sharp hoofs.

Along the banks of the Ocmulgee River, which has its origin in the red hills of the State, and at a point not far distant from its confluence with the Oconee, lived a family of hardy pioneers whose forbears shared the bounty of the river swamps and

lakes with the Seminoles prior to the date of their expulsion at the hands of the military forces of the State. Though not so vast, of course, it was almost as impenetrable as the tropical jungles, and in order to retain title to their domain, together with the freest exercise of all the rights thereof, it was necessary to wage an almost endless battle against their enemies, even after the Indians were made victims of an enforced exodus. Where so much fish and wild game abound, it is only to be expected that the lower order of animal life will not yield to man every vestige of rights and benefits they have enjoyed before man projected himself into the situation. Consequently, during much of the time these early settlers held undisputed sway over "Half-Moon Lake" and its immediate environment, bear, wolves, bobcats, panthers, tigers, water-rattlers, diamond-backs, and the like roamed the region freely, taking such as they chose of what the territory afforded in the way of both wild and domestic animals and fowl, game and fish. So, for one reason or another, it was an endless struggle between these pioneer people and their neighbors just enumerated. As if by way of reprisal for man's invasion of their ancient domain, shooting wild game and hooking fish, etc., some of these fellows would not infrequently make a raid upon their pig-pen, cow-pen, or hen-roost. The most stealthy enemy they were compelled to combat was the water moccasins of the various species. They delighted in sliding about under cover of darkness, particularly on rainy nights, seeking chickens, goslings, ducks, young turkeys, etc., and had it not been for the eternal vigilance of the old watchdog, these settlers would have been unsuspecting victims of many expensive nocturnal forays at the hands of such creatures. It happened at regular intervals that their hen-house would be raided, but due to the resulting confusion among the chickens the trusted old night watchman would give the alarm and hold the marauder at bay until the master could arm himself and come to his rescue. In territory where food was so abundant such fellows grew to unbelievable proportions, and such battles often developed into encounters of the first magnitude in the loneliness and darkness of the night.

It was not, however, during darkness that all such incursions were staged. The diamond-back would take his turn, but seemed to delight in daylight holdups.

The old gentleman now owning the property, while approaching four-score years, continues in the enjoyment of surprisingly good health for one of his age, which might well be expected when consideration is given the hardy stock from which he descended. His battle with his ever-present adversary, however, raged on. On one occasion he was plowing corn in a field near the river swamp. Following close upon his heels were two of his little grandchildren. In the corner of the rail fence he chanced to come upon a bed of young rabbits. Being thus provided with something to engage their attention these two little boys withdrew to the center of the field, just in case these young rabbits developed ideas about racing back to the rough fence row where they were taken prisoner. The little fellows were crying for their freedom, but the youngsters heeded not their lamentations. Nonetheless, their call was heard by another who came to investigate, but not necessarily to liberate. Their game was rudely interrupted when one of the two discovered a large diamond-back just in the rear of the other. The little fellow, being apprised of the danger, did not take time to look back, but seized his bunny rabbits by the ears and leaped to safety. He had been sitting upon the ground with his little pets between his legs, and the rattler had advanced to within a foot or two of him, coiled upon the spot, and with his head reared high out of his coil, was looking for the rabbits whose cry he had distinctly heard from the rough land. Screaming for help, the old gentleman came quickly, but just in time to head him off from the rough land toward which he had hastily retreated.

Though this old hardy pioneer had lived for seventy-seven years along the very edge of this river swamp, he had been witness to only two or three incidents which we consider of real scientific value. Mention of this is made for the purpose of illustrating how very difficult it is to catch squarely up with reptiles putting their secret arts into practice. As a matter of fact, such occurrences are observed so rarely that members

of scientific bodies find it more convenient to brand all such as laymen's myths than to go out into the wild and spend the number of years which might be required in order to see for themselves. The two following observations represent the sum total of what this old gentleman witnessed during an entire lifetime spent in the wild, or adjacent to heavily infested lands:

In a green pine tree near his residence it seemed that all the blue jays from all up and down the river swamp had gathered. They were screaming and flitting from limb to limb as they centered their gaze upon a dense cluster of boughs. Looking with care to discern the cause of their distress he observed a swamp snake, sometimes called goose snake (because of the hissing noise they make when disturbed) coiled about a limb. They were giving him a scolding as they flitted here and there. There was one blue jay upon which the serpent had his wicked eye riveted just at that instant, and this bird continued drawing nearer, becoming less active all the while. Finally he stood practically motionless, and with feathers all disheveled, within six inches of the serpent, looking hard at him. At this juncture the old hypnotist opened his mouth, reached out leisurely and took the bird about the neck. A loaded shotgun prevented a kill, and the doomed bird flew away with the others.

Some writers undertake to explain that birds and animals, under the circumstances just mentioned, are attracted to the serpent by mere curiosity. We would like to call attention to the fact that when a number of birds have been attracted to a serpent, as mentioned above, a lone bird always appears to be the victim of his overpowering influence. The writer would like to insist that if it were mere curiosity that afflicted the lone bird, then why would not all the others be similarly afflicted, especially in view of the fact that they are all of the same species, and necessarily subject to the same limitations, and to the same attractions? We fear, Mr. Scientist, that you will have to explain these things on a more convincing basis.

It was the same species of serpent, but an unfortunate squirrel, on this occasion. The attention of the same old gentleman was attracted to the squirrel by reason of his racing up and

down a large tree, barking and appearing distressed and nervous. He would retreat to the top of the tree, then pause while he looked back upon something briefly. Immediately he would descend. Running out upon a low hanging limb he would stop, look intently upon something while he continued his barking, then go racing away to the top of the tree again. The old gentleman possessed too keen an understanding of wild creatures not to appreciate his predicament, and soon discovered the cause of all his distress. He recalled the incident having to do with the blue jays in the pine tree. Though he held his gun in hand, he elected to permit the drama to continue. Being intellectually thirsty, and possessed of a feeling that something worth observing was about to transpire—well, he would just wait and see. So he stood quietly by and observed. Soon the squirrel's fear began to wane, and he came up within six inches of the nose of the serpent, standing motionless and noiseless. The snake simply opened wide his mouth, reached out with no show of haste whatever, and took the head of the squirrel into his mouth. As in the case of the blue jay, he was saved by a well-placed load of bird shot. It cannot be contended that there was no way of escape for the squirrel, since the limbs of this large tree interlocked with other trees, and he could have left the scene had he so willed. Perhaps it would be more accurately stated if we should say that he might easily have escaped from the danger had he not already lost his power of resolve or will to run. All who have ever witnessed such an occurrence testify that the serpent shows no sign of concern whatever when his intended prey retreats from him—he knows all too well that he will return. Why?

All laymen who have observed such occurrences out in the wild show genuine amazement when told that the scientific world does not admit the truth of it all. Many do not know that the enlightened world would seek to deny such an obvious fact. Some deplore the fact that otherwise good men are taken off to college and educated into a denial of the simplest things of life.

This same old gentleman once had an experience which serves well to illustrate the rattler's power of concentration.

As a matter of fact, he has observed his nature in this particular on many occasions. On the occasion to which reference has been made, one had bitten his hunting dog in the swamp, and he, being unwilling to risk an encounter with him alone and unaided, first carefully marked the spot, and then went forth and enlisted the aid of several of his neighbors. The search was rendered doubly difficult due to the fact that the foxy old rascal had completely buried himself underneath an accumulation of dead leaves and litter, on the very spot where the kill was made. It is a fact known to a limited few that when a rattler has bitten anything he invariably coils upon the spot marking the tragedy. By squirming from one side to the other, pushing the soft earth and litter right and left, he succeeds in concealing himself entirely from view, usually permitting his head and rattles to protrude from among the litter. To those not skilled in the art of tracking them down, he would present no target at all, and would be passed by times without number undetected. On this occasion, however, he had a number of men on his trail, all of whom were fearless as well as informed concerning his craftiness. All members of the party knew what they were looking for, and how to look. They knew precisely the strategy he would likely employ in order to deliver himself from the dire consequences threatening him. Armed with sticks and rakes, they walked boldly into this den of death. Being located, hidden away in the identical manner they had expected, he was drawn forth from his place of hiding with the aid of a potato hook. He fixed his savage eyes upon the member of the party who uncovered him, and as other members of the party drew near he took no notice whatever of their presence. For the purpose of carrying the experiment to its ultimate conclusion, a ring was formed about him, and though other members of the party adopted a menacing attitude toward him, he could not be induced to take his eyes off the member of the party to whom they first attracted. Any hypnotist will admit that deep concentration on the part of the artist and relaxation of the subject are conditions absolutely essential to a successful application of the art. Anyone who has ever observed the serpent taking a small animal would make a competent witness to

the fact that the above-mentioned conditions conducive to hypnotic sleep certainly prevail. Is this fellow, therefore, not the original hypnotist?

Other findings of Uncle Dave have been confirmed by the revelations of this old gentleman of whose observations we write. Once during his seventy-eight years he found the nest of a rattler—turning the eggs out of the ground with his plowshares. Realizing that the one supervising the incubator must be close at hand, he instituted a search. She was found, but much to his surprise did not adopt a particularly menacing attitude, as might have been expected. She rather waited to see if he would not pass her eggs by unnoticed. Many of the eggs were taken home with him and deposited in a sand box. Covering same with a glass window pane he exposed them to the sun just to see if he would have any luck with his baby rattler incubator. Forgetting his experiment for a time, he returned to find his box almost full of the babies. This is at variance with the contentions of scientific men who insist that they are born, mammal style, and not hatched from eggs. We allow herpetologists 50 per cent on this question. The whole truth, as best we are able to acquire a full knowledge of it by long association with lay observers is, they may come into the world by either method. If taken captive prior to laying their eggs they would, in all probability, give birth to their young as claimed. If undisturbed in their native haunts, and the weather was not too cold and the ground too wet, when that urge of nature was felt, they would surely lay their eggs in the ground as so many truthful laymen will testify.

April was upon him, and Uncle Dave was mightily moved by the magic of springtime. When we speak of springtime the reader will, of course, understand that we do not allude to that springtime in the far-away Rockies; neither in the apple orchards of French Normandy, but rather springtime in that enchanted wiregrass region of extreme South Georgia. Little wonder that the Indian, lover of nature that he was, responded also to that mysterious spell it weaves about one. Love of this region lured the Seminoles to elude the vigilance of the white man as they were being driven from a land they loved, and

by night trudge for many weary miles for one last look at the Queen of the Morning Skies emerging from among the eastern hills to beam upon a land from which he was being cruelly driven, and to which he would never return.

All of last year's outdoor beauty is driven to earth by winter's icy blasts, leaves of the trees, delicate and fragrant flowers, together with the dead wiregrass in which they are interlocked contribute to the making of a pall with which the whole of the landscape is shrouded. Many of the songbirds depart for warmer climes to spend the winter. Man is virtually imprisoned until the chirping of the blue warbler, the return of the purple martin, the nighthawk, whippoorwill, and the passing sand-hill crane with his inimitable note serve to remind him that it is time to arise and shake off winter's cruel shackles. It is on such occasions that it is said that the fancy of youth turns lightly to thoughts of love.

One endowed with poetic soul has given expression to his inner feeling in words like these:

Springtime—and the bluebird's song
 And the gold of the daffodils,
 And the beckoning trail that leads away
 To end among the tranquil hills.
 These—and a low, clear call
 At my restless heart all day
 With pilgrim staff to be out and gone
 O'er the Wander-Way!

Now the immortal Ham Bone is no poet, but as a philosopher he ranks one of the very first in order. He may lack the command of beautiful English employed by the poet above quoted, but he is moved upon by that same mysterious influence which quickens a dead world into action when he simply says—

Dese April showahs suits me fine,
 Gits me out m' hook an' line,
 Fo'gits 'bout de Johnson grass
 Chokin' down mah gyahden sass.

With the coming of April in South Georgia all that languished is suddenly and mysteriously quickened into increased activity, while all that withered before winter's icy breath is presently resurrected into a new and more glorious existence. Delicately and sweetly scented violets of white and lavender commence emerging from the mold of the dead wiregrass. The damp night air is scented with the fragrance of wisteria, honeysuckle, woodbine, and running roses.

Now, Uncle Dave is not given to bubbling over, no matter how greatly he may rejoice, neither employing highly polished English. All these influences so happily combined themselves that his resolve was firm and final—he was going fishing.

In his imagination he could see the red-fin pike leaping clear of the water, lunging at every passing dragon-fly. To be sure, they are tasty, and too, make a picture fit to adorn the walls of nobility's hunting lodges. The spirited fight they stage when hooked constitute a challenge to the sporting blood of any lover of the great outdoors. The Suwanoochee Creek was his favorite fishing ground, and it was a sight to awaken the interest of the most indifferent to stand upon the banks of this little stream and watch them splashing and rippling the still, inky waters of its lagoons on spring afternoons.

His fishing tackle having been quickly assembled, he was on his way. As he approached the stream he turned from the main road to avail himself of a short cut by following an old Indian trail. For some distance he walked beneath the low-hanging, spreading branches of the liveoak trees, beautifully adorned with vari-shaped tufts of Spanish moss. Lifting his eyes for the purpose of checking on a swiftly sinking sun, he beheld a beautiful spectacle—Spanish moss as far as his eyes could see, filtering the radiant beams of the sun, every single strand of moss glistening in the sunlight as though dipped in transparent wax.

He had trolled all afternoon and the net result of his efforts and patience was "nary-a-bite." Before setting out on such an important mission he had not forgotten to check the signs of the Zodiac and the phase of the moon. According to his philosophy everything was right. He reasoned that inasmuch as they

had not been feeding during the day surely they would take a nibble at an attractive bait before the shadows were absorbed in the gathering dusk. In this he reasoned well. Just before the setting of the sun, they appeared to awaken from their slumber and commenced biting as though half famished. As he unhooked them and readjusted his bait he would throw them in a slight depression in the swamp mud a safe distance from the edge of the stream. Knowing that his time was limited he took no heed of other things—simply attended to his fishing. When he had caught a dozen or so he took a hurried glance backward over his shoulder to satisfy his mind that his fish were secure, but to his very great surprise not one could be found. No tracks of any kind were in evidence—they seemingly had just taken wings and flown away. This baffled him. Realizing that his day of fishing had been ruined, he was now determined to seek comfort by solving the mystery. So, landing his bait near the farther shore, he succeeded in hooking another pike, and as he threw him toward the same spot, he kept one eye on him; while pretending to be re-baiting his hook. Soon a water rattler as long as himself began emerging silently from an opening at the base of a great tussock. Seizing the slender fish by the head he took him in at a single gulp and instantly withdrew to his place of hiding. Now that he had discovered and identified the villain, the day of judgment was come. Laying his pole down upon the banks of the stream, he cut himself a long green stick, then resumed his fishing. With some difficulty, and with evident impatience, he managed to hook one more. Indifferently he threw the fish upon the same spot and waited for the old thief to emerge from his place of hiding in the tussock. He could not long resist the appetizing dish before him—a beautifully colored, sleek pike fish flouncing about at his very door, consequently he emerged as before, but this time only to have his neck broken. Twining his silk line about his Japanese reed he set out for home, thankful that this loathsome brute had, at best, left him his appetite. Now the sad plight in which Uncle Dave found himself that evening will surely elicit the sympathy of any fisherman as we see him being seated before a dish of collard greens when his appetite

called for red-fin pike, corn-dodgers and freshly brewed coffee.

A formidable fighter indeed is the rattler, but due to this very fact his lot is rendered an unenviable one. His enemies are legion, and by no means limited to man, but hatred of him is even shared by other members of the reptile family, beasts of the jungle, and birds of the air, all of whom would delight in exterminating him from the face of the earth. The very fact that he has been able to defy extinction surrounded by such an atmosphere of hate speaks well for his cunning and power of resistance. His enemies declare an open season on him throughout the year, yet he manages to survive. Other members of the serpent family—those killing by constriction—battle him to death at sight. It is said that the wharf rat will take him on for battle when challenged, and almost invariably emerge victorious from such encounters. Under certain circumstances the timid little mouse will fight valiantly, and even achieve victory, in the face of what would ordinarily be considered a hopeless and uneven match. Animal keepers have long since learned that when mice have been fed to rattlers during the day, the cage should be searched before nightfall, and all mice remaining in the cage removed. These little fellows sit in the corner during the daylight hours and tremble with fear at the sight of the rattler, but when darkness descends upon the scene he emerges from his place of hiding a changed creature. With his sharp teeth he severs the reptile's head from his body. The little mouse appears to have found a weakness in his armor, and while darkness works for him, acquits himself with credit in the fray.

Where both range in the same territory, deer never pass a rattler by, but when one is sighted they form a ring about him. Their form of attack is unique. Leaping high in the air they draw their fore and hind feet together as they land, literally cutting him to pieces with their sharp hoofs. The skill of the deer is surprising. He can accomplish such feat without danger to himself. When he lands he bounds again to safety as if made of rubber. It has the appearance that the rattler is not much inclined to strike upwards, but prefers to rear his head out of the coil and strike downward, and the deer takes advan-

tage of this fact.

The chaparral cock (or commonly termed road-runner) of the West has also proved himself an uncompromising enemy to the black rattler infesting most of the Western United States. His slender body, long legs, neck and beak equip him admirably for the manner of fight he forces upon his adversary. When the enemy is spotted he advances boldly toward the coil and makes a thrust at him with his long wing, exercising care to see that only his wing feathers are exposed to the fangs of his adversary. When the rattler strikes, throwing himself out of his coil, he is somewhat helpless for a split second. During this brief interval of time the road-runner advances quickly, pecks him upon the head with his long beak, then retires for the purpose of provoking another thrust. He continues such tactics until the rattler has been destroyed.

As for man, eternal warfare between the two is taken for granted. Every time he goes forth in the cool of the day, followed by his faithful dog to round up his cattle, goes hunting or fishing in the river swamp, he can never carry the assurance with him that his dog will return safely from the chase. Usually, when least expected, that dreadful whir-r-r-r assaults his ears, his dog yelps because of the pain inflicted, then comes running to lie down at his master's feet, trembling, and to die. This starts the whole war all over again. Seizing some convenient weapon, he beats the villain into a pulp. There, side by side, lie the rattler and the dog, with the remainder of the world little the better for it all. But then this is the way of outdoor life in heavily infested territory.

In our long study of this fellow, and in our conversations with men who have spent long years endeavoring to exterminate him, we not infrequently learn of incidents which convince us that these criminals of the animal underworld actually prefer to abandon their age-old war with man and establish a more amicable relationship. We even fancy that they are often possessed with a genuine desire to join man in invoking that day promised by Isaiah, the prophet, when he wrote—

“The wolf also shall dwell with the lamb, and the leopard shall lie down with the kid; and the calf and the young lion

and the fatling together; and a little child shall lead them."

"And the cow and the bear shall feed; their young ones shall lie down together; and the lion shall eat straw like the ox."

"And the suckling child shall play on the hole of the asp, and the weaned child shall put his hand on the cockatrice's den."

Yes, we have learned of many instances where tiny children were left unguarded by their parents for a time, to return later and find them playing with one of these deadly creatures, and apparently thoroughly enjoying the experience. It seems that when children are left alone within their range of vision or hearing they come near and institute an investigation. They appear to be able to tell whether or not the child is afraid of them, and whether or not the child would in any way menace them. More will be said hereinafter as to how they acquire such knowledge, but it is evident that they are sure of their ground. Sometimes when they find small children alone, they boldly crawl up and coil beside them for innocent pastime. Can you imagine the scene, however, should some unsuspecting mother return for her child and find her little one playing with such a dreadful creature? It has happened on some such occasions that the child was patting the serpent's back and head with its bare hands as the latter shrank from such caressing, but visibly enjoying the association and manifesting not the slightest intention of harming the child. Indeed, there is plenty of evidence to support the statement that these creatures respond to kind treatment, and in a way encourage it when they feel that they are not endangering themselves in so doing. There is nothing in the child's conduct to enrage them, and they are sufficiently keen of mind or instinct to realize that such kindness is not likely to be found in man.

It must be quite evident to the reader that no one individual could possibly hope to witness all the unusual incidents related herein, even though he were blessed with the length of years of Methuselah, and had spent all of his time in wild infested territory.

We personally knew an old gentleman who was the proud possessor of a large male specimen which he kept for exhibi-

tion purposes. Strange as it might seem, he eventually began to show some degree of affection for his master, or should we say, understanding and appreciation of him. And why not? He fed him the choicest of food—even sweet milk, of which he was so fond. Then, too, he took him from city to city where he had the opportunity of meeting the best of people. He was prepared for exhibition in a neatly carpentered, screened bungalow.*

One afternoon while the two were enjoying a much-needed rest from their travels, he had an experience he never forgot. They were together in the back yard of his modest little cottage. It was time for milk, and the old gentleman's traveling partner knew it. As a matter of fact, he both smelled and saw it while his master was pouring it into a bowl in which he usually served him. Just at this time all things seemed to combine to irritate the nerves of this old rascal. It had been a distressingly hot afternoon, and a dark cloud was forming in the west. The lightning was flashing and the thunder roaring as the landscape began darkening and a cool breeze arose. All these influences evidently had woven such a spell about this old wizard that he completely forgot himself and laid bare one of his most carefully guarded secrets. Giving utterance to a weird and unearthly wail or two he completely unnerved his partially deaf master who immediately abandoned the task engaging his attention at the time and commenced searching for whatever it might prove to be that had uttered such an unusual cry. Finding no animal or bird upon whom he might hang the crime, it was evident that his prisoner was the culprit who had frightened him so.

In all our conversations with lay observers who had gained quite a bit of familiarity with rattlers in the wild we never encountered but one old gentleman who ever witnessed a female carrying her babes upon her back. It was merely his own idea, but he reasoned thus about it: she had a schedule to keep and they were too large to admit to her inner chamber and too small to keep the pace she would have to set, hence she induced them to climb upon her back, and with all passengers aboard she was on her way when he chanced to come upon her.

*See sketch, page 124.

She had simply transformed herself into a motorless bus for the transportation of her offspring. To him it was by no means inconceivable that she also ferries them across rivers, lakes and lagoons in like manner. Indeed, the rattler seems to have a very fertile storehouse of expedients when it comes to carrying out her objectives.

All who have pursued these creatures for any very great length of time agree that, with the rattler, it is always something new—that one never seems to learn about all their secret arts and devices.

Another strange incident we are about to relate occurred during the year 1918. The German army had exerted itself to the utmost in a vain endeavor to overrun Paris, the Channel ports, and so menace the seat of the British Government as to enable her to dictate her own terms of peace. There was visible signs of the rapid disintegration of their war machine.

A small party of men well known to us were gathering fodder in a cornfield down by the river swamp. In their conversation they had rather well covered all the latest developments, when one member of the party suggested: "Perhaps we'd better give some thought to dangers nearer home. I never made a crop yet but that I would find one or more rattlers in this field." The very next stalk of corn stripped of its blades he dusted off the back of a large one with the tail ends of the fodder he held in his hands.

One member of the party plead with his companions that they permit him to torment the serpent for a time—he merely wished to induce him to sing his rattles as violently as possible. It seemed that he had never seen one in an exceedingly angry mood. The other members of the party assenting, he went into the woodland where he cut down a long, slender pine with which to accomplish his design. While inflicting no painful injury upon the serpent he sought to build up his temper to the point of exasperation. For a time he sang his rattles furiously, then attempted to run away from his tormentor, but on every such attempt he was headed off and thrown back into the field with the long pole. Finally the diamond-back desisted entirely from singing his rattles. He appeared utterly oblivious

to the other members of the party. As they moved about in disorder, changing positions from time to time, others would cross his line of vision, but without loss of time he would shift to another position that he might have an unobstructed view of the one who had so enraged him—keeping his piercing glare leveled upon him at all times. Under such circumstances the member of this party in question displayed visible evidence that he was, in some manner or other, weakening, and to employ his own words spoken to his companions, he plead, “Kill that thing—I’m feeling funny.” He insisted thereafter that he was in the act of succumbing to a peculiar weakness.

This one observation stands apart from all others coming to our attention during all the years we have devoted to a study of the wild habits and mysterious powers of the diamond-back. It might be added by way of parentheses that it has been our privilege to personally question 95 per cent of those to whom we are indebted for the subject-matter contained in this volume.

This occurred during harvest time. Our informant was engaged gathering corn when he chanced to come upon one directly in the path of the mule drawing his partially loaded wagon. Stopping his mule he called to a darkey on the farther side of the large field to hasten over and help kill the reptile. He had an unobstructed view of the reptile, since he was in a clean spot amidst the peavines and crab-grass. Fearing that the rattler would slide away into the dense growth which was close at hand, he kept a keen eye upon him while the darkey hastened to the scene. Several minutes were required to span the intervening distance. When the darkey arrived our informant had a rather unusual experience to relate. During the last minute or two he kept watch over him, the rattler changed color in rapid succession until he had completely exhausted the colors of the rainbow.

In vain we endeavored to plant the thought in the mind of this highly respected gentleman that the serpent was not, in reality, changing colors, but that he WAS beginning to bring about a confusion of his eyes, but he would not have it that way, insisting and repeating from time to time that his eyesight was good.

He showed signs of genuine amazement when we inquired of him: "Do you believe you would have observed his movement had he begun crawling away under such circumstances?" "Most assuredly," came his instant and emphatic reply. We refrained from pressing the query farther, but just the same we kept in mind King Solomon's perplexity as he pondered the ways of the serpent.

At the same time we were in possession of information from another gentleman just as well known to us, and for whose testimony we are just as willing to vouch, and the two observations stand opposed to each other. It is important to mention that in the first instance the reptile **DID NOT** move from the scene, so that the observer could not have stated with certainty whether or not he would have observed such movement.

The second party to whom we refer was fishing. While alone, and some distance downstream from two companions, he came upon a large water-rattler. It appears that he had heard they possessed such powers, and was the type who would like to know for himself, so stood for quite a time looking upon him as hard and long as was possible without physical discomfort, before blinking his eyes. His companions were steadily approaching the spot, and as they did he called to them, acquainting them with the nature of his find. Coming up from the rear, they both remarked simultaneously, "Let's kill him—he's crawling for the water." He maintains to this day that he did not observe the slightest move on the part of the serpent.

It has been stated elsewhere that the serpent possesses a marvelous memory—never forgetting any human being with whom he has ever had a spirited engagement, and there is plenty of evidence in our possession to sustain such contention. While the vicious species will remember every single battle he ever had with man, as well as his fighting partner on such occasions, the non-poisonous kind will remember known friends and respond to their kindness as long as they live. The friend of whose experiences we write cultivated a very intimate acquaintance with a great king snake. He worked pine timber about this fellow's feeding range. The first time they met he

stood and gazed upon the king snake for some time. His born antipathy for all snakes, dating back to Eden days, all but got the better of him, and while in the act of killing him, he did some reflecting which was the cause of him abandoning his murderous intentions. Up to the present time he had no proof of it, but he had it on rather good authority that they pursued and killed every rattler whose trail they chanced to cross. So he would give him the benefit of the doubt and permit him to live. The snake knew well that he had been observed. On future occasions they met with such frequency that the man commenced to believe that his friend intercepted him on purpose. Their frequent meetings soon resulted in a very fine friendship growing out of their association. Finding a bed full of young tender rats, he procured a suitable receptacle and carried them along with him until he chanced to again fall in with his friend. They were fed to him one by one until he had consumed the entire rat family. From that day on the king snake would come to his friend each day as he sat down for his noonday meal, accepting with gratitude such crumbs as might fall from his friend's table, then crawl upon his lap as playfully as a kitten.

Finally this gentleman entered into business which required that he take up residence in another locality. Returning to his old home with some friends after a lapse of several years, he very naturally thought of his woodland friend and wondered if some evil had befallen him by this time. Speaking to his friends concerning the friendship which had grown up between himself and the king snake, they were rather skeptical of the entire story, feeling that they were about to become victimized by a practical joker. Returning to the spot where he would so frequently rendezvous with his friend, he whistled loud and long—this being the call to which he always responded. They tarried upon the spot for some time, and presently he came crawling up out of the underbrush.

It is the contention of some who profess to know about reptiles that they hear with their forked tongues. Laymen know that they do not go about with their tongues protruding, but, on the contrary, this particular organ is brought into play only

when in a disturbed state of mind, or possibly when they are in the act of hypnotizing some small animal or bird. This being taken for granted the reader will very naturally inquire, "How, then, did he hear the gentleman whistling for him?"

We have had occasion many times to observe rattlers about their winter quarters and have taken very careful note of how they behave. They keep their tongues in their mouths just as long as any hope remains that their presence has not been detected. We have found them lying perfectly open upon littered ground, and carefully concealed beneath tufts of wire-grass, with their heads and necks protruding, nerves tense, observing every single move of the intruder, but with head and neck absolutely motionless. It was, on every such occasion, perfectly evident that he had enlisted the aid of every single one of his senses which might be successfully invoked to the end that he might, if possible, avoid detection. If those to whose expressed opinions we refer were correct in their deductions, then surely these rattlers, under the circumstances mentioned, would have had their tongues protruding that they might not be denied the benefit of their hearing at a time when their very lives were hanging in the balance. Their tongues would never dart out at you until they were positive that they had lost in this game of hide-and-seek.

There is no question but that their nerves are extremely sensitive. The claim has been made by responsible individuals that they can be driven from pastured land by placing a bell on one or members of a herd of cattle. Others have noted that the roar of airplane motors flying at low altitude over infested swamp areas influence them to commence crawling about aimlessly, and that blasting in the vicinity of their hunting grounds causes them to transfer their activities to a more remote region. I have observed myself that they quickly abandon areas where logging activities are in operation by lumbermen.

If, as the scientific world contends, they are not equipped with organs of hearing, it can be truthfully said that they possess a substitute equally as good, or perhaps much better. They seem to experience no difficulty whatever in hearing, each other's call for a distance of two miles or more, and the call uttered is neither loud nor harsh upon the human ear.

ORIGIN AND USE OF HYPNOTISM

The origin of hypnotism, that is to say, the substance of hypnotism, like the discovery of fire, is lost in the maze of tradition and speculation. It is certain that hypnotic phenomena were known thousands of years ago to the wise men, or magicians of Persia and India. There is no doubt that it existed as far back as our earliest written records go. Tradition traces it far beyond that time, but even tradition undertakes to establish no definite time or place as its origin. Neither does it undertake to say how it originated, whether with man or beast.

There is no doubt but that Egypt, one of the early homes of the human race, was well versed in the hypnotic art. It is to be found recorded in Egyptian pictures, and by figures drawn upon mummy cases, amulets and charms, all of which testify loudly of its existence at that time. How proficient they were in the art, and to what purpose it was put, we have no definite information. We have only to surmise that it was used in their medical science, judging from such records as are available to us. Doubtless it also exercised a profound religious influence in their lives.

It would appear from history that hypnotism was practiced by the saints of the Catholic Church, and the use they made of it gave to us the group known as mystics. The practices carried on in the monasteries of the Latin Church by the saintly men of Christendom claimed to have reached the highest spiritual state attainable by men in the flesh, and yet these processes were practiced in the far Orient many centuries before the Christian era, and they are doubtlessly closely allied with many of the phenomena of the hypnotic art.

Mesmerism, another of the secret arts, and so called from Mesmer, by one of its later disciples, was familiar to the ancients, and appears to be closely allied with the entire history of mystical religious experiences. We are not able to say whether there must be conscious co-operation between the performer and the subject. The connection between mysticism and

mesmerism is not very clear, but experiments in dual consciousness, in the possibilities of suggestion, the transference of thought, and in the production of profound sleep, appears to be only the outer fringe of an ancient secret knowledge by which the sanctuary of the innermost man may be unlocked.

Mesmer finally settled in Paris where he established a school, all of his pupils becoming celebrated. One of these pupils hypnotized his gardener and found that his patient was capable of carrying on a conversation while in this induced sleep. He discovered also that the patient not only understood the words, but the unexpressed thoughts of his master as well, and would answer with equal clearness and with as much ease whether the question be a mere suggestion of the mind, or whether it be clearly expressed to him by the master.

We see that the origin of hypnotism, and its allied arts, if we wish to think of them as being in any way different, is beyond the power of man to find out. It may seem like begging the question, but we would like to invite attention to the fact that all through Holy Writ, the practice of such art is frowned upon. If we may be permitted to suggest a reason for such disapproval, we would say that the practice of such arts would always appeal to the superstitious and the illiterate, and thus operate as a hindrance to moral, spiritual and intellectual development. We believe that the Creative Power undertakes to vouchsafe to man the best possible means of attaining his highest destiny. A highly developed system of hypnotism in the hands of an unscrupulous operator might prove the means of no end of corruption and oppression. We find, as it is, charlatans practicing it to the detriment of those who are weak.

Let us repeat: we know not from whence man got his hypnotism and magic, nor how long he has been using it in one form or another. However, we must believe that our First Parents lived for centuries in the open with all forms of animal life, and that during all these years they must have learned much from the lower animals about them. We will return to this line of thought later on.

Let us insist again that serpents certainly exercise some sort of control over their intended victims, similar in many ways,

if not identical, with hypnotism as practiced by man. We do not undertake to say that it IS the identical power man employs, for in such event it would affect man just as it does the lower forms of animal life upon which it is used. We would not put it beyond the rattler to so affect man under the proper circumstances.

We have long been puzzled to know whether or not animals below man really possess minds, thinking and reasoning as men do, which might subject them to the same hypnotic influence as man. We do not hesitate to attribute such power to them. We understand that men of science call this instinct; further, we understand that any inherited tendency to perform a specific action in a specific way when the appropriate situation occurs, is designated by them as instinct. Now, if instinct is something inherited, then the first animals of any species had all the instincts that those of later generations possess. Furthermore, if the conduct of animals is governed by instinct alone, and no sort of mental activity enters into their behavior, then it would seem that all animals of any one species would possess instinct exactly alike, and that their reactions would be the same under similar circumstances, though environment might vary ever so much. In other words, they would all be cast in the same mold, and there would be no such thing as personality among animals. Permit us to express the belief that instinct, as such, will simply not lend itself to development, but that each separate instinct was given to take care of a particular situation, and ends there.

Man is, above all, an imitative creature. He does not hesitate to imitate the lower animals whenever it serves his purpose. We do not believe that a Divine Creator would implant in man the element of magic and then condemn him, as is done in Holy Writ, for employing it. Our contention is that this magic of man is an acquired art, wholly foreign to his original make-up. If this be true, where did he get it? If the serpent had it, why not from him? We gather from the story of our First Parents that they were on friendly terms with the serpent. This statement is made reverently and without casting any insinuations at the Revealed Word and our ancient forbears.

The writer has reached the conclusion which has been freely expressed elsewhere that ancient man learned the elementary principles of hypnotism from the lower order of animals, improved upon same with the passing of centuries, and handed this mysterious art and science down to us of the 20th century in its present form.

If the testimony of those to whom the writer is indebted for the subject-matter of this volume could be successfully brushed aside it might leave us open to charges of pure fabrication. If it were not for the fact that man, in other instances, patterned some of his arts and practices after the beasts of the field, then such deductions as we have drawn might more readily be discarded. It is sufficient to enlist the interest of any fair-minded person if they will but pause and consider the habits of the black bear of the Okefenokee Swamp—perhaps other species, as for that. They have imitated with precision the methods of certain primitive peoples, such as negroes of Dark Africa, and the American Indians, in procuring their supply of fish from ponds, small lakes and lagoons. Or was it the other way around? Let us examine the facts. It is scarcely probable that the bear in his wild state would spy upon the fishing methods of man, his mortal enemy. Yet we find them practicing the same art when fishing without any form of tackle. When the bear discovers a small lake or lagoon, separated from the main stream, and has definite knowledge that the same is stocked with fish, he goes “muddying.” This practice might be defined as churning the water, stirring up all the mud possible from the bottom, until the whole body of water is little less than a thick paste, which renders the breathing process of the fish a fruitless and painful one. Being unable to breathe the water, they come to the surface, procuring the needed elements from the atmosphere by breathing the pure air. This, of course, exposes them to the view of the bear. On such occasions he either seizes them in his paws or, with a mighty stroke, splashes them out on the bank of the lake. It is passing strange that both the African negro and the American Indian practiced the same identical method in obtaining his fish. So the only question remaining to be answered is—who copied

who? If this were the only instance where man has been known to profitably apply lessons learned through observing the habits and practices of the lower order of animal life, then our deductions might fall for want of evidence to sustain them. Such methods of fishing, termed "muddying," is in vogue throughout the Deep South, particularly among negroes, who are presumed to have brought a knowledge of the art with them when transplanted in America.

Within the circle of our close friends was a gentleman who had fully resolved to unmask the diamond-back—that is, learn if such a thing be possible, something of the nature of the mysterious power he wields over his prey. He had not received any scientific training, consequently he was of open mind on the subject. He had observed the common house cat, making careful observations of him as he stalked his prey, ordinarily some gentle bird about the lawn. With burning eyes which never blinked he would crouch low, tail swishing from side to side, and oftentimes with his lower jaw quivering, would approach to within five or six feet of the bird. The bird would fly away, but if there was no interference would soon return, seemingly fascinated. Growing bolder and bolder, he would eventually be taken by the sharp claws of the cat, should no one intervene to save the bird. Now, the gentleman of whom we write was the reasoning type—possessed a mind capable of following a line of thought through to a logical conclusion. He believed that the secret of the rattler's mysterious power was to be found in his vibrating rattles. This, to him, corresponded with the swishing of the cat's tail, and affected the victim in like manner. He would even venture a step farther. He did not believe that the serpent nor the cat possessed any superior endowment over man, and that if their methods were applied with care man could achieve the same results. Anyway, he meant to try. Soon an opportunity came his way. Sitting quietly on a low stump by the side of a log on a lonely hillside one day, he observed a squirrel coming along up the hill toward his pecan orchard. Reasoning that this was his opportunity, he sat motionless. The log lying in line with the course the squirrel was following, he hopped upon the end of it, some

sixty or seventy feet distant. At this instant he whistled with a shrill note, then raised his forefinger to a position about level with his shoulder and commenced a pendulum-like motion. The squirrel stopped, observed with care, then commenced chattering wildly. For some time he advanced toward the object of his curiosity, and would then retreat, advancing nearer each time, and as he retreated would not go so far. In general, behaving in the same identical manner as when under the hypnotic spell of the rattler. When the squirrel had advanced upon him to within a distance of two feet and appeared in the act of leaping upon his upturned finger, he clapped his hands together, and he clawed up the earth back to the creek from whence he had come.

Men are of contrary minds as regards the source of the reptile's hypnotic power. Some insist that he derives such power from his rattles, yet those without rattles possess the same power. Others insist that the musk the rattler throws possesses a stupefying effect which overcomes his prey, yet those possessing no musk appear to possess the same magic power. A few insist that the crazy markings on their skin serve to deceive the senses of the animal or bird, finally rendering him completely unconscious, maybe lifeless, yet those with solid coloring are found duplicating the tricks of those possessing all the colors of Jacob's coat of old. Without doubt, more observers believe that in their eyes is to be found the source of more power than in any single one of these other devices. Once having drawn their prey to within close range by the employment of these other charms such hapless bird or animal seems wholly unable to retire. Some insist that they possess a basilisk eye, or eye with power to actually kill. They assuredly are not without good reasons for believing as they do.

From time immemorial reptiles have somehow been associated with evil influences in the world, and it is entirely reasonable that had not the Book of Genesis been handed down to us of this generation, reptiles would have been inseparably linked with the evil doings of the Black Prince and his imps. Evolutionists, psychologists, authorities on the laws of heredity and learned men of other fields for whose opinions the writer

entertains the most profound respect, hold that man's antipathy toward reptiles is somewhat obscured by the mists of antiquity. They will tell you, unblushingly, that in man's primitive state he was compelled to resort to tree life, even sleeping in a bed of twigs and leaves, far above the ferocious beasts of the jungle. But, strange as it might seem, it was not the roaring lion which instilled fear in the rugged heart of our primitive ancestors as they sought repose upon their bed of twigs at the close of the day, but another more crafty, more dangerous, and more stealthy—the serpent. In the darkness of the night he would climb the tree, as noiselessly as a slippered monk on a velvet carpet. If, while in the act of robbing his treetop cradle, the serpent should arouse the father and mother, then a fierce battle for possession of the babe would ensue, and with the odds all against our primitive parents. All too often they would awaken in the morning to view an empty cradle.

As intimated in the beginning of the above paragraph, such represents merely the theorizing of learned men. We neither endorse their theories nor condemn them. If, however, the primitive existence of man has been correctly portrayed, then it does not require a genius to understand man's aversion to reptiles—the law of heredity being as pronounced as the law of self-preservation.

But is it not time we were turning our attention again to Uncle Dave? He cannot be left alone for long before we find him in another fight with a rattler. On this occasion, however, we find him merely observing a duel between a diamond-back and a king snake—simply occupying a ringside seat while the fight went on to a decision. Now, the king snake seems to be a close cousin to the python and tropical boa, non-venomous, but killing his enemies and prey by constriction. He had taken notice of a small king snake trailing something. While they had met face to face, the little fellow was so absorbed with his business that he did not so much as respond to the old gentleman's "Howdy do?" Here's my chance to learn something, thought he. So he strolled along, bringing up the rear, so to speak, until the little fellow's queer behavior might be better



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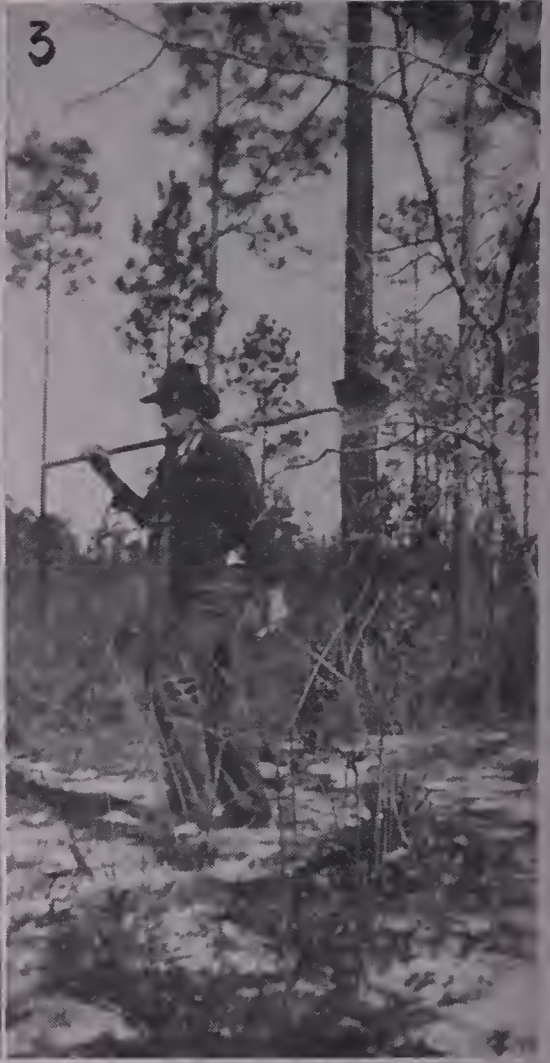
understood. Approaching a dense growth of briars he paused instantly as though he heard something which warranted investigation. The little fellow was right—he was right in there. This was confirmed by the old gentleman when he, too, peered into the briars. Knowing that he was being pursued he tarried there in the hope of avoiding detection. If a fight was inevitable, thought he, then this would not prove to be such a poorly chosen battlefield, or at least not so when viewed from the standpoint of his own needs. The little fellow scrutinized his husky adversary in minutest detail, then, conscious of his own diminutive size, backed out of what appeared to him to be a most unhealthy situation, leaving the scene without loss of time. Now, Uncle Dave was not so sure that he had seen all of the show. He could not believe that this little fellow would have expended so much energy driving this big brute to cover had he been utterly without plans when he found him. The Satanic keenness which guided him surely had not permitted him to overlook the one important fact that he was chasing an enemy ten times his own size. At any rate, he would simply tarry for a time. He never did like to kill one in too much haste, anyway—seemed to derive pleasure from contemplating the deed as much as by executing his designs.

Hearing a rustling noise in the leaves behind him he looked backward to observe that the little fellow had returned to the scene after enlisting the aid of his mamma—now the battle was on. Of course, the charge should not be leveled at the little

1, 2—"UNCLE DAVE" Nettles, that untutored old Master of Arts, fully armed, and ready for the chase. His only equipment, or weapons, consist of the sack, which he wears suspended at his side, flashlight, spade, as well as rod and noose which he holds in his right hand.

3—So hazardous is this sport, or war (whichever one might term it) that he is loathe to hunt alone. On this occasion he has enlisted the services of two of his sons, six eyes being better than two. Even so, there is no hope whatever that this trio will see the reptile first. They are entering into the sand-ridge hummock land where the diamond-back hibernates during the cold winter months.

4, 5, 6, 7, 8—Fully satisfied that his quarry has gone forth to sun himself, Uncle Dave and his sons proceed to search among the palmettoes and other growths which might afford him shelter, combing every inch of the ground with care until he is located. Note the serious expressions on their faces—no posing for the cameraman—a single off-look at a critical moment and the diamond-back might chalk up a point in his own favor.



See legend on opposite page 

fellow that he was lacking in personal courage. Every desire of his being was to break the big brute's bones, and the sound of his spine cracking within his coil would have been sweet music to his ears, for had they not been uncompromising enemies since creeping things first crept upon the earth? Reason, however, guided him, so adopting the philosophy of the seasoned soldier, "Discretion is the better part of valor," he avoided battle, the odds being hopelessly against him as they were.


As a preliminary, the large king snake began maneuvering for a position of advantage, while the rattler remained coiled, singing his rattles gently, all the while keeping his black eyes upon his opponent. This, incidentally, was the thing the king snake least wanted. He knew by instinct, or possibly had acquired the knowledge in actual combat, that while the rattler was to be dreaded, he had a very serious weakness in his armor. Mention has been made elsewhere that when the rattler's eyes have been riveted to a single object or person, it is difficult for another to share his attention, even to a slight degree. It has been made clear already that his power of concentration aids him greatly in procuring his food supply and concentration, it appears, is the one prime requisite to the effective exercise of this mysterious art. In order to get the rattler's attention fixed where he wanted it the king snake withdrew his head to a point where it was invisible, then commenced rattling the leaves with

1, 2, 3—All day long Uncle Dave and the writer had pursued the elusive diamond-back, and nary a one found we. With camera in hand we caught him as he looked into the depths of a dense bamboo bayou, wondering if they might be found on the sand ridge beyond. Concluding definitely that their hide-out would surely be found on the other side of this briar-tangled morass he hit his stride for the farther side.

4, 5—One by one he searches with flashlight the holes the gopher has made in the soft, dry sand until he discovers unmistakable sign that such "dug-out" has a deadly tenant. Then he proceeds slowly, and with extreme caution, to make preparations for uncovering the defender. These are all typical of the old gentleman at his task—he little realized that a photo was being taken, so engrossed was he at his labors.

6, 7, 8—His faithful dog is by no means an amateur, but renders valuable service on occasions. In two of the photographs the dog appears interested in what is going on, but in the third one in which he appears he knows positively that the reptile has abandoned the hole and is waiting rather sullenly and with visible signs of disgust for his master to make the same discovery.



See legend on opposite page 

his tail at a point within a foot or two of the diamond-back. The king snake had worked out every detail with such consummate skill that when the diamond-back turned quickly to face the supposed menace, the side of his head and neck were exposed to the real menace. By such act the rattler signed his own death warrant. The king snake, finding his opening, you can always depend upon him not to overlook it.

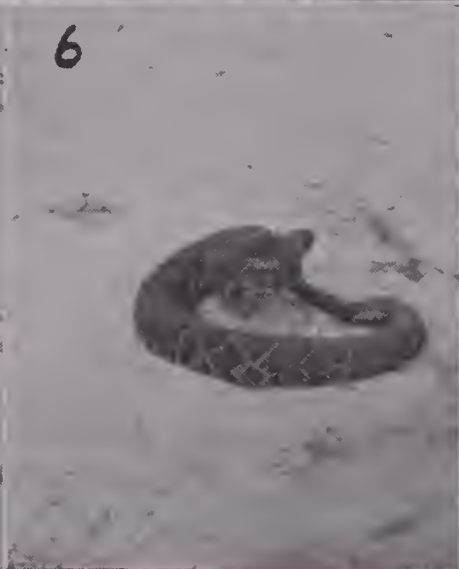
Once having taken up the sword in his war against rattlers, it appeared that he would never again have need of the scabbard. The only truce Uncle Dave ever knew, which, after all, was no truce at all, was during that brief interval of time elapsing between his last battle and the date another rattler dared cross his path.

It was a fine spring day. The sun had dissipated the last cold winds of winter, and the old gentleman felt that urge experienced by all farmers on such occasions. He was moved by that irresistible prodding to survey his fields and do some planning for the forthcoming year. On one side of his field adjacent to a small river bordering his plantation was a piece of waste land which had never proved profitable when planted to the usual crops. For a number of years it had been abandoned with the result that it had grown over with broomsedge, gall shrubs, sumac, and every species of noxious weeds and shrubs. It was neither a stream nor a pond, but rather a depression between the hills, leading out from the river, and terminating as a springhead at the foot of the hills which were being cultivated. Throughout the greater portion of the nor-

1, 2—While Uncle Dave is practically fearless, insofar as the diamond-back is concerned, yet he does not deliberately go courting disaster. He realizes all too well that his enemy is a genius at camouflage, and that the best trained eye may, at times, overlook him when within plain view. To offset such danger he usually works with another member of the party, trusting an assistant to guard over him while peering into the hole.

3—A mere glance at the photograph would convince anyone of the wisdom of such policy. Ofttimes they dash with amazing speed for their hide-out and would not hesitate to brush against the old gentleman's face, if such were necessary to gain admission to their holes.

4, 5, 6—Once he has his quarry definitely located he proceeds to subdue him with whatever tools the situation demands. If outside the hole sunning he utilizes his rod and noose. If in the gopher's hole then the spade is brought into play.



See legend on opposite page 

mal farm year the soil was damp, and thereby unfit for the planting of the usual crops. Just the place for a rice patch, he reasoned. And why not? Rice grown in other states had, for a long time, enjoyed a very profitable market, resulting in this particular item on his family budget standing in need of attention. Even at that, "store-bought" rice was not nearly so tasty as the home-grown, or the unglazed variety. So, thought he, I'll shrub this place out and grow my own rice henceforth. True enough, there was no rice mill convenient, but he could build himself a mortar and pestle and remove the rough covering of the grain without the necessity of driving long distances to mill. His father, having been reared during the Reconstruc-

1—To the casual observer cattle bones illustrated above mean little. To Uncle Dave they betray the presence of an overgrown pair of rattlers, particularly whenever they are long distances from the corral. One farmer, operating on a very small scale, reported the loss of five cows in a single summer, including a valuable milch cow. It pays a wonderful dividend to eradicate them when one's premises is thus infested.

It is more or less of a mystery why the rattler bites more cows than any other animal at large. While the odor of cattle may be objectionable to them, they have been observed fleeing from the path of cattle, lest they be trampled to death by their sharp hoofs.

2—On another fine spring day his sons prevailed upon him to go with them to the woodland for a walk. Soon his unusually keen sense of smell detected an odor perfectly familiar to him, but which surprisingly few people could identify. Calling the boys to a halt that he might do some looking about he located the angered diamond-back by the stifling musk arising from the reptile—he was standing astride him. Safely disposing of the little fellow by his side he got into reverse and backed safely away from the menace. Soon the "All-Clear Signal" was sounded and they were off again on their mission.

3, 4—It is interesting to note that when a rattler coils solely for repose, he keeps both head and rattles side by side, and in the center of the coil—he employs both eyes and rattles in his art of fascination, since they appear to be more effective when used in conjunction with each other. When he is preparing for an attack he keeps his head near the center of a rather irregular coil, throwing his tail forward toward the object of his wrath. He has a definite purpose in doing this. He can, if necessary, leap over the point of his tail, thus doubling his length. Beware when they assume such a posture.

5, 6—When removed from his place of hiding and deposited upon ground selected by man his presence is readily revealed, proving that this wily reptile is endowed with a more dependable sense of colors than man. When deposited upon snow-white sand his color and form stand out in detail.

7—Take note of the large rattler held in an upright position. He is an aristocrat among rattlers, being the true diamond-back, and is becoming almost extinct. Uncle Dave calls him a "sport model."

The others of the group, being of a darker hue, are called swamp rattlers.



See legend on opposite page 

tion era in the South, coached his sons with the most painstaking care in the art of constructing and operating a mortar, and such training now stood him in well, in that he had never known luxury.

Penetrating the "rough" for the purpose of conducting a casual inspection, the first thing which gained his attention was a "cotton-tail" rabbit go bounding off through the briars. Immediately came that same familiar whir-r-r-r. It was apparent that he was becoming more infuriated with the passing of every second. He knew that he was almost upon him because of the sickening odor of his musk emitted when thoroughly angered. With the aid of his well-trained eyes he could not, for the life of him, locate him. By this time his hearing was becoming confused—he could not depend upon his ears any longer. Turning his head from side to side, then facing the rear—even looking straight up overhead (where he knew he was not) he seemed to be immediately in front of him. This occasioned him no particular cause for alarm, he being too familiar with the tricks of the rattler. The latter appeared conscious of the advantage he enjoyed, not unlike the lion that remains crouched

1—"Big Ben" and his keeper traveled from town to town where they had opportunity to meet the finest people.*

2, 3—Going forth one fine day in early spring to survey his farm for the forthcoming year he concluded that this broom-sedge lowland could be put to better account than housing diamond-backs and luring rabbits thither for their sustenance. A fight of no little intensity ensued. Uncle Dave, reckoning with one's presence, had taken his potato hook along. Suddenly a cotton-tail went bounding away to the timbered land—simultaneously sounded the whir-r-r-r of one's rattles, then the fight was on. His eyes, trained though they were, failed to reveal him. Soon his hearing became so confused that he could not tell from whence the sound came. Bringing his long-handle hook into play he soon combed him out of the straw litter, settling all accounts with Mr. Diamond-back. No mystery at all—the rattler being so enraged—He had a date to take Mr. Rabbit to lunch when Uncle Dave butted in—an uninvited guest.

However, the fight was well worth the making—he grew himself several barrels of rice on this lowland, long since abandoned to other crops.

4—If the Old Master of the Art is present when one is located he is almost invariably, by reason of his seniority, given the pleasure and honor of fixing the noose upon the neck of the brute.

5—As an added precaution men holding the bag use an oak limb with spur on end with which to hold the bag open. This is important.

6—Not infrequently, however, he waives such right and honor, delegating one of his lieutenants he has so painstakingly trained to perform such task.

*See story, pages 102 and 103.



1



2



3



4



5



6

See legend on opposite page 

in the tall grass applying his ventriloquism as the herd of deer dash frantically at every roar of the unseen beast.

The path he had followed into the "rough" held forth his most promising avenue of escape unscathed, so he subdued his pride and retreated from the scene, but not for long. Reappearing presently, armed with matches and a potato hook, he was prepared to renew the battle. With the aid of his rake and some straw gathered for the purpose, he encircled the "rough" with a fire, leaving an opening of twenty or thirty feet on one side where no fire was strewn, standing conveniently near that he might guard that. Soon the dry grass and litter became a raging inferno. The table had been turned about—it was now the rattler's turn to run. Rearing his head above the level of the grass to survey the situation, he observed only this one possible avenue of escape—whether or not he took note of Uncle Dave standing by is not in the story. They seem to dread fire worse than any other enemy. His only thought, seemingly, was to escape the flame. Then if it should

1—Leaping with the agility of a jungle cat he threw the rattler clear of his leg, thus delivering himself from the danger which menaced him.*

2—"Das de way I allus kills 'em, Miss, an' ah nevvah is been bit yit."**

3—It was with the greatest imaginable difficulty that he ever found this one. He had pursued him into a rough spot in the center of his field. The ground having been cultivated all around the spot affording him shelter left no possible doubt in his mind that he was lurking there, observing every move he made, but to find him proved to be a Herculean task. Not until he finally mounted the fence, balancing himself with a rail did he ever locate him. His vision proved better looking straight down than when peering through the straw and weeds. Less obstruction being encountered, he finally found him lying lengthwise on a flat bottom rail, so decayed that his color blended perfectly with it.

4—Uncle Dave's hopes were running high as he trudged his way toward his favorite hunting ground with fishing tackle and "cap-an'-ball" rifle.

5—The red-fin pike splashing the ink-black waters of the lagoons was a sight calculated to challenge the sporting blood of any humble follower of Izaak Walton. Besides being a tasty dish they presented a picture fit to adorn the walls of nobility's hunting lodges.


They bit like famished wolves, but when the old gentleman came around to the point of stringing up his fish where he had thrown them, nary a one was found. A large water-rattler had crept silently from underneath a great tussock and had devoured them all.

6—Sorrowfully he trudged his way homeward to a plate of cold blue-stem collards and corn-pone when his appetite had been built up for well brown pike, corn-dodgers seasoned with onions, and freshly brewed coffee.

*See story, pages 53 and 54.

**See story, page 59.



See legend on opposite page 

develop that some man was at the bottom of all this—well, he would attend to him in due season. With head reared high, he came charging through the open way, but Uncle Dave stood his ground like a well-disciplined Roman sentry. Delaying a well-aimed blow until he was sure that the handle would have the necessary reach, he pinned him to the ground with his potato hook.

Employing a bit of imagination the missing links in this little episode can be readily supplied. Mr. Rattler had spent a hard winter and had emerged from his hideout all but famished. This was his first decent spring day for hunting. He was busy employing his magic upon Mr. Cotton-tail, and was all set for taking him in when Uncle Dave appeared upon the scene, driving his quarry away. Nothing else can succeed quite as well in so enraging a rattler. It matters not if it be man or beast—or if it be by deliberate design or wholly unintentional, whoever commits this unforgivable crime is sure to pay with his life provided he comes within striking distance just at such instant.

Treating himself to an afternoon off from his farming and turpentine activities, he assembled his fishing tackle and set out for the lakes. No sooner than he had entered the river swamp he was challenged by a full-grown diamond-back lying crosswise the cattle trail he was following. Laying his tackle upon the ground, he cut himself a club from a green tupelo gum nearby. When it became apparent that there was going

1, 2, 3, 4, 5, 6, 7—Think your own eyes are perfectly reliable, do you? Then how would you like to go hunting for the diamond-back? The prints on opposite page are perfect reproductions of the spot of ground upon which the camera was focused. Strands of grass no larger than a needle are plainly visible, yet a diamond-back as large as the average man's leg, fully exposed to view is practically invisible. In three of the photographs they were sheltered by no covering grass or litter whatever. They are artists at camouflage. They are also perfect judges of colors, and in addition their scales seem to absorb and reflect light, reflecting it in the exact color as when it falls upon them, thus their color blends and fuses with the shadows or the light about them. The camera was within three feet of the reptile when these exposures were made.

8—When hot on trail of the diamond-back he takes no chances whatever of one side-stepping him by concealing himself underneath a log or inside a great hollow tree as shown here. A mere glance at the ground and he can tell with amazing certainty just where one would most likely be found when he can no longer elude his pursuer, but must stop and make a stand.



See legend on opposite page 

to be a finish fight, the rattler crawled up against a large pine tree. This was done deliberately, and for well-considered reasons—that he might have only one front to defend. Just the same one front proved too many with Uncle Dave attacking on that front. The job having been well done, he gathered up his tackle and proceeded on his mission. He had judged by the phase and position of the moon and the direction of the wind that fish would bite well that afternoon, and his signs did not fail him. Ere the sun had reached the horizon he had fish quite sufficient for his needs, consequently reasoned that he would not permit darkness to overtake him in the dense swamp. Then, too, he entertained some suspicion that the mate of the slain rattler might be lurking in the vicinity, hence it would be the part of wisdom to pass this danger point en route home before the approach of dusk. Even his trained eye would not prove adequate to detect one's dull brown form, thus handicapped. On arriving at the spot where the diamond-back had

1—The old gentleman was glad when he made the discovery that one pup among his litter was endowed with "snake-sense." He needed no thrashing to impress upon him the fact that diamond-backs were deadly—he knew instinctively that they were his most deadly enemy. With a bit of preliminary training he would leash the dog, to keep him under perfect control, thus hunting down and destroying many which would otherwise have made their escape. Otto appears to have lost interest in the chase—he has a hunch that his master put him on back-track.

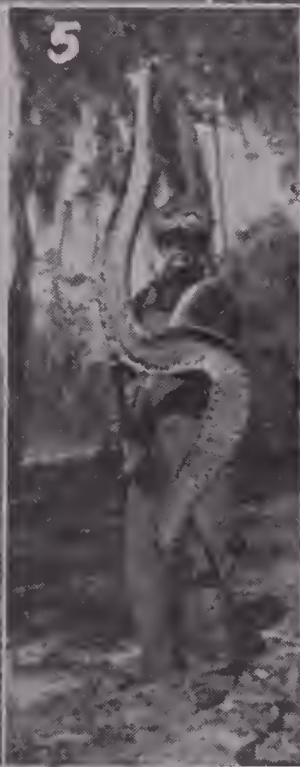
2, 3—During the summer months, when the lowlands are completely overflowed, is an excellent time to hunt. They abandon the flooded swamps, crawling upon road beds, or concealing themselves among wild shrubs bordering the flooded area.

If they should choose to remain within the confines of the swamp they almost invariably crawl upon some floating log to await the passing of the flood water.

More likely than not they elect to go to the high land, knowing that the rabbits have preceded them—they appear to have no dread of water whatever.

4—Diamond-backs, like members of the human family, vary greatly temperamentally. Occasionally one is found to be so peaceably disposed that he could safely be carried about with ungloved hands. Others are real gangsters in the animal kingdom, ready to strike instantly at the sight or sound of any passerby. This fellow belonged definitely to the latter class. Having concluded definitely that he did not want to go to jail he fought so desperately, lashing out in all directions that he threw himself free from the noose. His captors gave him a wide berth until some member of the party could do the job all over again.

5, 6—When the old gentleman lassoes a giant and vicious specimen nothing delights him more than to humble his pride. Once subdued and securely tied up he makes him open up and show his deadly fangs.



See legend on opposite page 

been slain it was not necessary to take a second look. The male of the pair had already arrived upon the scene, and was lying by the side of the dead one, stretched out to his full length, parallel with the dead, apparently mourning the loss.

Acquainted as he was with their nature and habits in the wild state, it was quite easy to understand how this fellow came to know of the tragic death of his mate, even prior to that hour of the day when they exchange calls. Before being killed she had been thoroughly angered, vibrating her rattles with such intensity that the sound of them could have been heard several hundred feet away. It was evidently heard by the surviving member of the pair, and no sooner than the man had passed on, the survivor crept up to the scene of the battle to ascertain if the worst had happened.

For the reason that so little is known of the rattler, even by people who have lived in infested territory all of their lives, a myth has been current for generations that the rattler has a pilot, very much the same as the crows will send a lone member ahead for the purpose of drawing the fire of the hunter should one be concealed from view, directly in line with the flight of the flock. Such an idea, of course, is wholly erroneous, inasmuch as they do not travel together, neither follow each other's trails as a habit. By remaining separated they enjoy the added advantage of greater security. If one be killed the other will survive. It is a fact worth noting in passing that they never come immediately to each other's aid when menaced—each fights his own battle, unaided—each avenges what-

1, 2, 3, 4, 5—These are characteristic poses of Uncle Dave when he has one securely looped and ready to be bagged.

6, 7—These photos represent a normal day's catch, when, as Uncle Dave says,—“They're biting good.” Sixty feet of silent, creeping death. They might easily have destroyed one thousand dollars worth of cattle in a single summer had not Uncle Dave and his “Suicide Squad” come along.*

8—Occasionally it so happens that he has no bag convenient when he has made a fine catch, but this occasions him no worry. He simply locates them a warm spot in the sunshine and leaves them secured to the pole with which they were noosed, continuing his hunt for miles up the creek, gathering them up on his return. For some reason, unknown, they appear little disposed to attempt a “jail-break.”

Then again he ties their heads to a short stick, as illustrated, and carries them along as he would a suit-case.

*See photographs, page 132.

ever wrongs may be done him. They do, however, match their wits against men and beasts in other ways—such as may contribute to their mutual well-being. On one occasion early in our quest to uncover some of the secrets of the diamond-back, the writer himself was so completely outwitted that it was a bit humiliating.

We might repeat that the call of the rattler is difficult to imitate, yet we had gathered from others a pretty good idea of the note should it ever be our privilege to hear one. We had gathered, too, that they called only at dusk and dawn. This was worthwhile information. At long last we heard a pair within three hundred feet of our residence talking to each other. This had been going on for a week or so before it finally dawned on us that it was the mating call of the rattler.



“Did’n’ mean to kill ye, ye ol’ imp o’ Satan—Jes meant to take some o’ the fight out ’n ye.”*

*See story, pages 231 to 235.

Having their positions located, we set out at dusk one summer evening determined to hunt them down, regardless of the risk to our personal safety. Now, it seems that oftentimes one of the pair does practically all the calling for several days—if the other calls at all it is a mere cricket chirp, of which the average person would take no note. It thus happened on this occasion. The one we endeavored to stalk was out on a small sand knoll thickly covered with shrub oaks. We were not even aware of the presence of the other down in a dense undergrowth within the creek swamp. True enough, we had been hearing the call of the other, but had not up to the time mentioned identified it as the call of the rattler. We had presumed that it was the chattering of some bird. As we drew near to the one on the hillside, though we had taken every possible precaution to cushion our footsteps, he evidently heard or felt us while we were still fully two hundred feet away. Just at this time we were thrown into a state of confusion. We had been convinced all the while that we were on the correct course, but when we heard him again he was almost behind us. Changing our course we followed up again until we were led squarely up to the dense undergrowth. To penetrate such, under the circumstances, was not only hopeless, but highly hazardous, consequently we gave up the chase. It was not until several days had elapsed that it dawned upon us that this pair had taken full advantage of our utter unfamiliarity with their craftiness. It was clear to us then. The one on the hilltop had signalled the one down in the swamp, by snake code, to take up the song, that he was signing off due to the close proximity of some snooping human. Though we never came closer than two hundred feet of either of them, and while no disturbance whatever was created, yet they seemed to sense the fact that we were searching for them because of the call, they either departed immediately for other hunting ground or desisted from making their loud call for the remainder of the summer. Crafty creatures!

Another advantage is gained by them remaining apart during the hunting season. As already stated, if one is killed the other is spared, but the main idea appears to be that hunting is better—game is more easily bagged by reason of their prac-

tice of pursuing separate courses. They divide up the territory, as it were.

Prior to the time we cultivated an intimate acquaintance with Uncle Dave and many of his fellow snake hunters we had been pursuing "lone wolf" tactics in our endeavor to completely unmask this old wizard of the wiregrass region. Many of the mysterious habits of the rattler literally fascinated us. As a mere child we listened to older people speak of their visits to the scene of the slaying of their mate. None of the older people knew the why of the mystery, which served to whet our mental appetite for a better knowledge of this particular secret. As we grew up, the mystery seemed to deepen rather than lend itself to more ready solution. Such was during a period in our life when we felt that men who write books, magazine and newspaper articles knew ALL things, so we never passed up an opportunity to read such articles by herpetologists, or so-called snake experts, in the hope that some day this mystery, as well as other uncanny powers attributed to this most interesting reptile, would be made clear to us. Such hope was in vain. Finally, having despaired of ever learning anything worthwhile from those considered in position to know, we shunted all experts aside and cultivated the acquaintance and intimacy of laymen who had spent their entire lives observing and annihilating these fellows. Such policy was not adopted, however, until we had communicated with the most noted living experts, read all that their pens had produced on the subject, and had concluded definitely and for all time that they knew little or nothing about the wild life of the reptile. In this connection it is not amiss, we feel, to give the reader the benefit of some advice an old teacher gave us when the time was at hand to go forth and complete our education in the great world which lay before us. In substance, if not in so many words, he advised: "When you go forth into the world, by all means continue your quest after knowledge. Get away from the idea that you have learned everything worth knowing in school. The greatest college in all the world is the great outdoors. Learn to properly evaluate the things you hear and see in life, and if you would acquire the most in the way of

knowledge on any subject that may prove of interest to you, then go to someone who has worked at that particular task all of his life, and listen attentively and respectfully while he instructs you concerning it."

At the time, the above sounded like good philosophy, and during all the intervening years we have had no occasion to change our mind in any particular regarding the merits of it. We had gone to the great authorities and had learned nothing. Very naturally we concluded that we would be governed by the advice of this old teacher and go to those who had daily encountered the problems which had vexed us so long.

At first we could scarcely subdue our pride and go boldly to men who had never seen the inside of a high school building and ask of them that we be instructed concerning great mysteries. What! Walk boldly past instructors in our great colleges and ask knowledge of men utterly lacking in high school or college training? It didn't seem to make sense. Yet, after all, perhaps it did. These college students, college professors, and the great doctors of laws had not, for any great length of time, risked their shanks down in the hardwood hummocks and infested swamplands to the deadly fangs of the diamond-backs. Therefore, how could they possibly know? True, they might make occasional visits down to the zoo, or even encounter one in the wild, but the rattler is slow to yield up all his secrets. In a state of captivity one views only the physical form of the serpent. The real serpent is no longer there. One would never learn the truth about the American Indian viewing and observing him in the stockade. The average person living for a period of sixty or seventy years where rattlers are plentiful would not, at the best, make more than two or three worthwhile observations—most men very likely would never happen upon anything worth noting. It is only by putting together all the observations of a hundred lay observers that a true and detailed picture of the diamond-back can be constructed. It has been to such task that we have so faithfully devoted ourselves, to the end that the truth concerning this interesting reptile may finally be known.

For many years we literally groped in darkness, getting no

place worth the going. We listened in on everything which appeared to bear even a remote relationship to the secret we sought.

During the long years we pursued this one subject we chanced to take notice of an article written by someone who evidently was familiar with his subject. While it might appear to bear little relationship to the subject of just what secret means the rattler employed in communicating with his mate, yet it was worth noting. The article in question dealt with the squeak of the leather-wing bat. The thought was conveyed that while young people experience no difficulty in hearing the shrill squeak, few past forty ever hear it again, due to a revision downward of the scale of the human ear. This much we knew from our own experiences and observations. Even at its best the human ear, like the human eye, has its limitations. The ear can hear what it was built to hear, and no more. The eye can see what it was built to see, and no more. All this, as already stated, might be worth something. Maybe not. It was not impossible, we reasoned, that the rattler possessed a call of some kind readily audible to each other, but outside the range of hearing of the human ear.

Another article written by a noted ornithologist convinced us that perhaps there was something of merit to such line of reasoning. The blackbird was given as an example. There may be ten thousand birds down in a field chirping—making a noise which would render the ordinary note inaudible. Yet, when their sentry on duty in some tall tree utters a note of warning, every single bird in the field hears it as clearly as a bugle blast would be heard above the roar of artillery on the battlefield. All the birds take wings at the same instant, even to the furthestmost corner of a large field. Up until recent times this was the blackbird's secret, but is now shared by man. No great mystery, after all. Like the leather-wing bat, he is capable of uttering a piercing cry so highly pitched that it is wholly outside the range of the human ear.

So year after year we perused all articles and volumes coming before us which held forth the slightest clue to the secret we sought. Some entomologist once wrote a highly interesting

and informative article about a certain species of moth. Apparently he was thoroughly convinced that this moth under study was equipped by nature with both a sending radio set and an antenna. For the purpose of proving the point he would take a pair of them, enclosing one in an air-tight and light-proof box. Then he would place some mark of identification upon the other. Employing a high-speed automobile he would drive hurriedly from the scene to some isolated spot a long distance from where the mate was left. Presently the latter would appear upon the scene.

Many of these seemingly impossible feats attributed to the animal and insect world have been dwelt upon merely to prepare the reader for an acceptance of our contention that there is nothing unreasonable about the rattler uttering a mating call, swallowing its young when danger threatens, hypnotizing its prey, confusing the ears and eyes of prey and enemies alike. Other members of the animal and insect world regularly perform equally as amazing feats. When the scientist comes face to face with some seemingly impossible or unbelievable feat which laymen insist they have witnessed at close range, and to which they freely testify under oath, the former "poo poo" the whole of the story, theorizing ever so eloquently that such would be physically impossible. The layman is not particularly interested in the possibility or the impossibility of such feat—he sees him doing these things, and to him such is very convincing.

The electric eel, while by no means a huge creature, is capable of storing within his form sufficient voltage of electricity to burn out household electrical fixtures, or administer a fatal charge to man. Had such not been definitely established it, too, would surely have been disavowed by science as being (theoretically) impossible.

Ornithologists have laid claim to some wonderful physical feats for the humming bird, one having to do with long flight without refueling. It is claimed by some that this tiny bird is capable of making a non-stop flight from the coasts of Maine to the depths of the Brazilian jungles. Presuming upon the truth of such claims, doubtless aeronautical engineers of the

world would like to know more of the type of fuel used. With the use of fuel of such potency, our largest army bombers would be enabled to fly non-stop for ten millions of miles.

Gradually it dawned upon us that we had begun an investigation into a field which had never been explored. The reasons, of course, are perfectly obvious. Members of scientific bodies simply cannot spare the time from their normal activities to devote to a study of the rattler in the wild state. He is so crafty and sly that anyone going out deliberately to make a study of him, to the exclusion of all else, would find it too dull a life—too devoid of worthwhile results. It could not be guaranteed to them that they would, even in a lifetime, happen upon a single occurrence worth recording. The layman goes about his work, but when one in tens of thousands happen to stumble upon something worth noting, the whole scientific world adopts an attitude highly prejudicial to the layman's claims. When asked if these things are true they usually insist modestly, "No reputable scientist has ever witnessed it." All of which means that if a scientist doesn't see it, then it's no good.

As stated elsewhere, the subject-matter going into the preparation of this volume represents the combined observations of more than one hundred observers who have lived as neighbors to rattlers from childhood to old age. As stated in the preface, if the lives of all who have contributed to its contents were pooled into that of a single individual, and he had been born one thousand years prior to the reign of the Pharaohs, he would still be tramping river swamps, hardwood hummocks, and sand ridges throughout the Deep South, and with his observations still incomplete.

The services of laymen are often employed by astronomers very advantageously. Infinite space cannot be searched with painstaking care every minute of the night by the regular personnel of the few large astronomical observatories of the world. For such reasons comets, or even hitherto uncharted planetoids may be within plain view of them, and yet remain undetected. If a layman, or amateur astronomer, should make an observation in some remote corner of the universe which he deems of sufficient importance he can, via telegraph, direct

the attention of the nearest observatory to the spot, and with the aid of their superior equipment they may wrest some hidden secret from the heavens which may well prove of enduring wealth or benefit to their science. Such comet or planetoid is very obliging under such circumstances. It will remain suspended in infinite space until all who have the curiosity to do so may train their telescopes upon her and have a good look. Such cannot be said for the rattler. When observed in the act of hypnotizing a squirrel, rabbit, or bird, he will not obligingly await the arrival of the newsreel man, summoned from the city by telegraph or telephone. On the contrary, when they arrive upon the scene the show is all over and he has departed for the jungle with the challenge, "Find me if you can."

It was with no prejudice whatever that we turned from so-called experts on reptiles and tied our fortunes in with laymen, who really knew the rattler in the wild state, but rather that we might acquire the knowledge about him for which we had so long and so patiently sought. Needless to say that our patience was almost instantly rewarded. The Caterpillar Club boasts of one of the most exclusive memberships in the world. We believe that such honor rightfully belongs to the "Diamond-Back Charmers" of the Deep South. By such designation we mean the small band of men who go out deliberately to hunt down and take alive the largest, most ferocious, most poisonous and most dreaded reptile on the North American Continent. He is doubtless the most dangerous snake in the whole world.

We once knew a gentleman who had been employed by a large naval stores operator to exterminate rattlers along a river swamp in order that his employees working in the woodlands might be more secure against such menace. It was a hazardous occupation, as the one accepting such employment well knew, yet the work required little physical exertion, and the compensation was attractive. For several years he plied his trade and all went well. Some days he would bag one, other days none, and when fortune smiled upon him he might take a dozen or two. A price of two dollars was placed upon their heads. It was a big day for him when he chanced to locate a

mother and fourteen young loitering about a gopher hole which she was utilizing as a hideout for her offspring. He captured all of them as part of one day's work. His employer, being a just man, did not lay down any definite specifications as to size—just so he was of the species his head was worth as much as any old patriarch of the hummock. It was his good fortune that he came upon them at the time he did. The summer was well advanced and the mother would soon have weaned them, distributing them in pairs up and down the swamp, as has been shown heretofore to be her practice. In such event it would have been necessary to hunt them down one at a time. The babies are even more difficult to locate than the larger ones due to the fact that they can hide so securely in such unexpected places. No sooner than she became aware that she and her brood had been observed, all of them took refuge in the depths of the hole. Having them at bay he could take his own time bagging them. His first act was to clear the ground of all grass and litter immediately surrounding the hole. He provided himself with the necessary weapons, consisting of a club and a bough of pine needles. Running the sharp needles of the bough to the depths of the hole he jabbed them with the ends of a thousand sharp weapons which they could not endure. Scurrying out of the hole to find relief from those tormenting needles they were clubbed to death as they emerged. His work netted him well—thirty dollars for one day's work for an unskilled laborer was not bad.

Sad to relate Dame Fortune withdrew her favors from him for just this one day—one mistake is enough. On the day of which mention is made he had the rattler securely in the bag. On his way home he became weary, for the walk was long. Depositing his bag near a large fallen pine tree, he sat down upon the log for a brief breathing spell. No sooner than seated he heard the buzz of one's rattles and felt the dreadful sting in the calf of his leg. His tragic end was not necessarily chargeable to the hazardous nature of his employment—it might very easily have happened to anyone, since the one which fanged him was lying coiled by the side of the log upon which he sat down—not the one he carried in the bag.

Unfortunately, he was alone, and with no one to administer first-aid he lost control. Hastening on foot to the nearest residence his heart beat was stepped up and the circulation otherwise hastened with the result that death overtook him before he had covered more than a quarter of a mile.

A third son of Uncle Dave escaped by a split-second, and as a result of the close call would never thereafter return to the hunt. The dangerous work entailed in hunting this particular one down had been accomplished already. This son, evidently, grew careless at the task. He, together with another brother, was holding the bag with ungloved hands, while their father was lowering the reptile into the sack. As has already been mentioned—too often perhaps—craftiness is an attribute which should be eternally associated with the rattler, and all serpents, as for that. Surely no one should ever underrate the keenness with which they sense a situation. The young fellow, of course, was unaware that the rattler was eagerly watching his hand as he was being lowered into the bag. When he reached the level of the hand he had been watching he made a savage side thrust. The little pole to which he was tied, being unseasoned and consequently quite flexible, yielded to the thrust. The intended victim, being quite alert, observed the treacherous attack and dropped the bag in time to escape the blow. The fangs of the diamond-back sank deep into the folds of the bur-lap bag where the same had been gripped by the boy's hand a split-second before. His hands and whole front were literally showered with venom, the presence of which upon his person defied all effort to get his mind back on his snake hunting until he had returned to his home for a bath and a complete change of clothing.

As the days, weeks and months passed, this narrow escape seemed to gather added horror for the young man who escaped by such a narrow margin, resulting in his final abandonment of the chase. Few, of course, would criticize him for further hazarding his life in such a dangerous sport. One must be possessed of nerves of steel who would continue his membership in this "Suicide Squad" once he had heard and actually witnessed one's determined effort to bury their fangs in the living flesh of a companion.

They possess, in their brawny, loathsome form, strength comparable with that of the right arm of a pugilist. The sound of a rattler's thrust defies imitation. When one is thoroughly enraged and almost completely uncoils in a determined effort to reach an enemy with his fangs—well, the sound effect is such that the reader would rather not hear or remember.

So, as we review the results of Uncle Dave's war, which has been a truceless one during the last twenty years, we take note of the following salient points: One son was lost by reason of the bite of a rattler. This, of course, very largely determined whether or not there would be war or peace between the Nettles clan and the diamond-backs. Another son received an injection of deadly venom which would have killed the average person, but maintaining perfect calm in the face of an exciting situation, he so thoroughly performed a crude operation, thereby removing the venom, that he suffered little physical discomfort as a result of the bite. One attack following another finally terminated in war under a black flag. Of course, the third son, who came so dangerously near being bitten while holding the bag for his father—well, that little incident didn't figure in the declaration of hostilities one way or the other. He was fighting in self-defense, consequently justified in making the attack, even in sight of the father and other brothers. It did teach them one thing, however, and that was that their previous practice of holding the bag with bare hands was too dangerous to continue in vogue. Thereafter they resorted to the use of an oak limb or shrub two or three feet in length. By leaving a spur or hook on the end of such limb the sack can be held with the aid of the hook, thus permitting them to stand a safe distance. Following this attack in which the rattler came so near scoring a decision his son entered into a truce with them. A fourth son will not admit failing courage, but note has been taken of the fact that it is scarcely, if ever, convenient for him to go along with the party. When such diplomatic excuse as he may render has been heard by the old gentleman and his depleted little army the undaunted members pass the "wink" around, and then proceed merrily on their way. For a time it had the appearance that Uncle Dave was

slowly but surely losing his war. But, observing his firm resolution to yield no ground, he continued in the fray, undismayed. He observed that the ranks of his adversary were always replenished—they seemed to spring up like soldiers from dragons' teeth, while the gaps in the ranks of his little army are difficult to fill with new recruits. Rattlers, in particular and all snakes in general, appear to be free from disease. They do not believe in race suicide. With families of fifteen or more to each wedded couple, they held forth the prospect to Uncle Dave of a war which would engage his interest for many years to come. His best efforts—and he often assumed the role of recruiting officer as well as generalissimo of his little suicide army in the field—finally swelled his army to a round dozen. Strange as it might sound, he did not want many recruits at any one time. He rather preferred to take them on one at a time in order that he might thoroughly school them in the hazards of the battle before turning them loose on their own. While undergoing training for the work before them he felt that their very lives were in his hands and such responsibility rested heavily upon him. His seventy-fifth year proved to be his best. Those he trained gave him their catch as a mark of appreciation of his noble contribution to society, and when the season was over and a careful count made they had accounted for fifty-one. A practical test was at the same time being carried out in the process, viz: to determine whether or not a vast area heavily infested with them might be cleared up and made available to hunters, fishermen, picnic parties, and in fact all who might (except for the presence of these dread creatures) derive a vast amount of enjoyment from their freedom in the outdoors. Such experiment was wholly satisfactory to himself. If a dozen men could exterminate these dread reptiles in an entire county, then all he needed was to enlarge his army, thereby driving them to near extinction throughout the entire Southern states.

It was under such circumstances and with such thought in mind that the idea of producing this little volume was conceived. By reducing to writing all he had ever learned concerning the ways of the serpent then others could acquire a

working knowledge of the art of extermination without exposing themselves to the dangers he had known due to inexperience. Every person into whose hands one of such volumes might fall and whose lands had become heavily infested might rid himself of them readily, once having taken the time and trouble to acquaint himself with a better knowledge of their habits.

It is a pretty generally known fact that the rattler likes rough woodland, shunning timbered lands which have been burned over. Due to this fact, land owners burn the dead grass and litter off their lands annually, resulting in the loss of millions of young trees, denuding the soil of much of its available plant food, promoting erosion, and otherwise destroying assets of incalculable value to themselves, the State and Nation. A simpler, and by far more sensible plan, would be to inaugurate a campaign of extermination when the rattler has taken refuge in his winter quarters. A careful checking has definitely revealed the fact that territory which has been carefully hunted during the winter months is free from the pest during the following months of summer, provided, of course, that the job has been painstakingly done by men skilled in the art. These old wizards of the woodland are, however, thoroughly awake to their own interests, and though they have been completely exterminated on one large tract of land, and permitted to thrive on lands adjacent thereto, they soon discover the fact that game is plentiful over on the lands where their kinsmen have been exterminated, and when the landowner least expects it some Mrs. Rattler will truck her entire family over into such promising territory and turn them loose on such landowner, with the result that his land will be completely reinfested overnight.

It is a difficult matter for the average person to understand that territory so thickly settled would at the same time prove so inviting to these unwelcome tenants. We rather suspect that such person has failed to reckon with their intellectual keenness. It is indeed perplexing that any creature so universally hated and dreaded by practically every living thing could hope or be expected to survive under such circumstances. If one can, then

let them imagine some hostile, alien race planting themselves in the very midst of some thickly settled American community, hunting, fishing, multiplying, and in general carrying on all the normal activities of primitive people, and with not a living person lending a helping hand, neither making any show whatever of the slightest sympathy; then some idea can be gained of their craftiness in matching wits with such a formidable array of forces pitted against them, and defying extermination from generation to generation.

One can seldom engage Uncle Dave in conversation but that he has some thrilling experience to relate—an experience relating to the same enemy, of course. It was on one of those fine spring days—one of those spring days calculated to make any person rejoice that they are living. The spring sun was bearing down, and a warm southwest wind off the bayous of the lower country bordering upon the Gulf of Mexico heralded the arrival of real spring. Nothing would do his six boys but that they must go out for a long stroll through the wild woodland surrounding his modest little shack, and it was not a very difficult matter to persuade their dad to go along. All seven of them thought it was a glorious day, and while they were not conscious of the fact; their ever-present lurking enemy had the same idea about matters. Like so many young goats they went running, leaping and screaming through the woodland, with the old gentleman following close upon their heels. All of a sudden he detected the odor of something he did not like. Lifting his face upward as though looking at the sun, and sticking his nose into the breeze like an eagle scenting his quarry, he took a good “wriff.” Then, with the commanding voice of some military man, he commanded all the boys to stand still—“Don’t move out’n yer tracks,” he commanded, “thar’s a rattlesnake nigh ye, an’ he’ll shore nab one o’ ye if ye dare wiggle a toe.” He observed with care the orders he had given the boys, at the same time holding the least one by the hand while he spent what seemed to him several minutes, looking in all directions, peering underneath every leafy bush and tuft of grass. Finally he smelled the sickening odor of the rattler arising like hot steam from directly underneath his

feet. Looking down, he found himself standing astride him, which necessitated some quick thinking. He was sure of his ability to take care of himself, but how about the small child, both of whom were within easy striking distance? Observing the mounting temper of the diamond-back he felt confident that he would strike like a bolt at the first sudden move, or menacing gesture. Just the same, something had to be done; he could not endure this intolerable predicament for always. The young chap had not seen the reptile and had not been apprised of the fact that they were standing beside him. With eyes fixed firmly upon the rattler the old gentleman placed his long, brawny arm across the breast of the little fellow, and with a sudden thrust threw him a somersault or two backward and well beyond the striking distance of the rattler. As for himself, he stood motionless, awaiting eventualities. Under all the rules the rattler should have struck, but he didn't. So, with perfect calm he got into reverse gear, easing gradually off him, observing with care as he did so his display of temper. The manner of the child's delivery was almost as much to be dreaded as the menace to which he was exposed. Being a Nettles, however, he arose, dusted himself off, and without so much as uttering a whimper, evidently feeling that "Pop" knew his business and if such rough treatment was the price of his delivery from harm, then he was for it. Soon the "all clear" signal was given, and the party proceeded each his separate way, treating the entire affair as a mere incident growing out of their day of pleasure.

On Thursday, early during the month of July, Uncle Dave arose on the bright, sharpened his hack, filled his water jug and dinner pail and set out for the woods to finish his chipping for the week. Now, the day of the week would not be important were it not for the fact that laborers in the turpentine industry finish chipping their crop of boxes on this day. For some reason not clear to those not engaged in this particular line of endeavor they prefer to labor diligently from early dawn on Monday until dusk on Thursday, if necessary, to the end that six days of labor may be crowded into four hard days of work, thus allowing them three full days of rest at the end

of the week. Their reason may be a purely psychological one, but whatever the reason is, it happens to be the particular concern of those performing this arduous labor. After all, it's job work—the men being engaged to chip a crop of 10,000 faces for a specified consideration, and it makes little difference to his employer if the laborer did the work by bright moonlight, provided, of course, that the work was well done. He should lose no time if his crop was to be finished before nightfall, consequently he was hastening along down the lane, thinking only of the task before him. His meditations were suddenly brought to an abrupt end—he was startled by the noise of Pee Wee, his little fice dog, running to catch up. It caused him to marvel that so small a dog could make that much noise with only four tiny feet. The cause of the dog's delay in starting was very simple, once explained—he had been devoting too much time and attention to a mellow hambone in the chimney corner, and too little to the departure of his master. Acting on one of his "hunches"—and he had them frequently—he forbade Pee Wee going along on this particular day, although he could assign no reason for feeling as he did. So, turning about in his tracks, he spake thus to the dog: "Pee Wee, I can't let you go today, so ye might as well trot along back to the house." The faithful little dog lost no time in carrying out the orders of his master, though he did look dreadfully dejected as he retraced his steps to the house. He seemed to understand everything his master ever said to him. Taking a hurried glance backward toward the house he saw his little dog standing upright on the inside of the split rail fence surrounding his shack, with paws resting upon the fourth rail, peering through the fifth crack. Calling back to him, he said, "Wall, come on, dern ye, a body can't deny ye nuthin', and ye a'standin' thar with tears in yer eyes." At the spoken leave of his master he came bounding with more speed and enthusiasm than when he first attempted to follow his master.

All went well during the greater portion of the day. Pee Wee was having a great time. He had "treed" more than his usual number of "cottontails." Neither he or any of his progenitors (called fice dogs by the older people) ever barked

when trailing rabbits or other game. This gives them a decided advantage over the rabbit. Before the latter is aware that a dangerous enemy is upon his heels he is compelled to flee for his life. With ears lying flat upon his back, he goes bounding for the first hollow log, tree, or maybe gopher hole available to him. Then guarding the doorway, he summons his master by barking.

Pee Wee had been a busy little dog during the forenoon. Late in the afternoon his master heard Pee Wee barking violently. Something seemed to tell the old gentleman that it was not a rabbit this time—the intonation of the dog's bark was different. He was sure that he held something at bay, though there had been no chase as a prelude to his present distressing yelping. He would go and see presently, but just now he must finish working out a large cluster of trees already partially chipped. Just at this instant he heard the little dog utter a cry as though some dreadful pain had been inflicted upon him, and presently the little dog came running to him from over the hill to lie down at his feet whining. Stooping low to look, he observed that he had fallen victim to a diamond-back's fangs, so he judged by the wounds upon his forehead. Judging by the dog's reaction to the venom he realized that it would all be over with presently, so he would remain with the little doggie. Later he would go forth and avenge himself upon the perpetrator of this dastardly deed. As the dog lay at the old gentleman's feet, unconscious, and before life had departed, he took notice of something he had never before observed. He had been told by others that victims of the bite would, after lapsing into a state of unconsciousness, writhe somewhat after the manner of the reptile. As he stood observing he took note of wrinkles forming along the body of the dog, moving in the direction of his nose, an imitation of breakers rolling in upon a sandy beach. Though not a matter of common knowledge, this rather accurately described the behavior of the rattler's skin as he is in motion. Though most snakes travel with a wriggling motion, such is not the case with the rattler. He is capable of crawling as straight as the flight of the crow, but if one will observe with care he will discover that the skin

upon his abdomen and sides behaves in very much the same manner as that of the dying dog.

The scales upon the rattler's abdomen differ greatly from the remainder of his covering. They have the appearance of knife blades, extending all the way from one side to the other, and are designed to give traction. The skin is geared to his internal power plant much the same as the metal track of a caterpillar tractor is geared to the motor and transmission system. The track of the tractor goes all the way over, but such principle not being possible with the rattler, a rather ingenious principle serves the same purpose. The skin, while he is in motion, moves forward and backward, many sectors alternating as he advances. Some hold to the theory that the skin of their underside is attached to the ends of their ribs, and that their ribs, when in motion, perform in very much the same manner as the oars of a boat's crew.

It is worthy of mention in passing that wise old King Solomon lamented the fact that the way of a serpent upon a rock puzzled him exceedingly. The best scholars of his day and time did not have as adequate facilities for acquiring such knowledge as students and observers of the present day. Had the X-ray and moving picture cameras and projectors been in common use during the era in which he lived, then such mystery would have vanished quickly.

But the curtains had already been drawn on the first act of this little drama—the little doggie was dead—dead as a door nail. Now Uncle Dave has his turn with his trusty old shotgun—he would go on the warpath himself for a brief season. Following the tracks of Pee Wee as he fled from the scene of the assault, he was led quickly to the spot. While some distance still from the locality he had already suspicioned as being the scene of the tragedy, he paused briefly to survey his surroundings. Observing a mound of yellow sand in the wire-grass, he reflected over the season of the year as well as the nature of these creatures—he stood convinced that it was an old female guarding her young about this gopher hole. Such being their usual place of abode while caring for their young. They should have been hatched in May, and would not be

weaned until late summer. As likely as not he might bag the whole family—the male, he knew, would not be there—he would be off some place hunting—doubtless not returning for a full month at the time. No gentleman rattler feels it mandatory upon himself to conform to man's code of social and moral ethics, neither to observe any of the Ten Commandments. Let him take who has the power, and let him hold who can, is the only law known to the jungle. No sense in him lying about the house making love to her all summer to the neglect of his rabbit hunting. From of old he has known of her weakness for strong men. He would be serving his own best interests should he leave her to the mercy of the world during the whole summer—leave her to hunt her own rabbits and attend the brats to boot. Yes, he would give hunting his undivided attention that he might grow fat, sleek and strong during the summer months, the better to defend that which was his with the return of mating season in early fall. He had no assurance but that some robust home-wrecking sheik might appear at his very threshold with the coming of early fall and challenge him to defend all rights and title to his wife of yesteryear. Any gentleman rattler who during the summer months suffers the misfortune of losing his mate leads a rather lonely existence for a time, but welcomes the thought that early fall will usher in another mating season which often resolves itself into a regular love tournament. No, he has no aversion whatever to another romance—at the proper time he plans going courting, and it makes little difference to him whose wife he wins, just so he wins one.

Small rattlers and those of medium build look forward with keen delight to the day when they will be strong enough to dethrone some old patriarch upon whom accumulated years have brought a condition of decrepitude, provided, of course, that they have not as yet been able to whistle up a bride of their own size.

All the known physical facts tend to substantiate the theory that these small and medium size rattlers have been victims of no little "cuffing" about at the hands of these old bullies of the hummocks—not because of their women alone, but they as

well are "bullied" out of the very best of the feeding ground. Small ones do not dare bed down for winter in gopher holes for fear that some overgrown bully will come along and, laying claim to his quarters, drive him out into the cold. He will choose for himself some small hollow log or a cavity in some hollow stump.

It has not escaped notice that these mammoth rattlers are found in small colonies, not infrequently three or four bedding down upon a single acre of territory. When medium ones are found they are never encountered in the immediate proximity of the large ones. The giants appear to have a way of surveying the territory, locating the very best hunting and hibernating grounds, staking out their claims, and then warning these babies and young bucks off the premises under penalty of suffering a severe drubbing. When such conditions are encountered by experienced hunters then the missing link in the chain of evidence can very easily be supplied—he knows that these great reptiles compel the younger generation to respect their property rights—and their women.

But why stand in a trance-like condition longer, musing over these things, to the neglect of his mission. He must find this old Jezebel—it's pay-off time. Advancing cautiously toward the hole she was the first thing to meet his stare. She had remained in the mouth of the hole, feeling that she had no other foes to face, having driven the meddlesome little dog from the scene with a fatal injection of her venom. She had formed no coil, but was partly in and partly out of the hole, forming an elongated letter "S" with her body, facing her new-found enemy. A heavy load of birdshot caught her amid-ship, and, to his surprise, when her side walls were torn open, a large pile of little ones was exposed to view—five dead ones and seven still uninjured, crawling about freely.

Now, the writer happened to be more or less familiar with the contention of snake experts and took it upon himself to review such differences with Uncle Dave. Some insist that when little ones are found under such circumstances that they are still in the embryo stage. All insist that they do not swallow their young, but that the lay observer is simply deceived by

the mother rattler. With mouth open, in a fighting posture, and with the little ones running hither and yon, the layman, being more or less excited, insists that they slithered down her throat when, as a matter of fact, they concealed themselves in the litter, underneath tufts of grass or under rocks.

To all of which Uncle Dave retorted: "Wall, them fellers jes don't know no better, I reckon. I'm old enough to know one's stomach from her other organs."

With such nonsense disposed of, the venerable old gentleman sat down upon a log, took a bite of his plug tobacco, and began fingering in a leather pouch he carried suspended from his leather belt for his whetstone with which to put a keen edge on his hack—it was Thursday, and he must finish his chipping before the sun goes down.

It is also an oft-repeated statement usually circulated by those who have never had broad first-hand experience, that a rattler has never been known to charge a human being. It is quite evident that such misstatement of fact grew out of what is admittedly true concerning his disposition and general habits. It is true that he never deliberately goes courting trouble. As a matter of fact, he will oftentimes flee from a human being if by so doing he has reasonable hopes of making his way into bushes, briars, or grass where his chances of making his escape are good. Nothing appears to distress him quite so much as being caught upon perfectly open ground. He realizes instinctively that such a situation robs him of the benefit of one of his greatest endowments—his gift of camouflaging himself, thereby concealing his presence from the eyes of his enemies. He realizes equally well that if he can reach the shrubs or other undergrowth where there is an accumulation of dead leaves, grass and straw, that his chances of escape instantly change from about ten to one against him to the same ratio in his favor. We have been witness to them breaking out of their coil and running with the speed of a black racer to gain the briar patch. Such behavior should not be mistaken for cowardice. If anyone should, either through ignorance of his deadliness, or sheer recklessness, pursue him too hotly he would surely turn upon him and attack with the ferocity of a demon.

There is a definite challenge even in the retreat of a diamond-back, but when one is charging, with head reared high and rattles giving off that blood-chilling whir—well, the wicked and the righteous flee together.

The writer enjoys personal acquaintance with three reputable gentlemen who have been forced to run for their lives, and are by no means ashamed to publicly acknowledge the fact. The gentleman whose thrilling encounter we are about to relate was no weakling, weighing about two hundred and twenty-five pounds, neither was he lacking in personal courage. The diamond-back which drove him from the woods was a superb specimen. His presence in the community had been known for years because of the large trail frequently seen. He had even been met with by many persons, but none had the courage to attack because of the size and menacing attitude of the brute. Efforts had been made to locate his place of hibernation, but without success. His wisdom seemed to have kept pace with his lengthening span of life, so notwithstanding the determination of his human neighbors to effect his destruction, he persisted in parading up and down the earth, seeking whatsoever he might devour.

The gentleman whom fate had booked for an encounter with this old bully of the hummockland was riding his horse through the moss-draped oaks near the river when his horse shied from something, blowing as he sidestepped a bit. Looking upon the ground he saw a great snake upon a dense covering of wiregrass. When this grass has not been burned for several years it attains a depth of a foot or so, and was so soft and spongy that the reptile was experiencing some difficulty in getting the necessary traction to push himself along. To overcome such disadvantage he was lunging forward and buckling or forming his body into arches as he lunged, thus overcoming his lack of traction. He could not at first believe that he was a diamond-back. He had lived for years in infested territory but had never seen anything like him. He insists, even though admitting that he was decidedly excited during the battle, that he was not less than seventeen or eighteen inches in circumference. Others who saw him on other occa-

sions concurring, his figures must have been conservative. The thought at first occurred to him that he must belong to a species not native to the territory in which he was found—perhaps had escaped from some traveling circus. But no, he was a rattler. By this time he was singing his rattles gently as he continued crawling, endeavoring to avoid possible unpleasantness with the horseman. Making his way slowly toward a small liveoak tree with low-hanging limbs, he crawled underneath it to await eventualities. The rider, being confident of his prowess, dismounted and cut himself a long pine sapling with intentions of breaking his back at the first blow, thus rendering him helpless. Due to the low-hanging limbs of the tree he did not deliver the fatal blow as hoped for. While striking him a terrific blow, it did not hit a vital spot, but on the contrary served to thoroughly enrage the old rascal. With one mighty lunge he attained his full height—leaping straight upward, parallel with the body of the tree. At the same instant came the most blood-chilling whir-r-r-r from his rattles that he had ever heard. It seemed that the very leaves of the tree and blades of grass quivered from the effect of the piercing note. He had not anticipated the situation he had created—he had never seen a rattler behave in the manner of the one before him. The scene was suddenly transformed into something he lacked the courage to look upon. He instinctively sought shelter behind a large nearby pine tree, risking one eye at him, so to speak. His assailant having disappeared from view, the rattler reared his ugly head to a height of fully four feet, standing upon the flattened portion of his tail, and commenced circling around underneath the tree, looking everywhere. His horror-inspiring form and his savage, flashing eyes were too forbidding to look upon. His eyes, however, were an unerring index to the fury raging within him. In ever-widening circles he moved, looking and listening for the man who smote him. His assailant, who had been standing behind a tree observing him with one eye that he might keep check on his movements, had concluded by this time that since he was about clear of the limbs of the tree, his chances were improved for carrying out his original design. He took note of the fact

just at this time that his fury appeared to be subsiding, so allowed him a little more time in which to become his former self. His judgment was vindicated, or apparently so, inasmuch as the sound of his rattles was again descending the scale to a lower pitch, while at the same time he commenced lowering his head and body to the ground, slowly retreating from the scene. Just then his enemy since Eden days stepped into the open to recover his weapon. At the very sight of him his fury seemed to surpass his initial show of temper. He "about-faced." His whirring rattles again ascended the scale. He began moving back and forth, assuming the most menacing posture, facing his antagonist all the while as he stood almost to the full limit of his length. After the manner of Goliath before the camp of Israel, he challenged this horseman to come forth to battle. This particular observer gave the writer a graphic picture of this old patriarch of the hummock which left no doubt in our mind that he had been an actual eyewitness to the thing described.

His testimony corroborated that of other laymen on two or three interesting points insisted upon by the latter but denied by scientists. He endeavored to describe a peculiar flickering beam emanating from his eyes, but for want of a sufficient vocabulary, was not fully satisfied with his own description. He described it as somewhat resembling a cat's eyes illuminated by the headlights of an automobile, but flickering rather than giving off a steady glow. According to this observer such a countenance, and particularly such eyes, were difficult to look upon. This particular detail of such observation is deemed important. The only other instances of which we have ever learned comparing with this observation happened in broad daylight and therefore might easily be explained as reflected sunlight, but on this occasion the sun had already set behind this vast, dense forest, with not a ray of light falling upon the scene. This being true, we feel more than justified in the presumption that such light was of his own creation and might some day be revealed as the source of his uncanny power to kill with his eyes. The horseman was fearful of such power and avoided meeting his stare squarely.

It might as well be admitted that the first round belonged strictly to the rattler. The horseman had hoped to administer a paralyzing blow at the first, and then administer the coup-de-grace at leisure, but his plans went wrong. Instead of inflicting a very damaging blow the stroke had merely served to transform him into a demon filled with fury and venom. The rattler was too confident of his own prowess to lie down and be killed merely to oblige his ancient enemy, man. When he advanced upon him the second time he found him alert and fully awake to the danger threatening him. The horseman was wholly unprepared for what happened this time. No one had ever warned him of such danger. All he had ever read from the pens of snake experts gave assurance that a rattler would not charge a human being. Such blunder was excusable inasmuch as such assurances had been universally accepted as being true. The rattler lunged forward, changed ends, and then struck double length over his tail, thus advancing four full lengths in as little time as would be required to count the strokes. Our informant had no time for anything save delivering himself, if possible, from the dreadful blow he felt for in his back as he wheeled in his tracks and speedily retreated to a place of safety. With this experience he concluded definitely that this was not a one-man job. Untying his horse, which had been hitched a safe distance from the scene of the battle, he rode away for home. Taking a backward look over his shoulder he witnessed, with considerable humiliation, the head of his victorious adversary reared high, just to make sure that this meddlesome horseman did not change his mind and return to the encounter.

It has already been stated that a wholly erroneous opinion is universally current to the effect that a rattler is either indisposed to do so or is wholly incapable of staging a furious assault. Those disposed to cling to such beliefs would do well to keep the experience of this horseman in mind. Diamond-backs of the type described do not obligate themselves to employ merely the tactics of the younger and less experienced generation. They become ill-tempered and by far wiser with each passing year. We have read times without number that

they would not strike out of their coil, neither strike higher than the knee, and would not under any circumstances abandon their coil and charge a human being. While such reports, generally speaking, are true, it might at any time lead one into the most grievous error should they trust too much to these general observations. Much depends on the size, age, the individual rattler's temperament and the degree to which he has been provoked. Among rattlers, as among men, there is a varying degree of decency. Some are so even tempered and slow to anger that they could be picked up with ungloved hands, while others would not make fit companions for assassins. The above incident occurred during the mating season, which is decidedly the most dangerous time of the year in which to expose oneself in infested territory.

The horseman who encountered the savage resistance at the hands of the giant rattler related that on his return home he suffered from nausea and general nervousness and could not sleep during any portion of the night following the incident. Such condition was attributed by him to the objectionable odor exuded by the rattler while so enraged. Some hold to the opinion, and they are not wholly without evidence to sustain them, that the musky odor of the rattler possesses the peculiar quality of stupefying their prey, thus precluding the possibility of too much resistance to their attempt at fascination. Such musk will sicken human beings, producing a very painful headache, and otherwise generally upset those exposed to it, but the writer has never learned of a human being rendered unconscious by reason of it.

Those capable of instantly distinguishing the odor of the rattler often take notice of it in swamp regions and in other quiet localities where the chances of him having been disturbed is rather remote. This would appear to lend credence to the contention that they frequently utilize their musk for the purpose of stupefying their prey, thereby taking much of the fight out of him. Regardless, men who have hunted these creatures for any length of time will tell anyone that whatever trick is required, the rattler usually has it. In short, he is master of many arts. Like the elephant, they appear never to forget any-

thing, or any human being with whom they ever had any unpleasantness, growing wiser as the years go by.

A venerable old gentleman once related an incident which I at the time doubted very seriously but which has since been rendered perfectly understandable viewed in the light of this horseman's experience. He held one at bay, armed with a ten-foot pole. Before striking the reptile he had occasion to turn his head for an instant, and as he did the rattler's body passed his face like a shadow. Had the blow been more accurately aimed, he would have fastened his fangs in the old gentleman's face or breast.

The above is fully corroborated by other witnesses, all of them well known to me. One was riding a horse through rough woodland when one struck him upon the upper part of knee-high leather boots.

Under similar circumstances, another friend had one strike at the nose of his horse. This stroke was a complete miss, due to the fact that the horse was too alert. Missing the object of his wrath, the rattler landed on the other side of the settlement road the horseman was following. According to this observer's statement, the reptile must have leaped clear of the ground and for a distance of at least eight feet.

A member of our hunting party once had a close call when one leaped three feet straight up out of its coil. It happened in this way: Fresh sign had been seen about a hole he was using for a den. Before kneeling down for a better look into the depths of the hole, he took the usual precaution of jabbing here and there for some distance, just to be sure that he had not concealed himself beneath the deep growth of wiregrass about the hole. The answer was that he had. When the point of the shovel landed squarely upon his coil he leaped almost his full length into the air, mouth wide open, fangs unsheathed—a deadly menace to those nearby. All members of the party fell backwards, or in opposite directions from the reptile, behaving as they would had a bomb exploded in the midst of them. All members in the party had hunted the diamond-back for many years, had passed through every danger to which one might expect to become exposed, and their nerves were so

steeled that under such circumstances they instinctively did the right thing without taking time out to think—their reflexes took care of them, as it were. This incident should be a lesson to all who would like to engage in this thrilling pastime. Not even a veteran hunter should ever get in a hurry on a spot where he senses danger. Fang-proof boots would not have, under such circumstances, availed him anything. The stroke, had it not been a miss, would have landed upon the body of some member of the party.

There is one safe rule, or pretty nearly so, by which those hunting such a deadly foe should be governed, and that is, never step on one. During their period of hibernation they act very much as though they had been given a "shot in the arm"—they want peace and rest above all things. It is fairly safe to brush past one, or to step over and beyond him, but woe unto him who steps squarely upon him. This can be avoided if hunters will remember to step only where they can see the ground clearly, or either comb the grass and litter with extreme care before advancing. One might brush past him times without number and suffer no harm. Under such tenseness, if the hunter should hear a sudden, violent whir of one's rattles, remember one thing—jump as quickly as you can and as far as you can. You can apologize to your friend for knocking him down later.

It was on another occasion, but the same rattler which challenged the horseman which managed to get his personal affairs rather well fouled up with his hostile human neighbors. He was loitering about a huckleberry flat beside the river awaiting the arrival of some hungry bird. To his complete surprise a large truck unloaded a full dozen berry pickers almost upon him. They came into the flat so unexpectedly, and unloaded so quickly, that they almost had him surrounded before he could conjure up any plan for extricating himself from this human trap into which he had fallen. When they began closing in upon him he realized that something must be done quickly. Without further loss of time he reared up out of his coil, singing his rattles defiantly as he commenced advancing upon those blocking his chosen course to the nearest underbrush. It had

the appearance that he so planned and timed his attack as to completely confuse and frighten the entire party. Taking full advantage of such confusion, he was able to make good his escape before they could plan and execute any counter move designed to offset his. He never slackened his pace until he was safe in the underbrush of the river swamp. It cannot be truthfully said that he made any attack upon any of them—they were simply in his way, and he was serving notice on all and sundry that he was coming through, come Hitler, or high water, and that some dreadful “accident” might befall any member of the party electing to challenge his right of thoroughfare.

One of the most interesting bits of information the writer ever gathered since he took it upon himself to pry into the private life of the diamond-back, came to us through Uncle Dave. It happened within the circle of his own close personal friends, and he is perfectly willing to vouch for their testimony. It differs from all others in that a human being was hypnotized into a state of insensibility, later to be revived and relate the whole experience in detail. Unfortunately, where dumb animals are the victims, what they experience and suffer is lost to the world.

The victim of this terrifying experience was a lady. She had accompanied her husband to the field to assist in some light farm work. In the fencerow bordering the cultivated plot of ground they found a diamond-back. The creature instantly coiled and offered fight to anyone who might challenge. Being without any form of weapon, and the distance back to his home not being great, he left his wife to prevent the escape of the reptile while he hastened off for his gun. Little thinking what great dangers might grow out of his hasty instructions, he cautioned her not to take her eyes off him for one minute. Now, if the rattler could have had his one wish then it would have been just that. Other circumstances being what they were, this prepared him for the accomplishment of his fiendish task—the lady was soon to be delivered, consequently was not strong, either physically or mentally. The point has already been made that they are at their best when dealing with

prey less persistent than themselves, such as birds, rats, rabbits, squirrels, etc. With the intelligent dog, or with a strictly normal adult human being, they have no chance whatever. It might be added that human hypnotists experience greater difficulty with persons of strong minds and wills than with those of the opposite type. It played to his hand that she observed with care the husband's instructions not to take her eyes off him.

Returning in haste with his gun, the husband witnessed the almost unbearable spectacle of seeing his wife swoon and fall upon the exact spot, as he thought, where the rattler was coiled. His distress was somewhat relieved on reaching the spot as he learned that while his wife was unconscious she was otherwise unharmed—she had not quite fallen upon the reptile, still she was within striking distance of him, which presented a pressing problem of very grave concern to him. How was he to remove her from the scene without inviting a sudden thrust? Under the stress of such an exacting situation, he managed to exercise surprising judgment. At close range, and with unerring aim, the load of birdshot carried the head away completely, rolling the body a safe distance from his unconscious wife.

When this lady had completely recovered from this dreadful ordeal, she told an amazing story—a story which may serve to clear up the queer behavior of small animals when similarly exposed to the wiles of the serpent. When the lady had again become normal, she reviewed her experiences—telling how, after listening some time to the whir-r-r-r of his rattles, her hearing became confused. It seemed, she said, that there were rattlers everywhere. No matter which way she turned, the sound of his rattles was directly in front of her—first to the left, then to the right, as well as to her back. When she had looked upon him for several minutes her eyes next became confused in like manner as her ears. When she turned from him he reappeared in front of her, no matter in which direction she turned. Then, looking again upon the spot where all her other senses told her he was, he was wholly invisible.

We have related briefly the substance of the lady's account

of what she experienced. The above were her last recollections. She felt faint, and when consciousness returned to her she was in her husband's arms. She was illiterate, but very pious, having a sacred regard for the truth. Her story of just what happened to her therefore deserves very serious consideration. Being illiterate, she could not possibly know that her observations would ever be of any scientific value. She merely related the simple story of her dreadful ordeal.

Some phases of her experience are well worth pondering. Almost everyone knows that the human ear cannot long endure the note of the diamond-back's rattles. Many can testify to the truth of her statements in regard to this particular point.

The other statements made by her as to her experiences are likewise true; but only a few persons have ever had just such an experience, and none of these have ever been able to offer any plausible explanation for such seeming impossible occurrence. Anyone familiar with the simple principle of optics will readily agree that if you look intently upon any image possessing clear and distinctly marked outlines (for instance, the geometrical designs, in orange, upon a dull olive background, and other gay and contrasting decorations) the image becomes well imprinted upon the retina of the eye, and will reappear from time to time as the eye is blinked. We regard this as an accepted fact and therefore pass on.

The following incident which received some mention in the press came to the attention of the writer, and is worthy of mention in this connection. The principle involved is very definitely related to that under discussion. It had to do with the operator of a large bus. The driver, suddenly and apparently without cause, swerved sharply, left the highway embankment, and injured some of the passengers.

During the course of the investigation which followed, he testified that he suddenly saw a small child on the highway, directly in front of the bus. Knowing that his brakes would not bring his vehicle to a standstill in time to save the life of the child, he followed the only course left open to him. Such statement, made in all sincerity, availed him nothing. None of the passengers aboard saw any child, neither did any of the

pedestrians who chanced to view the accident. Those holding his fate in their hands agreed among themselves that it was an "hallucination."

A similar occurrence once came within our experience, though no harm came of it. On a straight and lonely stretch of highway we met a great transcontinental bus. Under such circumstances one will instinctively keep their eyes open and on guard until the danger is past. The sun was to our back, thus giving the front part of the bus 100 per cent illumination. Passing the bus safely, we breathed a sigh of relief, seeing that we had passed each other without mishap. Looking straight down the highway, and again blinking our eyes, we were amused to see a "ghost bus," in the tracks of the real one. Now there exists little doubt in our minds but that the bus operator in question had a similar experience. It is by no means impossible that the true cause of the accident was a lingering image upon the retina of the eye. Had he been familiar with the principle involved, and had he been sufficiently alert to recognize it as the image of a child he had looked upon, possibly a mile or two back down the highway, then no accident would have resulted.

There is just one point in the testimony of the lady previously referred to which is left open to dispute, or seemingly so. Just why was it, if true, that when she looked back upon the coiled form of the rattler, the lingering image of the reptile was expunged from the retina of the eye, for a brief instant, giving the false impression that the ground upon which he was actually coiled was wholly free from his menacing form? This part of her testimony is, seemingly, out of line with what is known concerning the principle governing such matters. Inasmuch as she happens to be the only person of whom we ever heard who lived through such an ordeal, the writer would be the last person to deny that what she related actually happened, or thus appeared.

Does the behavior of small animals under the same trying circumstances tend to shed any light upon the subject? If they could but speak up it might be possible, with the aid of their testimony, to clear the entire matter of all the mystery with

which it is entangled. Since they are dumb, then let us consider their actions.

Many instances already related involving rabbits, squirrels, etc., would seem to bear out the testimony of the lady in question. During the early stages of the hypnotic attempt of the serpent, and before the subject finally succumbs to his power, the animal races about aimlessly, completely "boxing the compass," but finally returning to their tormentor, ending in a stupor, with their nose almost touching that of the reptile. How else can we account for such behavior? Having once looked hard and long at the rattler with his varied array of colors, does not his body appear to be everywhere except where it really is, as in the case of the lady, and do they not return to the serpent for the reason that it appears to be their only avenue of escape? Surely all the beasts of the field and birds of the air recognize him at sight and dread him worse than any other creature encountered about their native haunts! With the above expressed thoughts, we abandon such theory to the mercy of each individual reader, leaving them to form their own conclusions.

FOLLOWING THE TRAIL OF THE SERPENT

Returning again to the thought so well expressed in Gen. 3:1, we are prone to inquire further, or to ask, "Whence comes the serpent's reputation for cunning, subtlety and wisdom?" A number of factors determine the answer to this question.

The serpent, instinctively conscious of the enmity of mankind, is stealthy and secretive, sparing no pains to conceal his presence from man on all occasions, hiding behind rocks, concealing himself in the grass, and oftentimes invoking his inherent knowledge of the art of camouflage, utilizing dead grass, twigs, leaves, rotten wood, etc., with which his natural color and markings blend perfectly, to the end that man may pass him by unnoticed. When discovered, his appearance invariably causes surprise, horror, fear, and a desire to destroy. Although but a few out of the many species of serpents are poisonous, in the popular mind all are regarded as deadly and are avoided or killed at sight.

The very form of the serpent and its method of locomotion, both of which it shares with the worm, are repulsive to the human mind, hence overcoming the effect of the actual beauty of the bodily markings of a number of species. Scripture declares that the serpent was instrumental in the fall of man, hence his traditional enemy.

But the predominant factor in man's antipathy to the serpent is its power of fascination, which links it closely to the art of hypnotism. This power is exerted occasionally upon small animals and birds for the purpose of securing food, and is aided by the rhythmic movement and symmetrical markings of the body; the forked, darting tongue; the piercing eyes from which a fixed and baleful influence radiates; and in case of the rattlesnake, at least, a characteristic odor. The few who have ever taken notice of such odor exhaust their mental resources in a vain effort to link it with something with which the average person is familiar. By different persons the odor has been associated with that of a he goat, skunk, wet dog, garlic, or possibly an angry house cat. If it is in order for the

writer to express an opinion, we would agree with those who compare the odor to a wet dog. Like his wailing cry when calling to his mate, it is all but impossible to describe, or in the case of their mating call, to imitate.

To the effect of the rattler's odor must be added that of his rattles, which brings influence to bear upon still another of the senses. This sound excites the curiosity of the rabbit, squirrel, bird, or other small animal and brings it within range of the snake's hypnotic spell.

The scientific world will surely discredit the statement, yet there is sufficient evidence to show that the rattlesnake hypnotizes its prey so completely that it is within his absolute control.

The author of this little volume deliberately concluded the investigation of this subject in the field before attempting to look into the recorded observations of others. As already stated, such procedure was deliberate—that we might see for ourselves how nearly our own observations, and the observations of a multitude of lay observers we know, coincided with the recorded observations of those who have gone before. Many of the volumes perused while in quest of the truth were found to be yellow with age, as well as being covered with the accumulated dust of decades. That the reader may arrive at a fair and impartial conclusion, we quote below from the pens of others:

From John B. Newton, author of "Fascination, or the Philosophy of Charming," published in 1888, we quote:

"A gentleman himself told me that while traveling one day, by the side of a creek, he saw a ground-squirrel running to and fro between the creek and a great tree a few yards distant. The squirrel's hair looked very rough, which showed that he was much frightened; and his return being shorter and shorter, my friend stood to observe the cause, and soon discovered the head and neck of a rattlesnake pointing directly at the squirrel through a hole of the great tree, which was hollow. The squirrel at length gave over running, and laid himself quietly down, with his head close to the snake's. The snake then opened his mouth wide and took in the squirrel's head, when a cut of the whip across his neck caused him to draw in his

head, which action released the squirrel, who quickly ran into the creek."

Similar incidents are cited by the same author: "Dr. Good mentions the curious fascinating power the rattlesnake in particular has over various small animals and birds, such as squirrels and leverets which, incapable of turning their own eyes from those of the serpent enchanter, and overpowered with terror and amazement, seem to struggle to get away, and yet progressively approach him, as though urged forward or attracted by a superior power to that of natural instinct, till at length they enter into the serpent's mouth, which had all along been opened to receive them, and are instantly devoured."

Dr. Barrow, in his "Travels Into the Interior of South America," asserted this to be a fact regarding the various kinds of larger snakes, and Vaillant, in his "Travels Into Africa," affirms that at a place called Swortland, beholding a shrike in the very act of fascination by a large serpent at a distance, the fiery eyes and open mouth of which it was gradually approaching, with convulsive tremblings, and the most pitiful shrieks of distress. He shot the serpent before the bird reached it; still, however, the bird did not fly, and on taking it up it was already dead, being killed either by fear or by the fascinating influence of the serpent, although upon measuring the ground, he found the space between them to be no less than three feet and a half. There is a case, much in point, inserted in one of the early volumes of the "Philosophical Transactions," which states that a mouse, put by way of experiment into a cage in which a female viper was confined, appeared at first greatly agitated, and was afterwards seen to draw near to the viper gradually, which remained motionless, but with fixed eyes and distended mouth, and at length entered into the viper's jaws and was devoured."

M. Oldfield Howey, in "The Encircled Serpent," has this to say: "In the case of small animals and birds, the alleged power of attraction which the serpent possesses over them seems to be fairly attested by modern observers, who assert that the bird or animal which has fallen under the reptile's spell not only does not attempt to escape, but will eventually draw closer

to the snake, crying or moaning piteously while it does so, but apparently unable to control its movements once the serpent's eye has been fastened upon it. But should anyone pass between the reptile and its victim so as even momentarily to obscure the vision, the spell is broken and the bird or animal can escape. It has been noticed that the serpent is generally coiled when exercising its power of attraction, so possibly this position, in some way, increases the magnetic force."

The author continues: "Catesby, writing in 1771, describing the rattlesnake, cautiously says: "The charming, or attractive power which this snake is said to have of drawing to it animals and devouring them, is generally believed in America; as for my own part, I never saw the action, but a great many from whom I have had it related all agree in the manner of the process, which is that animals, particularly birds and squirrels (which particularly are their prey), no sooner spy the snake than they skip from spray to spray, hovering and approaching gradually nearer to their enemy, regardless of any other danger; but with distracted gestures and outcries, descend even from the top of the loftiest trees, to the mouth of the snake, who openeth his mouth, takes them in, and in an instant swallows them."

Similar account is given by Catesby's contemporary, the naturalist Goldsmith, who, without committing himself, avers, "It is said by some that a rattlesnake has a power of charming its prey into its mouth; and that is as strongly contradicted by others. The inhabitants of Pennsylvania are said to have opportunities of observing this strange fascination every day. The snake is often seen basking at the foot of a tree, where birds and squirrels make their residence. There, coiled upon its tail, its jaws extended, and its eyes shining like fire, the rattlesnake levels its dreadful glare upon one of the little animals above. The bird, or squirrel, whichever it may be, too plainly perceives the mischief militating against it, and hops from branch to branch, with a timorous plaintive sound, wishing to avoid, yet incapable of breaking through the fascination; thus it continues for some time its feeble efforts and complaints, but is still seen approaching lower and lower toward the bottom branches

of the tree, until at last, as if overcome by the potency of its fears, it jumps down from the tree directly into the throat of its frightful destroyer."

Quoting further from "The Encircling Serpent" by Howey, we find: "In South Africa in a serpent known as the booms, which has large eyes and a habit of partially coiling its body around the branch of a tree, and with its head erect and mouth open. If a flight of small birds discover the reptile, they fly around it, uttering wild cries till one, more terror-stricken than the rest, goes straight into the serpent's jaws."

"Dr. Bird has given an interesting account of the fascination of a human being by a serpent. Two lads out for a walk came upon a large black snake; and one of them wished to see if the reptile could fascinate him. He approached within a few yards of the snake which raised its head, when 'something seemed to flash from its eyes like the rays of the light thrown off by a mirror exposed to the sunlight'. The boy afterwards told how, in a moment, all his thoughts were confused, and he fancied himself in a whirlpool, every turn of which drew him nearer to the center. All the time he was approaching the snake, but his companion, realizing the danger, rushed forward and killed the snake.

"Mr. J. Herbert Slater, in a recent work described how a traveler, Mr. Lange, when exploring the regions of the upper Amazon, was told of immense serpents with a power of fascination which drew their victims into their grasp. Mr. Lange was extremely skeptical of these tales until the case of a rubber worker named Jose Pereira was brought to his notice. He investigated this and found that the facts were as follows: Pereira was in his canoe, paddling downstream, when he heard a sound that he thought was made by some animal; and running his boat aground he got his rifle ready to shoot, but seeing nothing continued downstream. Still the noise was audible, but he could see nothing to account for it. Presently, feeling uneasy and afraid, he returned and sat down upon the root of a tree, but soon found himself quite unable to stir. Luckily three workers from headquarters just then came down the river and, hearing the sound as of someone in distress, they

first shouted and finally landed. They found Pereira in a state of collapse, and under the root upon which he sat, appeared the head of an enormous boa-constrictor, its eyes fastened upon the poor man. They fired at it, and the spell was broken. The serpent was found to be 52 feet long and 28 inches thick. Mr. Lange vouched for the truth of this tale, which is especially interesting because the victim was actually unconscious of the presence of the serpent."

John Newman, M.D., refers to a paper by Major A. Gordon, of South Carolina, in which he attributes the fascinating power supposed to be possessed by serpents to a vapor which they secrete, and can throw around them to a certain distance at pleasure. He advances various facts to support his opinion, and observes that the vapor produces sickening and stupefying effects; and alludes to a negro who, from a peculiar acuteness of smell, could discover a rattlesnake at a distance of two hundred feet, and who, on following such indications, always found some animal drawn within its vortex and struggling with its influence.

This author cites the instance of a man walking in his garden who accidentally saw a snake in the bushes and, observing the eyes gleaming in a peculiar manner, watched it closely, but soon found himself unable to draw his own eyes off. The snake, it appeared to him, soon began to increase immensely in size, and assume in rapid succession a mixture of brilliant colors. He grew dizzy, and would have fallen in the direction of the snake to which he felt himself irresistibly impelled, had not his wife come up and, throwing her arms around him, dispelled the charm.

Cases of a similar nature might be multiplied indefinitely, but practically everyone who has lived in a snake-infested country has either personally observed the fascinating power of serpents or learned of it through the reports of others.

It is important to notice, however, that in the case of human beings, it is only exceptional cases that seem to be amenable to the power of fascination. Most persons not only are capable of resisting the influence, but many are able themselves to exert a power which disarms the fury of the most enraged or

vicious animals. This, says Dr. Newman, is particularly seen in the case of watchdogs, over whom burglars have found the secret of exercising so seductive and quieting an influence as to keep them in silence while the robbery is being committed. Lindcrantz, of Sweden, tells us that the natives of Lapland are in possession of this secret generally, inasmuch as they can instantly disarm the most ferocious dog, and oblige him to fly from them with every sign of fear.

Although the serpent's power of fascination is usually attributed to the eyes, the swiftly darting tongue, and, in the case of the rattlesnake, the sound of the rattles, an additional factor, in the latter instance, may be the symmetrical markings on the back of the snake. Coiled amidst dead grass and leaves, the body of the snake is concealed, but these brightly colored designs remain in view, brought out in full relief against the dull brown skin. The bright color and the geometrical patterns probably play no unimportant part in exerting the stupefying effect that ends in complete submission to the serpent's deadly charm.

It is a well-known psychological fact that the eye becomes intensely strained and wearied by continued gazing at regular or fantastic geometrical designs, and if persisted in, the brain itself becomes affected, even to the point where the reason becomes unbalanced. Everyone is familiar with the drawings of cubes, with their angles projecting toward the spectator, but at another instant seems to reverse and show hollow boxes with their angles pointing inward. A similar effect is produced by spiral diagrams, which apparently begin to spin rapidly on their axes if the sheet on which they are printed is given a slow rotary motion.

The possibility of inflicting mental torture and ultimately causing insanity through the employment of these objects, perhaps assisted by glaring lights and monotonous sounds, has not escaped man's cruel inventive genius. Edgar Allan Poe writes an imaginary account of the deadly fascination of a swinging pendulum and gradually narrowing space upon the mind of a prisoner who was thus subjected to mental torture during the Spanish Inquisition, in his story called "The Pit and the Pen-

dulum." Yet, examination of torture cells uncovered in Barcelona after General Franco's victory during the recent civil war in Spain proved that these refinements of torture existed in actual fact.

These communist torturers, with diabolical ingenuity, discarded mere physical methods of inflicting pain, and laid siege to the brain itself through the use of glaring lights of various colors, painted spirals, and other fantastic designs upon the cell walls, producing images on the retina that gradually burned themselves into the brain and finally led to madness. Thus does the rattlesnake's gaily decorated skin exert its baleful influence upon its victim, to supplement the effect of the stony, basilisk eyes and the sound of the gently whirring rattles.

Talbot Mundy, in his book, "The Devil's Guard," tells how some fiendish Tibetan bandits subjected a traveler to mental agony by torturing his friend before his eyes. Thus the cruel and perverted mind of man invents punishments that might well originate in the mind of a demon. The painted cells of Barcelona, in their effect upon the prisoner, outmoded and surpassed the torture of the Middle Ages. They were based upon certain well-known optical illusions, supplemented with the manipulation of light and color, as drawn from scientific experiments on vision and the perception of images by the brain.

The cells were built and the walls painted by Alfonso Laurent Cik, a Yugoslavian architect and painter. After their fiendish purpose was disclosed at the end of the civil war, he was arrested and tried before a military court, when their whole story was revealed and given to the world. Cik testified that he had acted upon compulsion and had merely carried out the orders of the Russian secret police, the dread OGPU. Evidence pointed to the fact that the cells constructed and decorated by Cik were copied from plans already in possession of the Russian terrorist organization, evolved by brilliant but perverted minds through research in the domains of psychology and physiology. Nothing more fantastic and horrible can be found in Mrs. Shelley's "Frankenstein" or Bram Stoker's "Dracula" than this scheme for destroying the intellect through insidious attacks upon the sense of sight—a form of torture

that leaves no physical evidence upon the body but accomplishes with certainty a design more devastating than mere physical torment.

In order to make it certain that the victim should find no escape by closing his eyes to shut out the maddening images, forever dancing and girating in the blinding glare of powerful lights, his hands were tied behind his back and his eyelids were held open by means of broad steel rings—a revival of an ancient form of torture.

The whole picture drawn above is by no means pleasant to contemplate, but has been resorted to that man at his worst might be contrasted with the serpent, living the life which nature and nature's God intended him to live. It might be observed that such comparison leaves Mr. Rattler at no great disadvantage—he employs the devices with which nature endowed him for purposes of obtaining a sufficient supply of food, and when his needs have been supplied, his hunger appeased, he desists from further application of such fiendish powers. At the worst, whatever punishment he inflicts upon his prey is of very short duration. Man, the real offender against the laws of common decency and humanity, appears to have mastered some of the rattler's arts and utilized such knowledge with which to inflict insufferable pain upon his fellowman.

The craftiness of the diamond-back literally fascinates one who devotes much study to them in the wild state. Such person does not find it necessary to pursue his studies and observations for long until he finds it all but impossible to doubt new reports of his cunning and Satanic powers. If one be a true investigator he merely records such reports in his mind against the day when he may acquire first-hand proof of their accuracy. Surely it was not by chance that he came to be associated with the forces of the Evil One, even from the early dawn of creation.

The trail of the serpent leads from the legends of Eden through the mazes of primitive worship and the cults of the jungle down to the present day. Even shunned and loathed by man, there can be nothing between him and the tempter of the Garden but perpetual enmity.

The Southern coachwhip, too, is a rather accomplished whistler, and employs his art in calling his or her mate to their rescue in event danger threatens. The note he uses proves quite a convenience, also, in bagging his game. A reliable informant once related an interesting incident which serves to prove such statement as an established fact. When a mere lad he learned that rabbits delighted in gathering to his father's wheat field in the cool of the day to nibble the tender blades of half-developed grain. While the rabbits were thus engaged he would stalk them with the skill of the Indians, armed with his little 22 cal. rifle. Now, his father had warned him more than once about treading down his heading wheat, so that on this occasion he was creeping so silently that he could have heard a leaf fall. No sooner was he completely hidden in the tall wheat than he distinctly heard someone whistle nearby. The call was short and shrill—"shreet." He reasoned that it was his father spying upon his activities so lay motionless for a long time. As soon as he made the slightest rustle among the wheat the call was repeated. He followed the direction of the call until he came upon a small pine tree with branches all the way to the ground. A large coachwhip was lying his full length among the boughs, keeping an eye open for what he believed to be rabbits making the rustling noise in the wheat.

Now, this incident brings to mind an art practiced by a darkey companion of my boyhood days. The two of us would be walking through the woodland, guns on shoulders, when suddenly a large cotton-tail rabbit would jump out of the wiregrass and go bounding away for the dense underbrush. The first time such incident ever came within my experience I would have called it an utter loss, since the rabbit was within ten feet of the briery underbrush when the old darkey uttered a very short, shrill whistle, and to my complete surprise the rabbit stopped in his tracks, turning his head from right to left, pointing his long ears toward all points of the compass, thus giving my hunter companion time to bring his gun into play. Just another example of the human family adopting the practices of the wild creatures with good results.

Another informant confirms the conclusions reached above

as he related having once seen two coachwhips make common cause against a large bulldog. The man and his dog came upon the female as she was faithfully guarding her brood. The snake pulled all her tricks out of the bag, but without results. The coachwhip can make the most menacing gestures of any wild creature that ever went into battle to be absolutely harmless. Seeing that she was fighting a losing battle, she commenced whistling for her mate, and presto, he was upon the scene of conflict. The dog diverted his attention to the male and soon took him apart, but the female succeeded in concealing her brood and found herself a place of safe concealment that she might continue to attend her little ones. Thus do nature's creatures fight their daily battles in the wild. Neither of the two seemed to think of themselves, but both their minds were directed instantly and instinctively to their little ones lest the future of their clan be imperiled. The male could best be sacrificed.

In the light of the above it is perfectly reasonable to presume that the boa-constrictor employed the same method of luring the rubber worker from his boat in the Amazon River. If the secret of luring prey by reptiles employing a call was known to Mr. Slater and the natives of Brazil, then such point was not made clear.

THE ORIGIN, SYMBOLISM, AND MODERN USE OF THE CADUCEUS

It is a singular fact that one of the leading ideas connected with the serpent is in relation to health, the idea of healing probably having arisen from the primitive recognition of the serpent as a symbol of life. When we first meet with serpent worship, either in the wilderness of Sinai, the groves of Epidaurus, or in the Samartian huts, the serpent is always the bringer of health and good fortune. The spirit which in ancient Egypt presided over households was the asp of Ranno, the snake-head goddess who is represented as nursing the young princess. (In this connection it might profit the reader to refer to Numbers 21-6-9 and 2 Kings 18:4 having to do with a somewhat parallel incident in Sacred History.) The record shows that this brazen serpent was carefully preserved by the Israelites, and that they either lapsed into or set up serpent worship, which they probably learned in Egypt. For such reason, King Hezekiah, some 500 years later, had it destroyed. Those who are inclined to view this incident in such light may accept it as proving that the old Israelites looked upon the serpent as the bringer of health, since to look upon the brazen serpent would restore health to those who had been bitten by the serpents in the wilderness. The sojourn of the Israelites in Egypt doubtless brought them in contact with serpent worship, and it is not impossible that they engaged in it to some extent. However, we cannot easily reconcile this view with what we must believe was Moses' attitude toward serpent worship. It would prove more profitable, and doubtless lead one nearer the truth if studied in connection with another incident in Bible history—that of Aaron setting up the golden calf for the people while Moses was absent in the Mount of Sinai.

That the idea of health was intimately associated with the serpent is shown by the crown formed of the asp, or sacred Thermuthis, having been given particularly to Isis, the goddess of life and healing. It was also the symbol of other deities with

like attributes. Thus, in a papyrus it encircles the figure of Herpocrates, who was identified with the serpent god Aesculapius; while not only was a great serpent kept alive in the temple of Serapis, but on later monuments this deity is represented by a great serpent, with or without human head. (Serpents were sacred to Aesculapius, probably, because they have the faculty of renewing their youth by a change of skin.) Such change, due to the fact that the old garment is rough, dirty, and discolored, because of the effect of bleaching by the sun, gives the reptile the appearance of a wholly new creature. Such probably accounts for the fact that among some people he is associated with or is used as a symbol of immortality. If one could but forget momentarily their antipathy to the reptile and would view a diamond-back that has just donned his Easter ensemble for the first time, he would probably look upon one of nature's most beautiful creatures. Each scale is new, free of dirt and discoloration—fresh in appearance as the leaf of the "Wandering Jew." The refracting and reflecting qualities of the new scales compares favorably with that of a priceless pearl. The rattler even seems conscious of the power of such rich ornamentation. When he contrives to fascinate some passing bird he sings his rattles in the grass for the purpose of confusing the harmless little creature, then raises his head, spreading his skin to slightly resemble the cobra, and as he does so sways back and forth, so maneuvering as to exert his magic to the maximum upon the feathered creature which he has marked for his own. If one can imagine a thousand miniature prisms, fashioned by artists of blue-white diamonds, dangling in the early morning sun, then they might visualize rather accurately the true appearance of the diamond-back caught in the act of fascinating his prey. The only person the writer ever encountered who witnessed just such an incident described it as being an act so fascinating in its nature and appearance that anyone who would look upon such spectacle for long might become so fascinated by the beauty of it as to completely forget its deadliness, and be tempted to seize upon it to capture and treasure it as an "untouchable" of ancient India would an abandoned, jewel-studded tiara of an Eastern Maharajah.

While the rattler cannot endure extreme heat, he will emerge from his gopher hole or den in the rocks around Easter and delights in exposing himself to the gentle spring sunshine. Such gentle heat provides not merely a bodily comfort but seems to ripen his old skin and prepare the same to be sloughed. Even his eyes turn white in the process, and he is temporarily blinded, but such condition does not continue for long. When he realizes that the time is right for sloughing, he crawls among the palmettoes with their saw-edge stems, or among cactus—perhaps hanging it upon a spur of some kind amidst the shrub oaks. He manages to hang his coat at the lip, gently crawling out of it, turning the old garment inside out in the process. And there you are! All dressed up in a new garment, so dazzlingly beautiful as would enable him to visit with and pay obeisance to kings, and it cost him not a farthing.

The worship of Aesculapius was introduced into Rome in a time of great sickness, and an embassy was sent to Epidarus to invoke the aid of the god. He was propitious, and on the return of the ship, he accompanied it in the form of a serpent.

The serpent, therefore, was a fit emblem of Rudra, "the healer," and the *Caduceus*, the gift which Apollo presented to Mercury, the swift-footed messenger of the gods, could be entwined with no more appropriate object than the serpent, which was supposed to be able to give the health, without which even Mercury's magic staff could not confer health and happiness. (These old ancients understood as well as we of today that if we are to enjoy happiness we must first have health; and if the serpent could bring health, then he was a personage of no small moment.)

Mercury's famous rod of office, the caduceus, forms one of the most striking emblems of the talismanic serpent. But it is an error to suppose that this rod belonged exclusively to Hermes or Mercury, for it may be found in the hand of the Egyptian Anubis, the Assyrian Cybele, the Grecian Aphrodite, Demeter, Dionysus, Mars, Minerva, and the personified constellation Virgo. (So we see that many of the heathen gods used the serpent in decorating their staff of office or symbol of

authority, thus showing how general was the belief that the serpent did, in some way, bring good fortune.)

The variations in the form of the caduceus are many and interesting. The wand is sometimes found without the wings, but never without the serpent. The difference consists principally in the relative positions of the wings and the serpents, and the number of folds made by the serpents' bodies around the rod.

According to Madame Blavatsky, the original symbol figured a triple-headed serpent, but the center head became the knob of the rod, and the two lower heads were separated. Kirchen says that the caduceus was originally in the form of a cross, and was invented by Thoth, the Egyptian Mercury, to symbolize the four elements proceeding from a common center. In Greece, however, its origin can be traced to the herald's staff, and it was at first a simple laurel or olive stick, decorated with garlands or entwined with fillets of white wool.

In Greek mythology, the caduceus was the magic instrument with which Hermes, the Good Shepherd, either lulled the weary to slumber, or roused the sleeping into wakefulness. The word caduceus suggests *duce*, a leader, and *ca*, the great *A*. (We find this same term applied to Benito Mussolini, one-time ruler of all the Italians. They called him Duce, meaning the Great Leader.)

It represents the staff or scepter of dominion between two serpents, the emblem of life or preservation, hence it was always borne by heralds, of whom Mercury, as the messenger of the gods, was the patron, and whose office was to pronounce war or declare peace. Of both of these it might be considered the symbol, for the staff or spear, signifying power in general, was employed by the Greeks and Romans to represent Juno and Mars, and received divine honors all over the North, as well as the battle-axe and sword, by the latter of which the god of war, the supreme deity of those fierce nations, was signified.

Farlong, in his "Rivers of Life" (vol. 1, page 223), gives the origin of the caduceus as follows: "It would seem that the caduceus of Mercury, that rod of life, is due to the fact of the

ancients having observed that serpents conjoin in the double circular but erect form as in Aesculapius's rod."

The pair of serpents in the caduceus is usually in close opposition, with the heads facing each other, though at times we find them turned outward. The stick or rod around which they are entwined shows a vase-like or bulbous top.

The explanation offered by writers, insofar as any is offered, as to the origin of the caduceus and especially the use of the entwining serpents in such close proximity, so far as we have been able to learn from history, coincides with the conclusion long ago reached by the writer. Of course, we have no way of knowing with scientific certainty, and cannot offer such proof as some might demand, but we will, with due apologies, offer the following, our belief, as to where these people of ancient days got their idea. We have heretofore related the story of the hunter who found two rattlers battling each other. The mid-section of their bodies were closely entwined, the upper and lower sections being free. The lower section of each being flattened and formed into a question mark was utilized as a base upon which to stand. They were facing each other, as in the caduceus, beating each other with their heads. Now, in the early age of the world, when almost the entire earth was given over to forests and jungles, when animal life was so abundant, it is evident, also, that reptile life must also have been exceedingly plentiful. Because of the very nature of such circumstances man must have, whether he willed it or not, lived as close neighbors to all these creatures, thereby having better opportunities than we of today of observing their manner of living. No doubt they observed reptiles battling each other as in the manner described above, and it is but reasonable that such observation provided the inspiration for these ancient artists, giving us the modern caduceus.

In substantiation of the foregoing, we invite the attention of the reader to what Forlong has to say in his "Rivers of Life" as to the origin of the caduceus. He says in plain language that the ancients got their idea of the form they gave the caduceus from observing the serpents themselves. After all, and in their final analysis, our concepts are and in fact must

be based on experience. It may be the experience of others combined with kindred experiences of our own, but nevertheless experience must provide the very foundation of it all. So our conclusion is that these ancient people formed the caduceus after the pattern they had seen the serpents assume in their native state, living their lives according to the instincts implanted in them by the Creative Power.

The official use of the caduceus symbol for medical services in the United States dates from a very early period. In the archives of the Surgeon General's office there is a heraldic shield bearing the symbol of Aesculapius, apparently of the 1918 period, the Medical Corps having been organized at that date.

This shows a shield with the national colors on the right, the single snake and staff on the left, and a cock for the crest. This may not be as true heraldically as it could be made, but at the same time the United States was not greatly concerned with heraldry. This symbol of Aesculapius is similar to that in use by the British Medical Corps and those of other European countries.

Today the Medical Department of the United States Army uses the caduceus as a symbol, having adopted it as the emblem of the noncombatant forces of their personnel in the field. It was borrowed from the Public Health Department, which seems to have used it for some time, and was formerly used on the uniform of the hospital steward in 1856, when it appeared on the chevron. It was never a part of the medical uniform until 1902, at which time there was a general revision of the Medical Corps and uniforms, following changes in Army Regulations, issue of 1901.

REACTION OF THE LOWER ORDER OF ANIMALS TO HUMAN EMOTIONS

In the beginning of this discussion we would like to call attention of the reader to the fact that Uncle Dave has been dealing with the deadly rattler for lo! these many years, having suffered no harm from them to this good hour. As recorded elsewhere, they have had opportunities on many occasions to bite him but on no occasion (since they became well acquainted) showed the least desire to do so. Some might insist upon it being plain good luck, whatever they mean by the term, but we are as confident that nothing of the sort is involved. He goes about hunting and capturing these reptiles fearlessly, perfectly composed, with unruffled feelings, and with undisturbed emotions. In other words, his temperament is perfectly adjusted to that sort of work. Maladjustments in dangerous work may be overcome but much danger is incurred by such person before such goal is attained. Wild animal trainers say that if a person is afraid of the animals they should never enter the cage with them; that if they do so the animals immediately sense the situation. Whether they get this feeling toward man because of some extra sense not possessed by members of the human family, or whether they are enraged because of the objectionable odor given off by the secretions coming from certain glands, which are stimulated into action when a person becomes angry or frightened, we may not know with certainty; but we do know that there is a vast difference in the reaction of animals toward different people, and that those who are unafraid and who are not easily angered handle animals with much greater success than the type first mentioned. Without hesitation we place Uncle Dave among those first mentioned.

Naturalists such as Henri Fabre, Raymond L. Ditmars, and John Burroughs have opened a fascinating field of research in their studies of the nature and habits of insects, birds and animals, and their reactions to the influence of mankind. The

cow and the horse have become almost entirely dependent upon man, and the dog has been bred and trained to do his will and to render the various types of service required of him for so many generations that those activities have become to him second nature. Distinct types, such as pointer and setter, have been developed to assist man in hunting, and the collie and shepherd have adapted themselves to watching and herding sheep and cattle.

To most of the lower animals man must appear eccentric and contradictory in his actions. By turn he is hostile, indifferent or friendly toward them, so that they never know exactly what to expect, and with the exception of a few of the well domesticated species, maintain a guarded attitude.

An illustration of this is a blackbird that has gradually acquired trustful habits and builds its nest in the garden or shrubbery in sight of the friends who have fed and protected it during the winter weather. So little does it fear them that it allows them to come a dozen times a day, put the branches aside and look upon it, and even stroke its back as it sits on its eggs.

But by and by a neighbor's egg-hunting boy creeps in, discovers the nest, pulls it down and removes the eggs. The bird finds its confidence betrayed; had it suspected the boy's evil intentions it would have made an outcry at his approach as at the appearance of a prowling cat, and the nest would perhaps have been saved. The result of such an occurrence is likely to be the return to the usual suspicious attitude of birds in the wild state. In the last analysis, birds and men are very much alike in that they form their opinions of us not so much by what we say as by what we do. So, if birds and animals could but speak out they might say, "Your actions are the only language we understand."

They are quick to discriminate between protectors and persecutors, and will soon begin to reciprocate the friendly advances of those who leave food for them and show a desire to approach them. They do not view the face only, but the entire form, and a change of clothing often renders it difficult for them to distinguish the individuals they know and trust from

strangers. Often a dog is confused when his master, usually seen in a black or gray suit, appears in straw hat and flannels.

Nevertheless, if birds once come to know those who habitually protect them, and form a trustful habit, this will not be abandoned on account of a little rough treatment at times. A lady who had a little colony of blackbirds nesting in her garden found them troublesome when she was gathering her strawberries, and would sometimes capture one of the marauders, carrying him, screaming, struggling and pecking at her fingers, to the end of the garden and release him, but he would immediately follow her back to the strawberry bed and set to work feasting on the fruit again. We arrive at the same conclusion in this connection as with the animals and their trainer—they possess an acuteness of smell which enables them to know of the emotions of men. They know of man's fear, as well as when he is enraged and has the intention to kill.

The friendly or hostile attitude of the lower animals toward man is, however, not wholly attributable to the kind treatment habitually shown them. Even at first sight an animal may show either confidence, indifference, or violent dislike to a human being. It is a matter of common knowledge that those who are not afraid of bees will not be stung; that those unafraid of a vicious dog will not be bitten, and that those who have no fear of ferocious beasts are seldom attacked, and make excellent trainers.

There is, of course, a degree of the psychological in such phenomena, but there is good reason to believe that they are also referable to definite changes within the human body, set up by the glands of internal secretion, under the influence of the mind. We now know that these glands play a very essential part in the growth and functioning of the body. They are known as "ductless glands"—that is, glands with an internal secretion, and are also called endocrine glands.

The most important of these are the following: the pineal gland, located in the brain; the pituitary body or gland, at the base of the brain; the thyroid gland and behind it the parathyroid gland, at both sides of the larynx; the thymus gland, which rests on the trachea, commonly known as the windpipe,

at the spot where the latter branches into the bronchial tubes; and the adrenal glands, at the top of the kidneys.

These glands all have the characteristics of discharging their secretions into the system directly—that is, without passing it through a duct or channel. As there is no vessel in the body where the secretion could accumulate, the secretion itself is invisible. We assume from the structure of the organ only that it is a gland. We also see, under the microscope, that the cells of the gland tissue secrete something, but we do not see enough of what they secrete to determine the color, consistency, and other characteristics of the secretion.

The sweat and sebaceous glands, on the other hand, carry their visible and well-known secretions through special excretory channels to the skin. The stomach and salivary glands convey theirs in the same way into the alimentary canal. Likewise, the liver transmits its secretion, which is stored away temporarily in the gall-bladder, by means of the bile duct. But if these aforementioned organs are genuine glands, only glands without an excretory duct, what then becomes of their secretions, and where does it finally go?

Now, these ductless glands, like all other organs, are necessarily connected with the blood circulation. They are surrounded by blood and lymph vessels which support them with nourishment and oxygen, and at the same time carry away the products that originate in the glands. To differentiate them from the glands of external secretion—for example, a sweat or salivary gland—their function is named internal secretion, or briefly “incretion.”

The internal secretion necessarily changes the composition of the blood as it passes to different parts of the body to take care of the distribution of nourishment and oxygen and to carry away waste products and carbon dioxide. Naturally, the inner secretory products contained in the blood will have an influence on all those organs that are nourished by the blood. Therefore, the products of the ductless glands are vitally important to the growth and health of the entire body. Sometimes their influence promotes growth; at other times it retards; but always their influence is to maintain a normal, healthy balance.

During the last quarter century, biological research has revealed to us a wonderful new world as we come to a fuller understanding of the endocrine system, which comprises all the glands of internal secretion. Though these glands seem to be without a means of discharge, they communicate with each other and with all parts of the body by means of the hormones which are contained in the circulating blood.

The term "hormone" is applied to the internal secretion of any gland, and is derived from the Greek, meaning "something that spurs into action." These hormones not only stimulate the various parts of the body, but they also play the role of messenger from one part or organ to another. For example, when a person becomes angry, hormones are poured into the blood stream which stimulates the liver to empty into the blood an unusual amount of sugar, to compensate for the waste which will be occasioned by violent muscular action, which is the usual accompaniment of excitement or anger. While biological research discovered this property of the hormones, we knew of only one agent that discovered the unification of the functions of the various parts of the body, namely, the nervous system. In the polyglandular system we now know a second means of interchange, a system working on many glands with its effect based on chemical reaction.

It is sometimes difficult to distinguish between ductless glands and glands with an external secretion. Quite often it happens that a gland which possesses visible ducts at the same time pours certain secretions into the body through invisible channels. One of these glands is the pancreas, a whitish, conglomerate gland of irregular shape, situated in the abdomen beneath the stomach, and pouring its secretion into the alimentary canal during digestion.

Science has established beyond controversy the fact that both fear and anger act directly upon the adrenal suprarenal glands, the two conical bodies resting upon the upper poles of the kidneys close to the sides of the vertebral column. The product of these ductless glands, which pour their secretion directly into the blood stream, is called adrenalin.

Adrenalin is released into the blood stream from the adrenal

glands when one has any kind of emotional disturbance, and its purpose is to act as a powerful stimulant to key up the body for the excessive demands which are to be made upon it, just as the hormones released in the blood signal the liver, during physical or emotional excitement, to release into the blood an extra supply of sugar to build up muscle fiber to take the place of that which is being burned up.

Adrenalin is the emergency drug of the body which enables one to perform astonishing feats of strength. The stored-up sugar energy of the liver is instantly liberated to the muscles; the blood vessels in the brain and muscles are greatly dilated in order that sufficient energy and oxygen will be available; the vessels in the stomach and other internal organs, as well as the skin, promptly contract, giving up very large portions of their blood supply to the muscles; the heart promptly "shifts into high," in order to speed up the circulation, and the nerves of respiration increase the rate of inhalation. In short, the individual is placed on a "wartime footing," with every available ounce of power mobilized and ready for instant action, at the expense of the normal peacetime activities of the body.

The excessive supply of adrenalin which is thus poured out under the stress of fear or anger and distributed from the arteries to the veins and capillaries has a subtle and penetrating odor which is instantly sensed by the keen perceptive organs of the bee, dog, snake or other animal, arousing a feeling of resentment and antagonism, with the impulse to attack before time is given to receive harm from the human being, who cannot himself notice this odor which is so evident to the more acute senses of the lower animals.

Snakes are especially sensitive to the emanations of adrenalin from a human being under the influence of fear, yet it is said that a person unconscious of their presence will seldom be attacked unless the snake is in danger of being disturbed or stepped upon. This is easily understood in the light of the above. Being unconscious of the presence of the reptile there is no fright, hence no excessive flow of adrenalin which gives rise to the odor so objectionable to reptiles.

Many readers will doubtless be impressed that we have fol-

lowed theory too far afield in a vain endeavor to explain some of the mysterious things of this life. Almost everyone has, at some time or other in life, observed the effect of these changes within the human form if they would but connect them up with the above. They have surely taken note of the fact that anyone greatly enraged or frightened turns deathly pale; that their heartbeat is stepped up, and that deep breathing is noticeable.

Under such circumstances men have been known to perform unbelievable feats of physical strength and endurance which baffled or defied satisfactory explanation.

When such circumstances come into the life of any person, the forces of nature, which are wholly automatic in their operation, act quickly to prepare such one for a fight, or to flee from the scene, whichever may be rendered imperative.

When the blood circulation is restricted to the vital organs then the nerves which lie near the surface are put to sleep, so to speak—so acted upon by the absence of blood that they are practically paralyzed, all of which might be introduced as proof that Nature is both wonderful and merciful. When such condition prevails, savage beasts may fight to the death in the jungle, or men upon the battlefields receive the fatal thrust without consciousness of the fact that they are doomed to die.

The case of a veteran of the first World War is called to mind. He carried an ugly scar above his right eye, the result of a bayonet thrust which missed because of his alertness. He felt no pain at the time, neither was there any flow of blood. On his return to his own trenches, when his passions had become somewhat normal and blood again commenced to flow to the very surface, he became conscious for the first time of an acute pain. Feeling to determine the cause of it, his face was becoming flooded with blood.

Many and varied are the changes which take place in the human form when the passions are thoroughly aroused. Any person who would cultivate an intimate acquaintance with the rattler will not fail to observe that as he gets himself under more perfect control the rattler will respond correspondingly. There has never been any question in the mind of the writer

but that anyone thoroughly versed in their ways could have taken a noose on the end of an ordinary walking cane and taken alive the giant reptile which drove the horseman from the woodland.

The secretiveness of the reptile, which has been discussed herein, is but one of the elements that have exerted a powerful influence over the mind of man since the earliest times. His swift and gliding motion without wings or feet; its power of disappearing suddenly; the brilliance and power of fascination of its eye; its beauty and strength; the sudden fatal consequences of its bite, and the practice of casting its skin, which would suggest longevity or even immortality—all these contribute to arouse feelings of wonder, respect, fear and worship, and also to make the serpent the subject of innumerable myths. There is often found a belief in the serpent's beneficence, probably because myth easily attributed to its wisdom, secret knowledge, magical power, healing properties and inspiration.

There can be no question but that the power of fascination of the serpent had much to do with the development of hypnotism. The effect of the concentrated gaze of the eye of the serpent was observed and imitated by man, just as he has learned from the honey-cell of the bee that a six-sided container is the one best calculated to withstand pressure, and just as his observation of the spider's web has been the inspiration of the suspension bridge.

SNAKE CULTS AND SERPENT WORSHIP

It would be necessary—if such be possible—to peer behind the veil of antiquity to behold an era so remote from the present that serpent worship was not the accepted form of adoration of many peoples the world over. No culture, no people, at any time in the past, has escaped its influence. Such is in itself a rational and instructive subject of inquiry, especially notable for its width of range in mythology and religion. We may begin with the lower races, with such accounts of those of the American Indian's reverence for the rattlesnake as grandfather and king of snakes, as a divine protector, able to give fair winds or cause tempests; or of the worship of great snakes among the tribes of Peru before they received the religion of the Incas, as to whom an old writer says: "They adore the demon when he presents himself to them in the figure of some beast or serpent, and talks with them."

Later on, examples of serpent worship may be traced into classic and barbaric Europe; the great serpent which defended the citadel of Athens and enjoyed its monthly honey-cakes (Herodotus, VIII, 41); the Roman *genus loci* appearing in the form of a snake; the old Prussian serpent worship and offering of food to the household snakes; the golden viper adorned by the Lombards, till Barbatius got it into his hands and the goldsmiths made it into paten and chalice.

To this day Europe has not forgotten in the nursery tales or more serious belief the snake that comes with its golden crown and drinks milk out of the child's porringer; the house snake, tame and kindly but seldom seen that cares for the cows and the children and gives omens of a death in the family; the pair of household snakes which have a mystic connection of life and death with the husband and housewife themselves.

Serpent-worship, apparently of the directest sort, was prominent in the indigenous religions of Southern Asia. It appears to have maintained no mean place in early Indian Buddhism, for the sculptures of the Sanchi tope show scenes of adoration of the five-headed snake-deity in his temple, performed by a

race of serpent-worshippers, figuratively represented with snakes growing from their shoulders, and whose raja himself has a five-headed snake arching hood-wise over his head. In different ways these Naga tribes of South Asia are on the one hand analogues of the Snake Indians of America, and on the other of the Ophiogenes or Serpent-race of the Troad, kindred of the vipers whose bite they could cure by touch, and descendants of an ancient hero transformed into a snake.

Serpents had a prominent place in the religions of the world, as the incarnations, shrines, or symbols of high deities. Such were the rattlesnake worshipped in the Natchez temple of the Sun, and the snake belonging to the Aztec deity Quetzalcoatl; the snake as worshipped still by the Slave Coast negro, not for itself, but for its indwelling deity; the snake kept and fed with milk in the temple of the old Slavonic god Potrimpos; the serpent-symbol of the healing deity, Asklepios, who abode in or manifested himself through the huge tame snakes kept in his temples (it is doubtful whether this had any original connection with the adoption of the snake, from its renewal by casting its old slough, as the accepted emblem of a new life or immortality in later symbolism); and lastly, the Phœnician serpent with its tail in its mouth, symbol of the world and of the Heaven-god Taaut, in its original meaning perhaps a mythic world-snake like the Scandinavian Midgard-worm, but in the changed fancy of later ages adapted into an emblem of eternity.

It scarcely seems proved that savage races, in all their mystic contemplations of the serpent, ever developed out of their own minds the idea, to us so familiar, of adopting it as a personification of evil. In ancient times, we may ascribe this character perhaps to the monster whose well-known form is to be seen on the mummy-cases, the Apophis-serpent of the Egyptian Hades; and it unequivocally belongs to the destroying serpent of the Zarathustrians, Azhi Dahaka, a figure which bears so remarkable a relation to that of the Semitic serpent of Eden, which may possibly stand in historical connection with it.

A wondrous blending of the ancient rites of Ophialatry with

mystic conceptions of Gnosticism appears in the cultus which tradition (in truth or slander) declares the semi-Christian sect of Ophites to have rendered their tame snake, enticing it out of its chest to coil around the sacramental bread, and worshipping it as representing the great king from heaven who in the beginning gave to man and woman the knowledge of the mysteries (Tyler, Edw. B., *Primitive Culture*, Vol. 2, pp. 239-42).

The serpent has, in all ages, been famed for its shrewdness and wisdom, whether in the Garden of Eden (Gen. 3:1; 2 Cor. 11:3) or generally (Matt. 10:16). "Be ye therefore wise as serpents and harmless as doves." The serpent is a symbol of immortality, owing to the fact that it makes an endless circle when holding its tail in its mouth, and also from the circumstance that it renews itself by shedding its skin.

From the time the Babylonians traced their first crude writings on cylinders of clay, the serpent has held sway over the superstitions of men. King Cobra has spread his hood in Indian temples while high priests have droned their incantations for his favor. King Rattlesnake has writhed through the sands of the Painted Desert, sanctified by the Hopis so that he may return to the earth spirit with the prayers of his tribe.

Seeing the snake with a litter of young, the ancient man looked upon him as an emblem of fertility, and from there it was only a step for him to set up an idol and worship it whenever he wished more children or more abundant harvests. The symbolism of the serpent developed through the centuries. As the snake represented fertility, what was more natural than for it to be associated with the sun, the great giver of life, People began talking of a snake that dwelt in the golden orb; soon the Indians were calling the Milky Way the Path of the Serpent, and the prismatic arch of the rainbow became the Celestial Serpent to the Persians.

The snake appears as a healer in the drawings of Isis and Osiris, the great Egyptian gods, and also with the Hindu deities, Rudra and Ramahavaly. And best known of all representations is the caduceus carried by Hermes, or Mercury, messenger of the gods on Mount Olympus. This is his badge

of office, showing a rod with two serpents entwined around it and topped by a pair of wings.

In one form or another, the healing powers of the serpent are familiar in legend and custom. Siegfried bathed in the blood of the dragon he slew and thus became invulnerable; the blind emperor Theodosius recovered his sight when a grateful serpent laid a precious stone upon his eyes; Cadmus and his wife were turned into serpents to cure human ills. At Fernando Po, when there is an epidemic among children, they are brought to touch a serpent's skin which hangs on a pole. The same ideas underlie the story of the brazen serpent which cured the Israelites of the bites of the serpents in the wilderness.

In Burma and India the snake is closely connected with religious ceremonies, and it is not only protected but worshipped. The priests handle these poisonous serpents without fear, and receive no harm from them. Whether they exert a true form of hypnotic influence over them is a matter not definitely determined, but like other animals, the snakes respond to kindness and show the results of generations of friendly treatment by entire absence of fear.

A snake temple at Calicut contains several living cobras, which are fed by priests and worshippers; they are carefully protected, and allow themselves to be handled and made into necklaces by those who feed them. They are venerated as representing the spirits of ancestors. The worship of living snakes is also found at Mysore and at Vaisarpadi near Madras, where crowds of votaries assemble, generally on Sundays, in the hope of seeing the snakes preserved in the temple grounds. In the island of Nainatavoe, Ceylon, consecrated snakes used to be tenderly reared by the Pandaram priests, and fed daily at the expense of their votaries. At Bhandak, in the Central Provinces, a cobra appears in the snake temple on all public occasions, and similar cases are reported at Rajamundri, Sambalpur, and Manipur.

At the most ancient temple in Bilaspur and in Chattisgarh, the only temple is that of the cobra. At Nagarcoil is a temple of the snake-god containing many stone images of snakes; snakebite is considered not fatal within a mile of the temple.

At Mannarsala the sacred enclosure contains several living cobras. (James Hastings Encyclopedia of Religion and Ethics, Vol. II, p. 418.)

SNAKE-DANCE OF THE HOPIS—THEIR IMMUNITY TO THE BITE.

Much has been written of the fearlessness of the Hopi Indians of Arizona in handling rattlesnakes, and of their freedom from fatalities when bitten during their snake-dances or at other times. It is rather generally conceded by intelligent readers that they are either immune to the venom or have developed an antidote both simple and 100 per cent effective. Writers occasionally overexert themselves in a vain endeavor to prove that what appears a great mystery is simple in the extreme, in that the priests, or medicine men of the tribe do, prior to the ceremonies, remove the fangs of the reptiles, thus rendering them harmless. Other writers, equally sincere and trustworthy, insist that they have witnessed these ceremonies at such close range that they actually saw ugly flesh wounds inflicted upon the bodies and oftentimes in the face of those participating in the ceremony, and without harmful effects. The writer entertains the suspicion that the modern scientific white man is entirely too loath to admit that the "Poor Indian" has at least one secret formula they are unable to duplicate in the laboratories of the entire scientific world. Case of an offended pride, no doubt. In this connection it is worth noting that Hopi Indians do not die of the bite, and this cannot be said for anti-venin, the much-heralded concoction of the modern scientific world.

George E. Coleman, of the George Williams Hooper Foundation for Medical Research, University of California Medical School, San Francisco, writing in the Bulletin of the Anti-venin Institute of America, Vol. I, No. 4, Ja., 1928, gave the following brief account of his visit to the ceremony of the Hopis, and of his limited knowledge acquired on the occasion, of the nature of antidote used:

"I was present at two of the snake-dances last August and asked many questions of the educated and intelligent Indians. The following statements were made to me by them:

(1) Neither the fangs nor the poison glands of the snakes used in the dances are removed.

(2) The Indians are occasionally bitten during the dances. One Indian priest was bitten in the face last August at Walpi. They are occasionally bitten at other times.

(3) There appears to be no natural immunity among the Indians to rattlesnake venom.

(4) An antidote is prepared by boiling the leaves and stems of some plant the nature of which is kept secret. The secret is known to only one person in the tribe, and when his death becomes imminent is handed down to another. The liquid is slightly turbid, of a pale amber color, and without odor. It is acid, and has a slightly bitter taste.

One Indian said that the plant is boiled in water ten minutes, another said half an hour, and another reported two or three hours. Many of the Indians are said to have this remedy constantly on hand, and it is said to be effective for two or three months after being prepared. The usual procedures are adopted in cases of rattlesnake bites: that is, the application of a tourniquet when possible, and lancing the wound. After this, the wound is moistened with the antidote, which is also taken internally, dose taken equivalent to approximately 50 cubic centimeters."

AN INCIDENT OF THE CIVIL WAR

The following incident was related to me by an old gentleman, a veteran of the Confederate Army, who declared that he was influenced to enter the ministry by reason of an encounter with a diamond-back rattlesnake during the Civil War days. It is not recalled definitely to what command he belonged, but if our memory is not in error he was attached to the cavalry of General Joe Wheeler, that dashing and spectacular leader of the Southern cavalry, whose sudden and stinging blows against General Sherman in the vicinity of Augusta, Georgia (the city of his birth) caused that Northern leader to turn aside from the city rather than suffer the losses that Wheeler was inflicting upon his troops.

My old Confederate friend had been assigned to perform some spy duty within the lines of General Sherman. He, together with a companion, had been quite successful with their assignment, but had been detected and were forced to run for their lives. In the midst of a hail of bullets they entered a great river swamp, well in the lead of their closest pursuers. They reached the swamp unharmed, aside from having their clothing riddled with bullets. They penetrated deep into the swamp, which was practically surrounded by the enemy. Their hope of escape was practically reduced to nothing, but two factors happily combined to provide a ray of hope. Darkness would soon envelop them; then, too, the ground over which they were retreating from the scene was covered deeply with creeping vines, thus leaving no tracks for their pursuers to follow.

Deep in the river swamp they found a great hollow cypress log. My old gentleman friend entered first with his companion close on his heels. As the former crawled farther into the hollow of the log, his ears caught the sound of the rattles of a big rattlesnake only a few feet beyond him. He paused and realized that he could not incur the risk of approaching any nearer. Just then his companion called to him, urging him to move on since his feet were still outside the log and sure

to betray his position. By that time the voices of the pursuing Yankee soldiers could be heard drawing near. It was a critical moment, in which death menaced the fugitives from two directions. Both knew all too well the penalty for spying, so the first to enter the log, concluding that he might as well die from the bite of a rattlesnake as face a firing squad, crawled on until his face literally touched the rattler's coiled body and the whirring rattles fanned the tip of his nose.

As the writer knew this venerable old gentleman when he was eighty years of age, he must have been a giant in his younger days, and probably not noted for piety or for giving much thought to the hereafter. According to his own admission, his thoughts just then turned to his mother, friends back home, and existence beyond the grave. Yielding to such impulses for the first time in his life, he called upon his Supreme Commander, making an irrevocable vow that if he would save him from the menace of that rattler "an' them dern Yankees" he would serve Him to the end of his days.

He lay perfectly still and would have held his breath had such physical feat been possible, in order that the rattler might become calm. The latter had about ceased whirring his rattles. Just then the Yankees reached the log and heard the gentle sound of the rattles. Using the butt of his rifle, one of them pounded on the log directly over the snake within. The response such procedure provoked was a more violent whirring than ever, ascending the scale to a higher pitch. As they listened for some moments, considering the possibility of the two Confederate refugees sharing the log with the infuriated diamond-back, one of them remarked:

"No man more esteems the Southern soldier for his valor than I do, but there's not a man south of the Mason-Dixon line who has the courage to stay in a log with an angry rattlesnake; come on, let's get out of here."

Darkness soon closed in over the scene of this near tragedy, and the two cautiously crawled out of the log, and when the sun arose the next morning they were safely back within the Confederate lines, with an almost unbelievable experience to relate to their comrades.

True to his vow, the Southern soldier whose life had been spared almost by a miracle of the first order, entered the ministry, serving in an humble capacity until his strength had so forsaken him that he was no longer able to perform his active duties as a pastor. Nevertheless, he continued faithful to the end of his days, and never tired of giving testimony to the goodness, mercy and protecting hand of his Divine Master.

Not to detract anything from the faith of the old gentleman, who always believed that his life had been spared by reason of Divine intervention, it is a known fact that the last thing a rattler wants after it has entered into hibernation is to make an attack, unless he be uncovered, or withdrawn from his place of concealment. He merely behaved in a manner quite in keeping with his nature. In the Western states, owls and prairie dogs of the plains share their dens with them and do not seem to fear their presence. In the South, rabbits, gophers, skunks and other animals spend much time in the same retreats with them without any apparent fear of being harmed by them. In this respect, creatures have an instinct that is superior to human reason. All in all, the rattlesnake rarely attacks except in his own defense, or when in pursuit of prey. If he uses his deadly fangs, it is because he has reason to believe that his own safety is in danger.

While the distribution of dangerous snakes in the United States may seem a great peril to those who are not thoroughly familiar with the characteristics of reptiles, it is true nevertheless that accidents to man are rarely recorded. This circumstance is at strong variance with other countries—South America, Africa and India, in particular. In the latter country, the human death rate runs up to about 25,000 a year. In these tropical countries, a large part of the population goes about bare-legged, while venomous reptiles prowl about the immediate domains of man. In the United States, the poisonous reptiles usually retreat from the areas inhabited by man, or when lured thereto by reason of the pangs of hunger, exercise the utmost caution to the end that their paths do not cross that of man.

Holbrook describes the Banded Rattlesnake as remarkably

slow and sluggish, lying quietly in wait for his prey, and never wantonly attacking or destroying animals, except as food, unless disturbed by them. But when irritated or interfered with, his whole attitude changes with the rapidity of lightning. He immediately coils himself, shakes his rattles violently, and strikes at whatever comes within reach. In his native woods one may pass unmolested within a few feet of him. Though aware of the presence of someone, the snake either lies quiet or glides away to a more retired spot. It is said that this particular species never follows the object of his rage, be it an animal that has passed close to him, or only a stick thrust at him to provoke his wrath. He simply strikes, and prepares to strike again, or he may slowly retreat like an unconquered enemy, sure of his strength, but not choosing further combat. So apathetic do these snakes become that persons have been known to step over them without arousing their anger or causing them to coil and strike.

THEY LOVE LITTLE CHILDREN

Dr. Stejneger, in speaking on this point in his "Poisonous Snakes of North America," says: "There even seems to be truth in some of the stories about children having been found playing with them and carrying live rattlesnakes about without having been hurt."

There are many instances on record of children playing with venomous snakes without fear, and consequently without injury. One of the most unusual and fascinating stories which has been brought to my attention since I undertook to investigate the habits of the rattlesnake in the wild state has to do with a very small child who made a companion of one underneath his parents' residence.

This family lived within the coastal plains of Georgia, where this large, vicious and venomous reptile abounds. They lived in a log house, with chimney of sticks and mud.

Every afternoon the mother gave this little boy, who had just begun to walk, a cup of milk. She began to take notice of the fact that when he received this he would go out into the yard and disappear. She had been conscious of the fact for

some time, but the thought had never occurred to her to attribute any particular significance to the act. She finally began to wonder about the fact that each time she gave him his cup of milk he would drink a portion of it and then go out into the yard and vanish from sight. She spoke of this to the child's father, with the result that he planned to secretly observe the little boy's actions and thereby learn the cause of his peculiar behavior.

He did not have to wait long to obtain the information he sought. The next time the child was given his cup of milk he went directly underneath the house and crawled up close to the base of the chimney. The father then approached to within a few feet without his notice so that he might obtain a close-up view of what was going on. What he saw filled him with amazement and horror. At the approach of the child a large diamond-back rattlesnake crawled from underneath the chimney, from a hole that the dog had scratched for the purpose of providing himself with a cool place during the summer months and a warm retreat for the cold winter nights, when there was fire in the hearth.

The big reptile crawled boldly up to the child who held the cup outstretched toward him and began drinking the milk while the little boy patted him on the neck and back. Though terribly alarmed for the safety of his child, the father knew well that any interference on his part might be fraught with serious consequences to his little son, so he stood back out of sight until the serpent had emptied the cup of milk and the child had finished fondling the rattler, then the father killed it with a well-aimed shot from his gun.

As a rule a rattlesnake does not make its home in such close proximity to the abode of man, but the house was vacant during his period of hibernation, and the excavation the dog had made beneath the chimney proved to be exactly what he needed to provide him a dry and comfortable retreat during the disagreeable winter months.

This incident is a striking illustration of the fact that, except under very unusual circumstances, anyone who has no fear of reptiles will ever be harmed. (See Chapter, "Reaction of Lower Animals to Human Emotions.")

LITTLE BURMESE GIRL PREFERS KING COBRA AS PET

We once read a very interesting article having to do with a little Burmese girl who inherited no fear whatever of serpents, but on the contrary had no sooner left the cradle and gotten out on the lawn than she made a playmate of a deadly king cobra, which made no attempt to harm her.

One day her mother, who had been busy with her chores about the house and had, consequently, neglected her little daughter for some time, set out to look for the child. To her horror she found her in the corner of the lawn playing with the great serpent. The child insisted from the beginning that the snake would not bite her, and could not understand her mother's alarm. In Burma, as well as India, the cobra is regarded with veneration, therefore is protected, at least by certain sects.

The snake was not killed on this occasion, and the child became more and more intimate with her scaly companion, and finally was brought to America, giving public exhibitions of her power of rendering the great serpent harmless. No matter how menacing his attitude, she would continue her rhythmic motions as he swayed back and forth until she compelled him to approach to her very lips and actually kiss her. However, she advised strongly against ill-advised attempts to duplicate her feat by any person feeling the slightest fear of reptiles.

BLACK BEAR DETOURS FOR MR. RATTLER

Of all the living beings of earth, sea and air, there is but one that does not fear the lurking menace of the swamp—the diamond-back rattlesnake. This one animal is the king snake, which is immune to the rattler's venom and attacks him without hesitation wherever he may be found. And amid infested swamps many a battle royal is fought out to the death between these two formidable serpents—with victory almost invariably going to the king snake.

The Red Men have long been gone. Only names and mounds and terrible memories of them remain. Yet, their lands are not unguarded. There, among the silent shrouded cypresses still lurk dwellers more dangerous than the Seminoles and fiercer than the painted warriors of the Creeks.

On a warm night in early summer, as the full moon wheeled above the rim of the world and illuminated the dark places of the Great Swamp, from an island hidden in the depths came the booming bellow of the bull alligator. Fourteen feet long, of vast girth, with the menace of dagger-like teeth and lashing tail, the great reptile seemed the unchallenged ruler of the place. Yet, the real autocrat of that island was another, silent and deadly as death itself.

That night he came out from a clump of dwarf palmettoes under whose leaves he had lain coiled all through the long, hot hours of the day—an eight-foot rattlesnake, gray-green in color, his back marked with that chain of olive-colored diamonds bordered with yellow which have given this species its name.

Slowly the thick body, over a foot in circumference, moved along the ground in an unwavering line, leaving a deep print in the sand, straight as the track of a wheel. The glittering black eyes set in the wide, heart-shaped head, had oval pupils, that hall-mark of a venomous snake, while a dark band beneath each eye emphasized the terrible menace in their depths.

As the great serpent moved slowly forward, its forked tongue flickering in the air like a black flame, it looked the part

which it played among the serpents of the world. The king cobra of Asia, the black mamba of Africa, the bushmaster of South America, and the death-adder of Australia are all fatal and terrible snakes, yet none of them exceed in deadliness the diamond-back rattlesnake of North America, and none of them equal the menace of its appearance.

Coiling itself in the broad pathway of white sand, the great snake lay there, the deadliest creature that Southern moon ever shone upon. Even against that snowy background, it looked like a patch of withered bracken, so subtly did its coloring melt and fuse in the moonlight. Still as the sand itself on that windless night, yet the serpent was hunting its prey in the infinitely patient, yet supremely confident way of its kind.

For a long time there was no sound beneath the stars. Then from across the water came the ghostly hoot of a great horned owl, hunting among the scattered islands of the swamp. The silence was broken at last by a dripping sound at the edge of the island as a marsh rabbit, an expert swimmer, landed, having taken to the water to avoid the owl. Then came a series of tiny thuds as the little animal came hopping leisurely down the trail.

Although snakes do not hear in the ordinary sense of the word, yet the rattler was instantly conscious of the vibrations of the rabbit's feet, and its coiled body became tense as a steel spring. As the rabbit passed the blur of brown among the green fans of the dwarf palmettoes, there was a flash of motion against the sand, too swift for any human eye to register, and the rattlesnake was back in its coil again as if nothing had occurred. Yet, in that tiny instant of time, a number of separate things had happened. The mouth of the great snake had gaped wide, and the movable fangs of its upper jaw had flashed out of their sheaths of white gum-like tiny spear-points. At the same instant the flat head had shot forward, burying the crooked white needles deep in the rabbit's side, while the muscles around the poison sacs contracted, spurting a jet of the amber essence of death into the hollow fangs, and from a hole in their side, like that in a hypodermic needle, deep into the veins of the little victim. There was a frightened squeal,

a thrashing among the palmettoes, and then silence. Slowly the great snake uncoiled, and with head held high and horrible, disappeared into the brush, following the stricken animal's trail by scent.

A few days later the rattlesnake again came out of cover and coiled itself in the very center of the trail, sinister and unafraid in the warm sunlight. A faint musky odor exhaled from its mottled body, and at that scent of death all the wild creatures who had been accustomed to use that path turned aside long before they reached the sentinel who guarded it.

Toward noon the basking snake sensed the vibrations of some approaching animal, and around the bend came a huge black beast with a splash of white in the center of its broad chest. The color, the humped hind quarters and the head swinging low on a long neck marked the king of all the carnivora of Eastern America, the black bear. As his feet came nearer and nearer to the silent shape on the sand, a clicking whir broke the drowsy, noontide silence sharp and sudden as an electric bell, and the nineteen rattles of the great snake, thrust straight up beside its flat, waiting head, moved so rapidly that they showed only as a blur within its coils. Even before he caught the sound, the bear's nostrils had told him who it was that guarded the trail before him. For a moment the black beast faced the brown snake, his body swaying indecisively in the sunlight. Then suddenly he turned aside and, making a wide detour around the threatening figure, picked up the trail farther on and disappeared in the brush.

For fully five minutes after the bear had gone on, the whir of the snake's rattles sounded as if controlled by some automatic mechanism which had to run down before it could stop. It was that prolonged rattling that was the great snake's undoing, for the long-continued insistent sound brought to the spot the one creature in the half-thousand square miles of that marsh who did not fear and avoid the reptile whose body lay across the trail.

As the alarm-notes of the rattlesnake died away to a few scattered ticks, from the underbrush beside the path flowed a snake whose black body, cross-barred with chains of white

rings, was much larger though slimmer than that of the other. The scales of the newcomer, moreover, were smooth instead of being ridged as were those of the rattlesnake, and its lithe body slipped over the sand with a speed which no rattlesnake, the heaviest of all venomous serpents, could equal.

Slithering through the sand, the shimmering black figure approached the coiled rattler unconcernedly, for the newcomer was no other than one of the king snakes, whose blood is immune to the venom of any reptile of the Western Hemisphere, be it rattlesnake, moccasin, bushmaster, or fer-de-lance.

As by scent the diamond-back sensed the approach of the other, its rattles again whirred warningly and the fixed, lidless eyes took on that look of terrible menace which neither man nor beast can endure to face.

The king snake, however, showed no fear, but shot straight toward the heart-shaped head which waited for him. Then, like the sudden flicker of light upon water, the rattler struck, driving its curved fangs deep into the back of the other, and was instantly back in position. The next instant there was a writhing tangle of coils in the path, and like a narrow ribbon of black silk, the slim body of the king snake wound around and around the rattler's huge bulk. Again and again the diamond-back drove its fangs into the other's body. A man would have died in a few minutes and most snakes almost as soon from such a tremendous dosage of venom. Its only effect upon the king snake, however, was the winding more closely of its relentless length, while its taught body and prismatic scales beamed in the sun like burnished metal. Then the choking coils tightened and the rattler's mouth gaped wide open as it gasped for air. Not until the bloated body lay limp and lifeless upon the sand did the king snake loosen its grip and disappear to the brush, the avenger of a long line of little victims who had fallen prey to that dead ruler of the dark places of the marsh. —(*Adapted from "The Diamond-back," by Samuel Scoville, Jr., in Nature Magazine, Sept., 1929.*)

JUST A MINUTE, PROFESSOR!

It has been taught, and I think always without contradiction, that the king snake is fortified by a natural immunity to the venom of the rattlesnake. Just a minute, professor! It is not now our purpose to definitely contradict such teaching since, as already stated in the foreword, we lay claim to no scientific knowledge touching the subject, but have spent a lifetime gathering in the most interesting observations, and have made a few in our own right which prove conclusively that many eminent scholars have missed their guess in their attempt to ferret out all of the mysterious practices of the diamond-back in the wild state. In the light of an observation I shall presently relate, I am not positive that a king snake kept in captivity for an extended period of time would survive an injection of the diamond-back's venom. On the contrary, one in the wild state might, and then again he might not—let's see.

The point is this: During our boyhood we listened to some of our elders relating an interesting story of having witnessed a king snake holding a rattler at bay. Before making an attack, he went about diligently searching hither and yon. Finally he located the tender weed he sought and took two or three bites of its leaves and then returned for the attack. In the encounter he was bitten once or twice and on each occasion would retire from the encounter to nibble the weed. Just to see what it would lead to, the observer stepped forward and pulled up the weed. The rattler proved himself more than a match for the king snake, inflicting other wounds upon him. No longer able to find his weed, the king snake soon retired from the encounter and died as a result of the rattler's venom. At the time we thought little of the story, believing that it was merely the creation of some person with a high degree of imagination, and that the same had been handed down by word of mouth from father to son until it came to me. Since then we have thought more seriously of it. Ofttimes such myths have a genuine foundation if one could but trace them down to their origin.

By way of substantiation of such contention "Uncle Dave" once made an interesting observation. He was on his way fishing, following a cattle trail across a muddy flat adjacent to the stream. On his return several hours later he took notice of a large king snake lying across the trail, dead, and with sufficient sign of a struggle to indicate that the spot had been the scene of a death battle between himself and some other reptile. Fang signs were noted about his midsection. A short distance away he found a large water rattler, crawling triumphantly away from the scene of the encounter. What is your answer, based upon the above evidence? Mine is that the king snake had been too busy with his hunting and had neglected his immunizing weed.

It has been related elsewhere herein that the Hopi Indians of Arizona have a remedy which does not fail, and that the same is brewed from the leaves of some wild herb not known to the white man. The reader need make but another additional step in his line of reasoning, and such step is entirely logical, to arrive at the conclusion that the king snake does employ such method in rendering himself immune to the venom of the rattler, and that the Indian learned the secret from the king snake by such observation as that related above.

THE MATCHLESS SPLendor OF THE RATTLEr'S TIARA RIVALS THAT OF AN EASTERN POTENTATE

The following experience was related by an old gentleman who lives in the neighborhood of the great Okefenokee Swamp in Georgia. It illustrates the deadly power of fascination exerted by the rattlesnake over birds and small animals which it captures for food.

The narrator was walking along a settlement road one bright summer morning when his attention was suddenly arrested by the unusual behavior of a small bird flitting about from weed to weed, all the while chirping in a terrified and distressed manner. Though the bird would fly away for a short distance, he would invariably return to the location of whatever it was that appeared to fascinate him. His interest seemed to center about one particular spot, and as soon as the old gentleman took his gaze from the bird to look for the source of his distress, he located the object that held the bird under his hypnotic influence.

On the other side of a log, with head erect and tongue darting back and forth, was a large rattlesnake. It seemed that the snake was handicapped when he first observed the bird, in that he was behind a log from him, and hence had to employ means not ordinarily used to fascinate his prey. He reared up out of his coil to a considerable height. The skin of his throat and neck was somewhat spread after the manner of the cobra and he was swaying back and forth with a rhythmical movement.

Most deadly of the North American poisonous serpents, and ranking in size with the largest of the tropical venomous snakes of both the New and Old World, this huge rattlesnake, with its brilliant and symmetrical markings, was a beautiful and terrible object. There was a certain awe-inspiring grandeur about the coil of this formidable brute; the glittering black eyes, the slow-waving tongue, and the incessant rasping note

of the rattle. But the most disconcerting feature of his attack was the deadly *collectedness* and assurance of power which fairly radiated from his glistening body. He was consciously master of the situation and determined to make a kill. In some subtle manner this assurance communicated itself to his victim and overcame his rapidly waning power of resistance.

Because of the superb beauty of his body markings and the cleanliness of his skin—it was evident that the rattler had recently sloughed his skin—leaving all dust and discoloration with the old garment. Had his new scales been unaided by the brilliance of the morning sun, he would still have been a thing of beauty to behold, but each scale seemed to possess the refracting quality of a prism, with the result that the sun's rays were reflected in all the varying hues of the seven colors of the rainbow, rivaling in beauty the most dazzling tiara worn by a Maharajah of the East Indies. For the rattler's scales seem to possess some of the qualities of the pearl, which is built in layers of varying thickness, so that when the sun's rays are absorbed by the first layer they are reflected by the deeper layers, giving them a delicate tint made up of all the shades which might be compounded by any of the great masters from the seven basic colors. Then, too, it seemed that the rattler had the ability to move the skin of his neck in such manner as to reflect and refract the rays of the sun most effectively.

The whole spectacle filled the old gentleman with mingled emotions. The beauty of the snake was so striking that he could not refrain from wishing that he might preserve him permanently. Yet at the same time he felt the opposing desire to destroy him and all his kin as the embodiment of the Prince of Fallen Angels. His love of the artistic created the desire to preserve, while his hatred for that which was utterly evil urged him to destroy. Such conflicting emotions are common to the human heart. The dividing line between love and hate is often extremely narrow. As he looked with pity and amazement upon the tragedy that was about to be enacted before his eyes, he deplored the weakness of the harmless creatures that came within the range of their arch enemy's Satanic powers. How pitiful were their futile efforts to escape that diabolical

influence! To add to the horror that assailed the sense of vision, above all this tragic scene continually rose the sound of the serpent's gently whirring rattles.

"The most subtle of all the beasts of the field," say the Scriptures of the serpent. The more one studies the rattlesnake, following him from place to place and observing his masterly cunning and self-assurance, the more one is impressed with his uncanny wisdom and skill in varied arts of deception and cruelty. Let no one discount his Satanic powers, which he has possessed from the very dawn of creation and developed through myriads of generations. From his diabolical influence the best assurance of safety is in flight, lest we fall into the error of Mother Eve in the Garden of Eden. The collective experience of observers establishes the fact that no mortal will ever witness anything so nearly resembling the Black Prince in the flesh as when viewing a rattler successfully endeavoring to disarm his prey, or possibly man himself, through his power of fascination.

MIRACLE, OR COINCIDENCE?

We beg leave to refer the reader again to a previous chapter—"An Incident of the Civil War." Having reflected over this incident, one will very likely inquire of himself whether or not miracles are definitely outmoded, or whether there is still Divine intervention in the daily affairs of men. The whole question is a highly controversial one, hence we shall avoid any definite commitments. The rattler which played a prominent role in this incident behaved in a manner quite in keeping with his nature, and could be relied upon to thus conduct himself over and over again, when encroached upon in quarters where freedom of movement is denied him. It happens to be a fact which none will deny that the sound of a rattler simply chills the blood of those coming upon one unexpectedly. It is not impossible that these Union soldiers carried out their immediate assignment in a perfunctory manner—with sufficient outward show as would convince their immediate superior that they had, as soldiers, been thoroughly vigilant in the performance of their duties, but had, in reality, fled the scene by reason of fear. Even if this were true, no just criticism could possibly be directed at them—they were not open to charges of dereliction of duty. On the contrary, their sudden decision to abandon the chase might well be accepted by some as evidence of the Divine mind working upon their own, and directing their mental processes.

If, on the contrary, we are still living in an age of miracles, it is believed with all sincerity that the incident related below is more definitely entangled with the miraculous than the one set forth above.

The same has to do with an humble old minister of the Gospel, afflicted with total blindness, and bowed under the weight of years. It was during the early pioneer days when ministers were few and far between, and the mode of conveyance in vogue at the time was slow and uncertain. He came along with the first influx of settlers, and at the time being in possession of his sight, selected a suitable site for his future home, built him-

self and his faithful wife a modest shack, thereafter observing with comparative indifference the surge of humanity pressing on westward, ever westward. As for himself, he was quite content to stay put and minister unto the spiritual needs of his devoted flock. For almost half a century he had discharged with fervor all the duties of one called to his high office and with little thought of price or pay. He had joined together in the holy bonds of matrimony all the courting lads and lassies of the community, blessed the offspring of such unions, solaced those in distress, preached to the living, and buried the dead. If, perchance, recipients of his kind offices dropped a dime or two with him for his services, then such was accepted with gratitude. If, on the contrary, nothing was proffered him, he entertained no unkind thought, neither spoke an unkind word concerning those who had so thoughtlessly neglected their blind old minister, since he loved his fellowman next to Him whom he served daily.

One summer day as he was seated upon his vine-covered porch, peering out across the landscape with eyes that no longer beheld its beauty and charm, the thought suddenly came to him that it was time to go out to the barnyard and give his family horse and milchcow their ration of grain and hay for the evening. His faithful wife was busily engaged in the kitchen preparing their "snack" for supper. With hickory cane in hand he made his way past the front yard gate, tapping every familiar object as he trudged along, just to make sure that he would not stray from the familiar path. When the old gentleman had been gone long enough to have done all his chores and returned, the wife heard him calling to her, seemingly in distress. As she hastened to the scene she observed that he had strayed far from the beaten trail and appeared to be walking in circles and getting farther and farther from his destination.

In a vain endeavor to conceal from him her concern over his unaccountable and meaningless meanderings, she proceeded to reprimand him: "Well, ol' man, what on earth has come over ye"? Here we has been a-livin' here for nigh unto fifty years, and ye've been a-walkin' this path more times a day than ye've

got fingers and toes, an' now ye can't fin' yer way to the lot less'un I guide ye. I b'lieves to me name ye're 'proachin' yer secon' chil'hood."

Deep in his heart he knew that she loved him more now than she did in her girlhood days, but accepted her expressions of solicitude as a reprimand, he proceeded to soften her up with the kind entreaty: "Now come on, sweet womern, don't be unpatient w' me—jes' show me the way to the barn so's I kin feed the critters—they mus' be a-gittin' hongry b' now." So saying, they both dropped the subject and walked leisurely along the way, discussing other trivial events of the day. When she came within sight of the barn door, everything was made perfectly clear to her, or so she thought. Coiled in a depression, immediately in front of the door where he always stood to gather an arm load of corn for his horse was an eight-foot rattler, attracted to the spot from a nearby hedge with designs upon the rats infesting his barn, and the fry chickens about his barnyard.

From his sacs might have been extracted enough venom to kill forty strong men if apportioned equally among them.

Under the law of averages these two occurrences should not have happened at the same time. There is one chance in a million that it was a mere coincidence. What is the true answer?

TWO CHAMPS MEET

Having their origin in the blood-red hills of central and north central Georgia, a number of smaller streams combine to form what the Creek Indians called the Ocmulgee River. Farther on toward its mouth it merges its bloody tide with that of the Oconee to form the Altamaha, their united floods winding their way to the sea. Now, darkies in general, particularly those living along this river valley, do not obligate themselves to observe the names given such, either by the Indians or white geographers and surveyors. On the contrary, many of them insisted that this muddy river should have been known as the "Oaky-Mucky," and would not desist from the practice of calling it just that. There being sufficient reason for meditating on most things the darkey says and does, let us examine to learn if possible if there is not some significance to the name thus applied to it. The river swamps as well as the sandhills fringing its eastern shores abounded in oak and other hardwood. When this old river was on a rampage the washings of the red clay hills of central Georgia was released from the grip of the surging tide as the impounded waters bided their time to regain the channel and continue the journey to the sea. The result was a "mucky" deposit which all but denied thoroughfare to the average pedestrian. While such deposits made quite a contribution to the wealth of ancient Egypt by fertilizing the valley of the Nile, they served little purpose on the Ocmulgee, but on the contrary promoted the growth of an almost impenetrable jungle and an intolerable annoyance to fishermen making their way from the hills to the river channel.

Fishermen had on divers occasions, and covering a period of many years, met with a dreadful reptile—diamond-back rattler, of course—in the swamplands along this river. Due to his length of years he had become increasingly crafty. Each year seemed to render him more aggressive and ill-tempered. It appeared that he even sensed the danger of firearms, and would permit the passerby to continue on his course when thus protected, but if it promised to be a man-to-man encounter, he

did not hesitate to challenge their right to molest his hunting ground. Many of the younger generation along the river, as well as timid adults, had been thrilled and chilled times without number as stories of such encounters were related by those having the experience. Such stories had finally come to take on the nature of a legend.

The vast majority of those living along the highlands of the river and in close proximity to the stream listened out of sheer courtesy to such narratives, but with little show of confidence in the veracity of the narrators. These were those who took not kindly to the art of fishing, and on each occasion when they were compelled to listen anew to the tiresome details of such legend would confess, unabashed, that it was their candid opinion that such person had, immediately prior to such alleged encounter, tarried too long at the winepress. Ofttimes they were somewhat unmerciful in their criticism, accusing these fishermen of having stolen a page from the despicable record of Ananias—in short, all these fishermen were plain liars. To such accusations those at whom they were aimed countered with the rejoinder that, even if true, all liars were not fishermen. They insisted farther that such exaggerations as they, the humble followers of Izaak Walton might be found guilty of, had to do chiefly with the number of fish caught, the length of their string, or perhaps as is most often the case, the size of the great fish that got away. Even if true, they insisted, no one but the fisherman guilty of such colossal falsehoods could possibly be injured thereby, while their holier-than-thou critics all too frequently originate and set in motion gossip which works irreparable injury to the good name of those at whom it was directed. Thus the controversy raged, a controversy in which the writer cannot but side with these well-meaning devotees of the art of fishing.

Fear always gripped their hearts as they trudged cautiously through the hummock land and river swamp, a land over which this overgrown, old diamond-back ruled with as much absolutism as any tyrant of either ancient, medieval, or modern times. New fears beset them, however, when they gained the river channel and began to display their luscious and appetiz-

ing bait. A great blue channel catfish had earned for himself a reputation second only to that of the rattler when it came to plaguing these fishermen and ruining their pleasure for the day. Many fishermen had experienced contact with him, and more often than not he had seized their bait and had taken line and pole with it to the depths of the river channel. None had ever been able to take him in, though they vied with each other for the honor and notoriety of nailing his great head on their barn door. Each time such depredations were committed it was done with not the slightest air of showmanship, but merely as a part of this old bearded patriarch's day's foraging.

It remained for a net fisherman to set at rest forever this raging controversy over this mythical diamond-back and blue channel catfish. It so happened that he had never himself been a party to it, but listened with patience to the evidence both pro and con. Like a true investigator, he merely "salted down" the evidence adduced and bided his time in the hope and with the confident expectation that something more tangible would one day present itself. As he was drifting along with the current, hugging the western bank and nearing a point at a bend in the river, some strange object entangled with the limbs of a great fallen pine tree revealed itself to his keen and observing eye. The scouring effect of the river current, as it rolled against the clay cliff at the bend had finally undermined this giant pine which had fallen into the channel while its roots clung tenaciously to the soil ashore. A more careful inspection revealed to him not only the giant rattler, but the catfish as well. They were locked in mortal combat, the catfish with his vise-like jaws gripped firmly upon the form of the rattler, and the later with his long, poisonous fangs sunk to their depths in the muscles of the fish's jaw. According to the estimate of our informant, the fish must have weighed not less than fifty pounds, and the diamond-back eight feet in length or more.

Thus ends all that was definitely known of the record of these two champs. The details of this duel in which both perished will remain forever the secret of the muddy waters of the Ocmulgee. It has already been stated that such creatures do not perform freely for members of the human family. The

reader is as much at liberty to supply the missing details through the medium of his imagination as the writer. The mute evidence points unerringly to the fact that there must have been a silent but terrible struggle.

For our own part we see this great catfish lounging leisurely about his lair floored by the ooze of the Ocmulgee channel when a noticeable ripple upon the surface influenced him to direct his attention thither. Nothing strange about ripples upon the surface of this turbulent river, but it is not every creature that can read the signs he reads.

When its tide rolls against the steep bluffs at such bends, swerving sharply toward the farther shore, there are undetermined numbers of ripples. The bloody waters boil as though Dante's inferno lay at the bottom of it all, while miniature maelstroms form everywhere as a result of such force brought to bear upon it.

As for the diamond-back, his luck as a hunter had been rotten for several days in succession, so much so that "miss-a-meal-cramps" beset him in his digestive organs. Very naturally concluding that hunting would be better on the farther shore, he lost no time in attempting a fording of the stream. Like every tyrant and conqueror, he committed just one error that led to his undoing—he attempted a crossing at a point where he was destined to engage in battle with a mighty adversary—an enemy thoroughly familiar with every inch of the ground on which the battle was destined to be won or lost.

As he looked up at the agitated waters, forming a long "V," he observed what appeared to be a great eel-worm at the point of the "V." He must have exclaimed, "Leaping catfishes, what a worm! Now, there goes a meal fit to grace the table of a true noble of the catfish clan!" So observing, he rapidly ascended in order to view his quarry at closer range. Having satisfied himself that this fellow would provide meat for his table for several days to come, he laid hold of him with a firm grip in the midsection, dragging him instantly beneath the waves where the rattler was compelled to fight blindly. Striking savagely from right to left, he finally seized his invisible assailant in the muscle of his tough jaw. As he did so a flame

of fire flashed throughout the whole of the great fish's being as the deadly venom was injected. Otherwise the wound was accompanied by a mere stinging sensation which soon subsided as the paralyzing effect of the poison ran its course. As the fish regained his cove below he had lost some of his appetite which had prodded him on to make the attack, but reasoning that he would feel better soon, maintained a firm grip upon his catch. Little did he realize it, but he was feeling as fit then as he would ever feel again. In his dying agony he tightened his grip upon the reptile, while the latter soon succumbed to the pressure of the catfish's vise-like jaws. As the great fish bloated from the effects of decomposition he arose from the oozy depths with his gruesome catch soon to be fouled up with the limbs overhanging the bluff where the fisherman observed them with a death grip each upon the other.

Thus ended an unobserved duel between two champs in which both won. Or, should we say, both lost. Have it the way you like it best.

UNCLE DAVE AND HIS WATER-RATTLER

When the water-rattler is projected into the field of discussion herpetologists will no doubt protest the existence of such a specie. To be more definite, I have already had correspondence with four of the leading zoological societies and snake-farm operators in America, all of which deny that the scientific world has any knowledge whatever of such a reptile. But to Uncle Dave, he is very real—as a matter of fact, it was one of these, and not a diamond-back, which took the life of his son. He was present and looking directly at his son when the tragedy occurred. Now, there is no difference between this species and the true diamond-back other than their habits, color, and absence of rattles. I shall attempt a more detailed description of such differences later.

They are without doubt the most ill-tempered of any member of the rattler family, and bathers who, unfortunately, take a dip in a lake infested with their young, are very likely to pay with their lives for such indiscretion. They will attack beneath the water as quickly as upon the banks of the stream, and do not give the usual warning of the diamond-back. Uncle Dave avers that while you hear the hiss of the latter in time to escape the blow, the hiss and the stroke of the water-rattler come simultaneously—consequently, when you hear the hiss of the latter, you are already bitten. Recounting in my own mind the number of fatalities among victims of the two species, it is my opinion that the water-rattler is more deadly than the diamond-back. This might be explained on the theory that while the latter is eternally fanging his prey, dogs, and larger animals which threaten to trample upon him, the water-rattler seldom has occasion to employ his fangs, but fishes for his food after the fashion of the moccasin. Animals enumerated above, and men, seldom frequent his native haunts, lakes, ponds, and stagnant lagoons. Consequently, when he does have occasion to bite, the victim is sure to receive an overdose of the deadly venom.

When one's skin has been freshly sloughed, the diamonds

along his sides can be seen, but are so nearly faded out that they can scarcely be delineated. There is no doubt but that the diamond-back and the water-rattler were originally of the same species, the latter gradually taking on a different hue that he might more perfectly blend with the muddy water in which he sought refuge. His rattles and diamonds, both of which were formerly employed in his rather mysterious art of fascination, were consequently discarded by nature as unessential to his future well-being. Any student of nature will admit as much. So, viewing him all up one side and down the other, Uncle Dave can discern no difference which is more than skin and rattle deep.

In event scientists of the land should eventually throw Uncle Dave and his water-rattler both out of court for want of sufficient evidence, he still has an ace up his sleeve. Mother Nature, he feels sure, will not let him down, since there occasionally appears a throwback with rattles, and the aid of college-trained snake experts will not be required to properly classify him. So, for the present, he rests his case.

MIXED-BREED OR NEW SPECIES, WHICH?

It would appear that nature over-exerted herself when she camouflaged the diamond-back—we are speaking of the true diamond-back which species is becoming almost extinct in this section of the country. This fellow is indeed a sport model among rattlers, being so gaudily arrayed that his colors work toward his extinction rather than in favor of his preservation. He was equipped by nature for the hill land, and his coloring suited his environment admirably, inasmuch as it blended with the natural color of the native wiregrass and fallen pine needles, but when most of the land was brought into cultivation he was left practically homeless. The swamp-rattler, though a true diamond-back, was of a much darker color, due to the nature of his environment.

Twenty-six different species have been catalogued the world over (not counting Uncle Dave's water-rattler, and a second discovery to which we shall presently refer), ranging in color all the way from jet black to snow white. The rattler adapts himself to ever changing conditions so readily that we are prone to believe that new species spring into being more readily than nature would breed a new species of quadruped under similar conditions. In addition to his camouflaged skin, nature provided other means of protection, in that he absorbs and reflects light in such manner as to make him appear the exact color of that with which he is surrounded. In the bright sunlight he assumes a bright hue, but transferred to shaded ground he becomes dark and all but disappears from view. So that the shaded swampland has everything to do with the swamp rattler assuming his present coloring.

Pursuing this same subject farther, Uncle Dave once made a find which baffled him completely. In a region where no species had ever been found other than the diamond-back, swamp rattler, water-rattler, and pygmy (or ground rattler), he found one with a back as black as teak-wood and an abdomen as bright as a newly-minted penny. Otherwise he was the same as others he had been accustomed to noosing. It was on

a small tributary of the Satilla River, known to the early Spanish settlers as Saint Illa. The owner of the land mentioned very casually that he killed them of similar description in this same vicinity occasionally and he was equally puzzled as regards their true classification. Disposing of him finally to a large museum he invited the curator to accord him special attention and give him the benefit of his opinion. In due course of time he had a letter from the museum communicating the astounding information that this fellow lived in an environment where there was an abundance of red clay, and crawling upon this was the cause of him getting his belly shined a bright copper color. Such an opinion from an "expert" caused Uncle Dave to go squarely off the handle like an old grubbing hoe. He had been noosing rattlers for half a century and there was absolutely no difference between this fellow's environment and that of others he had been catching in years gone by.

If guesswork and theorizing were in order, then he would do some himself. There being no biological difference between the diamond-back and the water-rattler, and some of the characteristics of the two being combined in this one, there remained little doubt in his mind but that two of opposing species had entered into a state of cohabitation, and that this half-breed had inherited the rattles of his diamond-back daddy and the color of his sea-going mamma.

“OL’ SPOT” ENTERS THE FRAY

Yes, you guessed it correctly. Ol’ Spot was the family watch dog who came into the possession of the family without pedigree or recommendation—just dropped by some passerby who contrived to rid himself of the nuisance without doing murder. He grew into a dog of rare intelligence—absolutely unwavering in his fidelity to his master, and of unfailing courage when it came to safeguarding the little children committed to his care.

Our early home was situated between two spring heads. At some remote period of the past, when the world was new, these spring places must have been large pools of crystal-clear water—pure as the mountain dew, but with the lapse of ages had accumulated leaves, trash and washings from the hills until now they were transformed into impenetrable mire. For reasons which are not wholly obscure, we called it “The Devil’s Swimming Hole.” A dense and tangled verdant growth for an undetermined number of acres ’round about was supported by these spring places which proved as inviting a spot to every predatory species of animal and bird as the oasis does to the weary and thirsty desert caravan. Such places provided a convenient springboard from which marauding birds and animals would initiate their constant forays against the domesticated fowl of the barnyard. If every creature, of whatever kind, which ever sought asylum in these cool jungle spots were commanded to march forth it would provide one of the most spectacular parades ever witnessed.

Such a spot, as the reader might have already surmised, was the scene of much strange carryings on. Tragedies without number were eternally being perpetrated among members of the feathered family. Such deposits of almost bottomless mire might easily be visualized as the spawning ground of all living flesh, and successfully defied all creatures save those peculiarly adapted by nature to take up residence within its sloppy confines. Alligator turtles, and all species of moccasins found a safe haven there. The bullfrog, that basso-soloist of

the swampland and pond places, found food sufficient for his need. Between minnows, insects and moth which become trapped in the mire, these fellows experienced an easy and luxurious existence. As in all nature, one of these creatures would prey upon another, while his assailant would, in turn, be sought by his own most loved (?) enemy, and as a result of this whole revolting war, nature's perfect balance would be maintained, and for man's good. The minnow was eternally seeking the larvæ of the mosquito, the frog lying in wait for the minnow, and the moccasin kept eyes which were never closed eternally upon the frog. The bullfrog, besides being endowed by nature with a low bass voice, was also a noted tenor—on occasions. When skies were rosy and all serene he could be heard singing his bass solo, but occasionally he would be heard from afar rending the air with his shrill cry as a child frightened out of its wits. When Spot heard such lamentations he knew perfectly well that murder was being done down at the Devil's Swimming Hole, and that some unfortunate bullfrog was destined to become the victim. He would often go unaccompanied and break it up, returning with a feeling of self-satisfaction—with a feeling that an imperative duty had been well performed.

The mud turtle caused Spot no little bit of concern, and we doubt that he ever knew for certain what was at the bottom of all the tragedies he promoted. While he appears to be a slothful and rather stupid creature, yet he is endowed by nature with the means of earning a living with a minimum of physical exertion. He has his fishing tackle with him at all times, in the likeness of a pink-colored eel worm attached to his tongue. By opening his mouth wide, in the shallow waters, he can doze off to sleep if he likes and await a "bite." When he gets the call, his giant jaws click shut like the jaws of a steeltrap, and he has fish sufficient for the day.

When some luckless water fowl, or perchance a chicken which strayed from the barnyard stepped upon this mire, he would take them gently but firmly by the leg and gradually draw them beneath the surface and feast for days upon the carcass, far removed from the menace of his enemies.

During the noon-hour one sultry summer day, while the

farm hands, agreeable with their usual custom and practice, were resting from their labors, the tranquillity of these green heads was suddenly broken by an outburst of the most distressing cries by birds of every feather. Spot was first to sense the fact that some war-minded villain had broken the truce, and that murder was stalking abroad. He was off to the rescue without awaiting a summons or command. One of the men, one who knew the dog's uncanny faculties for fathoming mysteries, followed close behind. Once upon the scene of the tragedy, it was noted that all of the commotion seemed to center around a small cluster of gall-shrubs. A joree (so called by reason of his peculiar note, "jo-r-e-e-e") appeared to be more distressed than other birds present, and persisted in hovering above these bushes. Spot was going in circles about the scene of the commotion, whining. Looking into these bushes this observer took note of nothing more menacing than the wing of a dead joree in an upright position upon the leaves. Reaching forward he attempted to pick it up, but it would not let go, so applying some force he pulled about two feet of the business end of a five-foot rattler from a deposit of dead leaves.

It has been stated elsewhere, and we insist here, that the rattler is capable of singing a song, or whistling in such manner as to deceive the birds and influence them to come to investigate. The reason the writer knows this to be a fact is that he has heard it himself. Once they gather to the spot, if the reptile is in a concealed position, he will deliberately crawl forth where he knows they can see him clearly, then make it appear that he is retreating from the scene by reason of their terrible outcry. Having clearly shown himself, he will crawl beneath the sheltering leaves of a patch of shrubs, knowing they will finally come near for a closer inspection. When they do this, coming within range of his powerful glare, they never recover from the effect, unless someone should come along in time to release them from the power which binds them. When birds are noted crying in such manner as described above, and occasionally darting down, dive-bomber style, one may know for sure that some reptile is at the bottom of all the excitement.

HE MAKES A NICE LITTLE PET, THE KING SNAKE DOES

Provided you want to be nice and just play, but if anyone should get other ideas in their head—if one should attempt to get “nasty” and start playing rough—well, we would not underwrite his continued docile disposition.

One of our party with whom I have hunted many years once had two large bird dogs, one of which he trained to aid him in the chase. At the same time he had a semi-domesticated king snake which he kept about the farm. He enjoyed about as much freedom about the premises as any member of the family. His owner and protector would often feed him young rats, but if neglected too long he would go hunting about the corncrib, entertaining no fear whatever of any member of the household.

It happened, and not infrequently, while his protector would be busily engaged with his general farm work, that his dog would be heard barking, baying something about the farm, and if his master did not come to him he would soon come across the field holding this six-foot king snake in his mouth. His master reprimanded him after this fashion: “Now you’ve brought in the wrong snake—go straight back and put him down where you got him from.” Nursing a dejected spirit, he would drop his tail and go sauntering off across the field, soon returning empty-handed.

One day he persisted in his barking until his master dropped his work and went to see if it was the king snake or some member of the poisonous species. By the time he arrived at a point from which he could view the quarrel clearly, the dog made a savage assault upon the king snake. Seizing him about the mid-section he shook him with such violence that he made his tail crack like a platted rawhide cow whip. His master commanded him to let go, which he promptly did. Now the king snake’s flesh is as tough as platted piano wire, while his skin is sleek and loose. Consequently he had suffered no injury as a result of the rough handling the dog had given him.

He was in the proper mood for returning the dog's call. He made a rush for the dog, completely encircling his four legs and then tied the knot, throwing the dog squarely upon his back in less time than is required to tell the story. While the dog was struggling he quickly transferred his grip to the body of the dog, then winding himself tightly about his neck. He was slowly strangling the dog to death when the other dog arrived upon the scene. Being witness to his hunting buddy's sad predicament, he rushed up, got a firm hold upon the snake and drew him off the neck of his hunting partner. His master said to the dogs, in a commanding tone: "Now you boys break it up—come on and leave that snake alone." The snake was willing enough to permit the fight to stand as a draw bout.

“AND A LITTLE CHILD SHALL LEAD THEM”

It so happened in this case that instead of leading the brute he was driving him, when his mother came upon the scene and delivered her little son from a situation which she felt sure would have resulted in certain death had she not arrived upon the scene in the nick of time.

In the cool of the afternoon one hot summer day she sent her little son down the lane to drive her milch cow home, lest she stray away with her neighbor's cattle to another corral. On his way home he came upon a six-foot diamond-back. Being too young and inexperienced—not knowing what rattlesnakes were good for—he drew near for a good look, believing him to be about the cutest little fellow he had ever seen. In his childish way of thinking about things he concluded that he would drive him home and keep him to play with. He had observed his father working with the ox and, for one of his years, had gained a pretty good idea of how to make the creatures do his way. When dad wanted the ox to go forward he would tap him behind with the whip, and if he wanted him to turn left he would tap him upon the right side of his neck, so he concluded that he would proceed in like fashion and drive this fellow on to the cowpen. So, he got himself a keen gall-shrub switch and tapped him gently upon the tail, and, imitating his “pop” as best he could, said “Giddap.” The reptile commenced moving, but not exactly in the direction he wanted him to go. Going around front, he tapped him about the side of the neck, saying, “Haw, Red.” By tapping him again upon the tail, with the customary “Giddap,” he soon had him inside the lane, going along nicely, when “mom” came down the lane to see what was delaying her little son, making an end of such companionship.

In infested territory such an experience may come to anyone, any time. The intelligent reader is bound to ask himself or herself, “What would I do if this should happen to me?” We would advise keeping as nearly under perfect control as possible and, in the vernacular of the seafaring man, keep to the leeward (not the windward) of the two, gently enticing the little one away from the danger.

UNCLE DAVE MEETS HIS MATCH—ALMOST

Much has been said already about the giant rattler who had grown to such proportions, become so wise, courageous and self-confident that none would challenge him single-handed unless odds be in their favor by being in possession of firearms at the time of the encounter. It had always so happened that none who ever chanced to meet up with him were thus equipped. Many had positively declined to engage him in battle. The horseman, whose thrilling duel with him has been related in detail in an earlier chapter, freely admitted that dealing with the old wizard of the wiregrass was by no means a one-man job. On a half-dozen occasions men had come upon him face to face, bowing themselves out of his presence with the Japanese apology, "So sorry."

Strange as it might sound to the reader, Uncle Dave and this particular rattler had a few things in common. In the first place, according to the old gentleman's best reckoning, they both first saw the light of day about the year of General Lee's surrender. Their trails first crossed about the year 1880. During the sixty years which followed, their trails were destined to cross at frequent intervals, but as Uncle Dave put it, "I was always just a little early, or a little late." Uncle Dave respected "Ol' Diamond Joe," as he had come to call him, and I suppose that if all the truth were known the latter respected him also. It is but natural that two such valiant fighters should respect each other; then, too, both were adepts at the art of fishing, and both great lovers of the chase. This old gentleman's keenness of observation enabled him to recognize his adversary's trail each time he came upon it. Now, the question should not be asked how he knew for certain that it was the trail of the same reptile—he just knew. With the passing of time Ol' Diamond Joe continued growing in stature until his trail exceeded in breadth all of his fellow creatures of the wiregrass region, thus his trail became less and less difficult to identify. Now Ol' Diamond Joe did not go about deliberately courting any trouble with this old battler of rattlers, but if the latter thought for one minute that he would retire him from

circulation—intimidate him into abandonment of his foraging, then he simply reckoned without his host. Yes, if it came to such pass he would dare dispute the way with the Lord of Creation. Not unlike Satan, his counterpart, he would dare go to and fro upon the earth and walk up and down in it.

On one occasion the old gentleman trailed him six miles down a sand ridge fringing a large creek, but it is evident that the one pursued gained knowledge of the fact that the enemy of the rattler clan was upon his trail, consequently evoked some of his master strategy. With evident humiliation Uncle Dave was compelled to admit that the old rascal had outwitted him, and the only consolation he could offer himself was the thought that there would be other days.

The rattler's strategy, after all, was very simple. He evidently gained the knowledge that he was being pursued and changed his course abruptly, getting away from the sand deposits and upon the wiregrass where he would leave no tell-tale signs.

Had it been possible for the reader to enjoy a ringside seat, viewing the maneuvers of the rattler as he vainly endeavored to throw his pursuer off his trail, it would have proved a terrifying spectacle. Those familiar with the latter's habits know that under such circumstances he will often stand almost upon the end of his tail, thus gaining the height of the average man. This makes it possible for him to see for a half-mile or more in all directions. The information thus gained is as valuable to him as the knowledge gained by an army utilizing the services of reconnaissance planes—to spy upon the enemy's activities and movements. Many would believe that it would be an act of sheer suicide for a rattler to rear up to such heights from the brown wiregrass. However, little as the average person would believe it, nine persons in ten would pass within ten feet of him, taking no notice whatever, believing that what he saw was nothing more than the stump of some broken-off oak tree. Such perfect control baffles the mind—how one can hold himself so motionless. Having taken note of them in such a posture, it is our considered opinion that their bodies or necks do not move one one-hundredth part of

an inch. When they have seen what they wanted to see, or have satisfied themselves that all was well, they lower themselves to the ground exactly as they reared themselves—on an absolute perpendicular, and by slow-motion. Any quick side movement might betray their presence or attract the notice of an enemy, thus leading to a fatal investigation.

The opportunity Uncle Dave had long sought came to him at a moment when he least suspected—when he entertained not the slightest suspicion that the ONE diamond-back he most wanted was just around the corner. He had come forth from his cold quarters and was treating himself to a sun bath in the balmy spring sunshine, just to the rear of the entrance to his gopher hole den. At the very sight of his most dreaded enemy he seemed to recall that this was none other than the one he eluded by less than a stone's throw on a former occasion, many years previous. From the start he resisted in a most determined manner, opposing every effort to apply the halter. Finding himself with the noose firmly about his neck, he struggled with more determination than any rattler the old gentleman had ever encountered, finally breaking the string with which he was bound. Now he was thoroughly enraged over the very thought that any man would attempt to thus humble his pride. Rearing his head to a height of two feet or more, he began singing his rattles violently, while weaving back and forth in a most menacing manner, in the face of which Uncle Dave gave ground until he could prepare another noose. Returning to the fray, the old gentleman soon had him in harness again. He struggled and thrashed the ground with such violence that he broke off fully one-half of his long string of rattles, but all to no avail. Feeling that he now had him somewhat subdued, Uncle Dave commenced dragging him toward an open spot of ground, but little realizing the thoughts that were taking definite form in the old wizard's mind. Passing between two large shrub oaks, the rattler suddenly threw his giant form into a broad "S," thus binding his body between the two oaks. At the same instant, timing the two maneuvers perfectly, he gave a determined jerk against the string, breaking the noose a second time. His anger now knew no bounds. Uncle Dave

recalled the words of the horseman, "Dealing with this fellow was not a one-man job." The strategy he employed was absolutely uncanny. From the front he kept his adversary completely occupied, but at the same time he executed such a maneuver as he advanced that his antagonist was steadily being backed into a dense growth of ty-ty shrubs not more than ten feet distant, where he hoped that he would become trapped, thus permitting him to attack and then gain the underbrush. Now, Uncle Dave was not the type of adversary to be taken in by such strategy. He knew the mind of rattlers so well that when he found himself in a tough spot he would reason from the standpoint of the diamond-back himself, asking, "If I were a rattler, just what would I do?" Having the answer in hand he would prepare himself to guard against just that. By the application of such mental processes he determined in an instant of time that the above was the rattler's plan of attack. Having satisfied his mind, and he did not have long to make a decision, he stooped low, making a lightning-like stroke at his neck, on a parallel with the earth, to make sure of eliminating the possibility of a miss. He laid his adversary low. As he stood over him, viewing him as he writhed in his dying agony, his face registered no sign whatever of strain, neither the slightest fear, but did show unmistakable evidence of mingled emotions. He said simply and apologetically, as though addressing his remarks to his dying foe, "Didn't mean to hit you that hard, ye ol' imp o' Satan—jes meant to take some o' the fight out'n ye."*

*See sketch, page 134.

CAMPING ON THE SATILLA

A friend and I once spent an evening together at a camp upon the banks of the Satilla River at a point not so distant from its mouth. We made it a point to reach our destination in time to unload and arrange all stores and equipment, thus permitting early retirement, in anticipation of a strenuous day's fishing on the morrow.

The evening passed without event. Of course, we were serenaded throughout the night by the song of katydids, the hoot of the fish-owl (or guard-head), and the bellowing of bull alligators up and down the river, along with such other nocturnal creatures as infest the river swamp in that particular locality. We were prepared for all this, consequently thought nothing of it. Mention might be made of the fact that my friend was wholly unaccustomed to the wild and wily creatures, remaining awake almost the whole night enjoying the serenade. Before the break of day we were awakened by the noise of him stoking the stove, making preparation to fry the eggs and country ham, brown the toast, and brew some coffee. Now, while it may require the skill of Brazilians to grow fine coffee, the skill of my friend stood us in good stead when it came to brewing it—the two combined left no "grounds" for complaint. It presently became evident that I would get no more sleep that night—the atmosphere in our little cabin had already reached the saturation point with the aroma from this country ham and coffee. Lacking words of our own to adequately describe the sensation, we shall have to invite, or resort to the skill of the darkey we once heard describing its effect upon the human constitution: "De infloence uv its aroma sho do agitate de soul."

Opening wide the window beside the bed, we were afforded an unobstructed view of the river channel and the moss-draped live oaks abounding in the river hummock on the farther shore. The faintest gray was beginning to tint the eastern skies heralding the dawn of another day. Soon the fan-like beams from the early morning sun were piercing the skies, comparing at

least slightly with that sublimest spectacle of all the universe, the Aurora Borealis. This was the one brief half-hour of the day when we would most have liked to be left wholly to our thoughts, but it was not so ordered.

Just at that instant something not more than one hundred feet from our cabin uttered a loud, unearthly wail. Having heard it on more than one occasion before, I knew instantly what it was, but maintained absolute silence, observing the reaction of my friend. I knew for sure that if silence was maintained that the call would be repeated in about ten seconds. It so happened, and it had the appearance that my friend would go into a panic. He described it as the siren on a bicycle, starting on the lower notes and quickly ascending the scale, then shutting off abruptly, followed with a short but distinct "Tu." He described the mating call of the diamond-back about as accurately as one could, when uttered at close range. I asked my friend if he had the slightest idea what it could have been. He had not the slightest idea. Being told what it was, he could not believe it. Being a well-read man, he confessed that he had never before heard of such thing.

The story, after all, is a very simple one. No one, not even the Indian, could succeed in slipping up on a diamond-back uttering his dawn call, so delicate is his sense of hearing. It being in late August, the beginning of their annual mating season, he was simply going up the river hummock courting, hoping that he might succeed in whistling up a bride. He evidently traveled in darkness the night before, and by chance struck camp right by the side of us at the end of his day's journey.

While our conversation was conducted in an undertone at the time he commenced calling, it is quite evident that he overheard our conversation and signed off promptly. It is the contention of the scientific world that reptiles do not have ears. This may be true, but we insist that if they do not, then they have something much better than the human ear. It can be as truthfully said that the radio has no ears, yet it readily picks up a conversation held in an undertone all the way from New York to San Francisco. This delicate piece of mechanism

catches the electrical vibrations all the way across the continent, transforming them into sound at the receiving end. It is the belief of the writer that the nervous system of the diamond-back is equally as delicate, and serves in like manner as the antennæ of the modern radio, and in like manner transforms all vibrations into sound through the aid of some hidden inner organ. Their sense of hearing is indeed most sensitive, and it is equally evident that they recognize instantly the difference between sounds.

JUST IN CASE—

Attempting to lend comfort to anyone unfortunate enough to be bitten by a diamond-back rattler is a most difficult task, consequently we make the approach thoroughly conscious of this fact. Uncle Dave's favorite remedy is, destroy the reptile before the attack occurs, basing such recommendations upon the universally accepted philosophy that "An ounce of prevention is worth a pound of cure." By a sensible and practical application of the lessons we have attempted to teach herein 90 per cent of these terrible brutes could easily and safely be destroyed within a period of five years. This being true, then 90 per cent of their attacks made upon members of the human family, dogs, and cattle should be prevented. Approach this dread reptile from any angle you may choose—apply any rule you may elect to employ, and you are compelled to admit that for ferocity of attack, deadliness and unflinching determination, he stands without a peer among the deadly reptiles of the whole world. Little wonder the Seminole and Creek Indians called him "Grandfather and king of snakes." His huge fangs and enormous poison glands represent the maximum degree of deadliness attained by serpents. The well-known and terrible bushmaster of tropical South America attains a larger size than the diamond-back, and consequently has larger fangs, but the opening at the tip of the fang is not nearly so large in the bushmaster. His other rival is the king cobra of India, but this is a slender snake, not nearly so large, and though attaining a length of sixteen feet, his fangs are barely one-third of an inch in length.

Experts will tell you that the diamond-back's fangs attain a length of seven-eighths of an inch. Uncle Dave will tell you that he is positive that he has noosed them with fangs measuring a full inch in length, and others who aided him in the capture of this particular giant make similar assertions. One-eighth of an inch is not important, but the length of their fangs present a problem upon which life or death hinges. With forty drops of their venom deposited three-quarters of an inch below the surface of the skin the victim has little to hope for. If,

unfortunately, one of his fangs should penetrate a vein, then no hope remains. The layman has no way of knowing, of course, and the situation being a desperate one, any person present may perform a crude operation without fear of prosecution by the courts should he lose his patient. In the January issue (1909) of *Outing* magazine, Dr. Raymond L. Ditmars of the New York Zoological Society offers the following simple remedy. Space herein not permitting the publication of the article in its entirety, we offer our readers the substance of it, reduced to our own language:

FIRST AID

Any person who travels about in a snake-infested country should carry certain articles with him in case of accident. A list of these may be summed up as follows: a hypodermic syringe; a rubber ligature; several sharp scalpels, or a razor; a small jar of antiseptic gauze; material for outside bandage which may be ordinary cheesecloth made clean by boiling; a vial of permanganate of potassium crystals, and several tubes of antivenen serum.

If a bite is received, it is usually upon some part of the arm or leg, and everything depends upon performing the first two operations with care, and without delay. First, apply a ligature two inches above the bite, that is, between the bite and the heart, to prevent the circulation of the poisoned blood. The ligature should be carried at all times where your hands may be laid upon it without a second's loss of time. Next, open up the fang punctures to their full depth by cutting. Make two cuts over each fang wound. These incisions should cross each other. This cutting starts a flow of the poisoned blood which should be helped as much as possible by violent rubbing. If there are no sores upon the lips or inside the mouth the blood may be sucked away, and thus much venom removed from the wounds. If a stream is nearby wash the wounds thoroughly, then bathe them repeatedly in a solution composed of permanganate of potash crystals. In preparing such solution, crystals should be added to the water until it becomes a deep wine color.

If no doctor is available, the antitoxin should now be injected by means of the hypodermic syringe, preferably underneath the skin of the abdomen. After the wounds have been thoroughly bled and washed with the permanganate, the ligature may be removed, but not until every effort has been made to drain all the venom from the bitten part, by suction and massaging. These things being done, go to the nearest doctor. Grave symptoms beyond the power of laymen to combat may develop.

If a doctor is out of the question, the wounds should be kept absolutely clean, as tissue that has been weakened by venom is very likely to develop blood poisoning. Small bits of gauze should be packed into the wounds to keep them open and draining, and over these should be laid a gauze dressing, kept wet with a good antiseptic solution. These dressings should be kept wet and the wounds opened for at least a week, no matter how well the victim may appear to be.

The rubber ligature should be released entirely for one minute out of fifteen. If the swelling appears above the point where the ligature was first placed, then simply move the ligature up and secure it again, between the swollen part and the heart. Make new incisions in the swollen flesh and continue the massaging. Every ounce of blood that can be forced out of this swollen flesh increases the chance of recovery of the victim, since it contains venom, and should be kept from the body and the general circulation.

A layman performing such operation as the occasion requires might accidentally sever a small artery, but this should not cause the victim to go into a panic. Should this happen it would be noticed immediately since the blood would flow in spurts, each spurt timed with the beat of the heart. To stop the flow of blood find some hard object and place it under the ligature just above where the spurting blood appears.

Any person feeling the need of such first-aid kit should consult their family physician or druggist in making a selection of these items, and at the same time ask additional information on points not perfectly clear to them. It is stated on what appears to be good authority that only two victims out of one

hundred are lost where these simple instructions are followed.

When a diamond-back fangs a rabbit for food, such action is usually accompanied by a violent whir of the rattles. Such action on the reptile's part has a very definite purpose—he knows well that the greater fright he gives the rabbit the faster he will run, and the faster he runs the quicker he will fall. The physical exertion, plus the effect of the terrible fright he receives causes his heart to run wild, thus distributing the venom quickly throughout the system. If members of the human family could, by sheer will power, manage to keep themselves somewhat under control, avoiding the mistake of the rabbit—just sit down upon the spot and administer themselves first-aid as recommended herein, then fatalities among victims of the rattler's bite would be reduced to a minimum.

Some members of the medical profession advise against the use of permanganate of potassium, but common sense would certainly suggest the use of some form of antiseptic. One aged physician who had enjoyed an extensive practice throughout a lifetime confided to me that medical men knew practically nothing about the treatment of snake bite, anyway. Bathing the wound will keep the blood flowing freely, a thing much desired. Blood permitted to accumulate upon the wound will clot and stop the flow.

MY DIAMOND-BACK NEIGHBOR

It does not add to one's comfort, but in the infested territory it may happen to anyone, any time. Sometimes such relationship may be known to the human party to such an association but oftentimes the latter is wholly unaware that he has a large diamond-back for a next-door neighbor. I first became aware that I had such a neighbor when I was awakened one morning at dawn by his wailing mating call.

During the forenoon of the day on which such terrifying call was first heard I distinctly observed his trail across a settlement road near my little cabin where there was a deep deposit of drift sand. It led into a dense growth of briars, wild grapevines and gall shrubs within one hundred feet of my little cabin, and adjacent to a regular jungle fringing a small creek. Hunting him during the summer months being entirely too hazardous an undertaking, we were conscious of no wrong in permitting him to remain there for a brief season. At the proper time he would come forth of his own accord to find a comfortable gopher hole for his winter home. Then, with some help, I planned bagging both him and his mate. Maybe, during his residence just on the other side of my back yard fence, in such a wild locality, I would have opportunity to learn more of his arts in the wild state.

It was not a bad bet. The first thing I noticed out of him was that he desisted from his loud wailing no sooner than he learned that he had a close human neighbor. What place would he choose along this wild creek to make his headquarters, we wondered? It did not take long to acquire this useful bit of information. Now there were some pecan trees up on the hillside, long abandoned but still producing. There was a bulge in the creek which brought it and the orchard very close together, and on the hillside between the two was a spring place which never went dry. Cat squirrels had the habit of entering the orchard and returning to the swamp at this point. All factors seemed to combine to make this a spot highly suited to his needs. It seemed that he did not lose any time making the

observation that this was a regular squirrel trail. Then, too, rabbits, wood rats, and bullfrogs frequented this spring place which promised to provide adequately for his needs during the remaining part of late summer and fall.

Now, some may ask how I came to know that he was about this spot, inasmuch as I never saw him—not even his trail again. To answer such query involves one of his most interesting secrets. Seeing that it would be most indiscreet to wail too loudly and long, he adopted the note of birds chirping. It is rather significant that such chirping so closely resembled other birds common to this locality that all but the closest observers would be completely deceived by this old wizard. For days and weeks he would conceal his physical being within this dense tangle, and would endeavor to conceal his identity behind the chirping of birds he so perfectly imitated. On previous occasions when I had definitely identified his call, it was never uttered in broad daylight, but now notice was taken of the fact that he was employing a wholly different note and might be heard almost any hour of the day.

On occasions he would go deep into the swamp, squirrel hunting, and could be heard chirping continuously until a late hour of the night, always calling to his mate from the same spot for a whole day and night. Then, in all probability, he would next be heard two or three hundred feet from this spot. When the neighbor's boys, with squirrel dogs, commenced hunting inside the swamp he would, for the sake of safety, come back up on the hillside to the spring place. One might walk down to the spring as silently as a Seminole, but would never get a glimpse of the bird he thought he was hearing. Ladies of the household would report hearing a rustling noise in the undergrowth as he stole away through the underbrush silently as a slippered monk. It did not take long to definitely establish the fact that he entertained little fear of lady members of the household, but would chirp as loud as he pleased, and as long as he cared to, when the premises were guarded by the latter.

On one occasion he filled me with a very definite suspicion that he actually imitated the barking of cat squirrels for the

purpose of drawing them near to him, but it was not quite proved to my own satisfaction, hence I shall not pass it on to my readers as an established fact, but it certainly is worth keeping in mind. Now, gentlemen of scientific bodies might seek to disprove such contentions by dissecting a rattler. Finding no vocal cords, the whole idea would surely be dismissed from further consideration. The true secret lies in the fact that he does not need such—he has one of the most perfect and ingenious whistlers imaginable. If the reader has the courage to look one in the face from a distance of twelve inches or so, he will observe that his lips do not fit tightly together, but rather form a sort of “Cupid’s bow,” the edges being formed by the scales of his upper and lower lips, the same possessing a cutting edge. When this fellow fully inflates his long and spacious lungs he can play you a tune comparing favorably with the Scotsman and his bagpipe.

Man is full of pride by reason of his achievement in every field of endeavor, but surely lays himself wide open to the most scathing indictment on this score. He has been living as close neighbor with the diamond-back since the day the Spaniards landed at Saint Augustine and Ponce de Leon initiated his ill-advised exploration into the heart of new America in quest of the fabulous Fountain of Youth. All of us, at best, are imitative creatures, learning quickly that which someone else has shown us, but fearing to venture out over unblazed paths. Almost every one who has spent much time in the wild, in the infested belt, has at some time or other heard the call of the rattler, but man lacks at least ONE essential faculty, i.e., that of tying together all the things which bear a definite relationship to each other, and thus compel such chain of circumstances to relate a true story.

The call, or chirp, employed by the rattler during hours of daylight bears such a close relationship to that of many birds that I know that it is a rather difficult matter to reduce the same to writing, and by these means enable the reader to identify it without being otherwise instructed. It bears a very close resemblance to the blue jay, yellow-hammer, or the call of the ordinary chicken-hawk, but is a perfect imitation of the Indian

pullet, an inland water bird. It is very doubtful if the most skilled observer or investigator would be able to distinguish between the two. The pitch, intonation, and the length, or duration of the call, is identical with that of the Indian pullet. But the chicken hawk being almost universally known, I shall use his call in making comparisons. The pitch and intonation of the two are identical. The duration is wherein the difference lies. The daytime call of the rattler represents an almost indivisible portion of the duration of the hawk's call, "Tee-r," more of a chirp, as one will see, than a call. The accent is almost wholly upon the first syllable.

Rural residents throughout the deep South, being armed with the above information, once having learned to identify the rattler's call, should find it an easy matter to rid their premises of the menace of their presence. Even a mongrel dog can very easily be trained to hunt them down, thus relieving his master of the danger of such a hazardous sport.

But let's return to my two rattler neighbors. They remained with me from the middle of August until about the first of October, and then took their leave for parts unknown. As proof of their appreciation of my hospitality, they left their family of little ones scattered all up and down this rough stream, which caused me to tread with caution for many years to come.

HOOP-SNAKES

So little is known of the wild life of most reptiles, and so deep-rooted are myths and superstitions in the minds of most people that it is a difficult task to disentangle them and learn the whole truth concerning their natural habits. All reptiles are "crowd-shy," and since they refuse to pose for the photographer it therefore becomes necessary to piece together the combined observations of legions of laymen, provided one is to construct a true picture of such wily creatures. Such undertaking requires the patience and skill of one endeavoring to put in order the numerous parts of a jig-saw puzzle.

Whether or not a hoop-snake (or horn-snake, if you prefer) really rolls like a hoop when making an attack is a highly controversial question. Reports to this effect have been current among laymen since General Oglethorpe established his colony in this part of the South, but scholarly men deny the truth of it. This interesting reptile is all but extinct, but once in a decade these snake hunters with whom I have been on many a thrilling jaunt, unearth one. Their natural habitat and that of the rattler being the same, their winter quarters are usually the gopher holes upon the sand ridges and shrub-oak hummocks adjacent to streams along the coastal plains. All the while that I was engaged in pursuing "myths" (which turned out to be the truth) about the rattler I would be quietly inquiring into this alleged habit of the hoop-snake. Among all the observers who testified so freely concerning their observations of the rattler I failed to find one who would make a statement on his honor, or give an affidavit that he had ever witnessed such a performance. While everyone believed it, none would testify that they had ever seen it. This convinced me that all those who had given testimony against the rattler did not manufacture their stories out of whole cloth. However, I knew one venerable old gentleman who witnessed such action, and who related the details to Uncle Dave, but at the time I became interested in the "myth" this observer had died—thus ended my pursuit of this will-o'-the-wisp.

A Northern soldier who was sent to a Georgia camp for

training during World War I had heard this interesting story but did not know what to do with it. On his return to the North he directed a written inquiry to one of the most celebrated reptile experts in the U. S., asking whether or not such report was true. The reply he received was very brief: "No reputable scientist has ever witnessed such action." Such statement is fair enough, and is strictly in line with what has been said throughout this volume, and that is that when it comes to acquiring complete knowledge of the practices of reptiles, in the wild state, the scientist simply does not have a chance.

In this connection the reader is asked to consider the *chrysopelea ornata* (or, to most laymen, the flying snake) of India and Malaya. He is usually very dark in color with yellow dots in the center of each scale, with a series of red-centered yellow flowers along the back. This reptile earned his name by reason of his ability to glide from tree to tree in the manner of the flying squirrel, or to descend from dizzy heights without injury. To accomplish such feat his body is held straight and rigid, his ribs pushed outward to their full length, and with the abdomen so drawn in as to form a concave surface. Assuming such a posture, his body serves as a parachute, so cushioning his landing that he could descend from inconceivable heights without experiencing the slightest discomfort.

For my own part I can see nothing unreasonable nor unbelievable about the story of the hoop-snake. The versatility of nature's creatures is so universally acknowledged that, in our judgment, none but the most reckless expert would deny their ability to perform in this way or that.

BRIEF NOTES

What Length Does the Diamond-Back Attain? This is a question on which there is a great divergence of opinion on the part of laymen. Professional students of reptiles agree that the maximum length attained is not more than eight and one-half feet. Many truthful laymen have affirmed that they have slain them measuring fully ten feet. While there appears to the reader to be a very great discrepancy as regards the opinions of the laymen and experts yet the same can be readily reconciled. It all depends on the rule employed in determining their length. The rattler shares at least one characteristic in common with the eel-worm, that of contracting his form, or stretching out to great length. When one is poised for combat it appears that he gathers himself together in such manner that his length would not be more than one-half normal. This gives him a strategic advantage over his adversary—he has a much shorter line to defend. Such physical feat is accomplished by forming his body into several large crooks, while his spine, within each of such segments, is formed into innumerable small crooks. In such a posture the length of the largest specimen does not appear to be more than four feet. Leave him to himself until he relaxes and commences crawling away and he instantly lengthens to six feet. Hang him by the neck overnight and the same reptile will be found to measure eight feet or more in the morning. So, what is the answer?

The Gopher, Landowner's Best Friend. There is not a more harmless creature to be found anywhere, yet he has developed many enemies of the human kind which he never deserved. He subsists wholly upon wild herbs, refraining from invading the farmer's fields and foraging upon his crops, yet they are sought for food, used for fishbait, while some wantonly and maliciously destroy their eggs, seemingly for the pleasure derived from destroying the wild life of the land.

Left to themselves to lead their natural lives they build such inviting burrows within the dry areas that the rattler is enticed to them by reason of the added comfort he enjoys there. Otherwise he would find a place of hibernation inside the swamps

where he would find safety during all seasons of the year.

It's Safer to Really Know the Rattler. A reliable informant related this brief but tragic story of an old gentleman who was employed to hunt down and destroy rattlers for a large landowner along the Ocmulgee River on a per capita basis. By chance he happened upon a veritable gold mine one day—twenty or more little ones not more than six or seven inches in length, piled upon each other in a tangled mass enjoying the warm sunshine of early summer. Having a 22 cal. rifle with him at the time he commenced picking them off one at a time, maneuvering about to find a favorable shooting position, finally stepping squarely upon the mother. This unfortunate old gentleman was uninformed on just one seemingly unimportant point, but it cost him his life. Baby rattlers are not weaned until they attain a length of at least twelve inches. When encountered in numbers at such an immature age, one may rest assured that the mother is conveniently near, keeping a watchful eye over them.

Mention has been made of the fact elsewhere that every one of nature's creatures, no matter how wily, have one or more inherent weaknesses. It would therefore appear the part of wisdom for those hunting any specie to make a painstaking study of such weakness. When hunters located them in a gopher hole they often save themselves much labor by placing obstructions in the mouth of the hole. On the first warm, fair day during winter or early spring, he will come up until he encounters the obstruction and coil there. By marking such holes the hunter can return on a favorable day and bag them with very little effort. There is not much danger of them burrowing out before the first of March.

When infested territory has been burned over during January, February, and the early part of March, rattlers leave their holes, because of their barren surroundings, and will seek more favorable homes. On such occasions it is a simple matter to trail them to their new quarters. The ground being littered with new ashes, they make a trail which can be followed with ease.

Anyone familiar with the diamond-back knows that he will run for the underbrush no sooner than one turns their back upon him to search for a stick or pole. It has been reported on good authority that if one's hat or coat is thrown down by the side of his coil he will remain upon the ground for a reasonable length of time. If true, the same constitutes another weakness in his armor, and is worth keeping in mind.

It is almost universally believed that hogs possess a natural immunity to the venom of the rattler, but the idea is a mistaken one. It all depends upon where the hog is bitten, and the amount of fat he carries at the time of the attack. If the venom be embedded in pure fat where there is little if any blood circulation, then the creature suffers no harm, but if, for any reason, it enters the circulation, it kills the hog as quickly and as surely as it would any other wild animal.

A farmer, well known to me, once related an interesting incident which serves to prove the point in question. He had a number of large hogs on a peanut field. Seeing them behaving in a peculiar manner, he went to investigate. There was evidence of a struggle of no little intensity, yet he could see nothing to provoke it. He clearly saw a large rattler fang ten of his hogs before he could intervene. Three of them died, while seven recovered from the attack. They were all bitten about the face or one the nose, where there is a minimum of fat. It is evident that the first three bitten were the ones receiving a fatal injection. The other seven received little if any venom, due to the fact that the rattler's venom sacs were empty.

This altercation led to another observation of considerable value. A very small pig was noticed loitering about the scene of the fracas, acting very much as though he had been doped—taking no interest whatever in the fight, later suffering from lost appetite and nausea. He was put up where he could be accorded special attention. The most appetizing food was prepared for him, and in about a week he had completely recovered from whatever it might have been that ailed him. He had not been fanged. That much was certain. All this left this observer very much in a quandary.

He turned the little pig back into his field with a feeling

that all was well with him, and it would have been had he not returned to the scene of this near tragedy and committed the same error again. Night was now drawing nigh and his little pig had not returned to his pen. Going out into the field to inquire into matters, he found him at the edge of a rough fencerow with head down, nose to nose with the mate of the rattler which had been slain on this same spot a week prior. He slew this great reptile and then had to take the pig in for further treatment.

With this bit of information he could now piece together the whole story. The first cold nights of early fall had caught this rattler still on the range. He knew that he must be getting home, and time would not permit any long detours in order to avoid danger spots, no matter with what hazards his homeward journey was fraught. Such indiscretion led him straight through this farmer's herd of swine. Thus two species of gluttons came face to face. Though already fat and sleek, he could not resist the temptation to pause and indulge himself with another meal of tender pork chops. He had the little pig in the act of succumbing to the power of his charm when the herd of swine came upon the scene and then the table was turned about.

The reader could, provided he cared to trouble himself, set the scientific world right in regard to three habits which he practices in secret, but which men of science deny for the reason, as they say, "No reputable scientist has ever witnessed such action." One of his secrets, which is very much a secret, is his mating call. With the description of the call given herein any reader should be able to definitely identify it, and with long and painstaking effort be able to make a recording of it with the aid of a portable sound recording device.

Another of the rattler's secrets which has never been photographed is that of swallowing their young to safeguard them from danger. This should be a very simple matter when the opportunity ever comes to the reader. All that would be necessary would be to capture the female rattler and her family of little ones and imprison them in some place where conditions

necessary to clear photography are good, and then await your opportunity.

The third is the power of the rattler to kill, or to reduce to unconsciousness little victims on which they level their deadly concentration. I, for one, do not believe that their victims are dead, but, like the spider, are lulled into hypnotic slumber. The black wasp certainly has that power, as the writer can personally testify. Only one person in a million among those living in infested territory would ever come upon a rattler and his victim at just the opportune time. The opportunity will sooner or later come to some reader, and when it does they could lay the rabbit or squirrel away and keep such victim of the rattler's deadly charm under observation until the full truth is definitely established. These three secrets pertaining to natural life remain to be solved. Insofar as the writer knows, no person, either scientist or layman, has ever attempted to wrest these secrets from the reptile.

This old battler of rattlers once came upon one that had just finished dining. When he had slain the brute he was prone to satisfy his curiosity to know just what he had caught. It proved to be a cat-squirrel. Being satisfied, he laid the squirrel in the fork of a great oak tree and continued chipping his boxes. A week later he passed the spot again, giving his turpentine faces their usual weekly streaking, and was amazed as he took note of the fact that there was no evidence whatever of decomposition. The squirrel remained there for weeks, never being attacked by anything, slowly perishing away, but never did exude that objectionable odor of decaying flesh. This incident provided occasion for more pondering for many weeks and years to come.

Now that state of suspended animation among animals is so closely related to a trance known to members of the human family that the old gentleman has since wondered if the squirrel's major organs ceased functioning entirely during that very brief interim of time he was in the belly of the reptile—he has since wondered if he was actually dead, or if he was living on, in the same state the spider experiences when the black wasp

has waved his magic wand before him, lulling him into peaceful slumber for as long a period as six months. Like the writer, he admits that he does not know for sure, but just the same he is not willing to write it off as being utterly without foundation—at least not for a while yet. All the evidence seems to point to the fact that the rattler can, provided it suited his convenience to do so, put squirrels, rabbits, and rodents to sleep and keep them in that state all summer long.

A party of young men once went out determined to learn something of Uncle Dave's art of putting the halter on rattlers. They were full of enthusiasm and self confidence, but woefully lacking in discretion. They found signs about a hole indicating that one was surely living there. They gave the outside surroundings the "once-over" just to see if he was outside sunning himself, but seeing nothing they commenced excavating. Two men working together inside a square hole nearly shoulder deep were making satisfactory progress. Little did they realize it, but a large diamond-back was not far away, completely concealed underneath a tuft of wiregrass. Finally he became so very nervous that he had a sudden urge to go home. When they break out of their coil to run for their hole they go like a purple martin for his gourd. He piled into the hole with the two men, both of whom will tell you to this day that it was the most uncomfortable moment of their entire lives. They finished their rattler hunting that same day.

An attempt has already been made to give the reader a clear idea of the rattler's method of locomotion. Those who have seen the "thousand-leg" worm, common to the Southern states, in motion, can very easily get a mental picture of the rattler's internal equipment in action. The "thousand-leg" is a worm with a hard outer shell, attaining a length of about four inches, and about the size of the average lead pencil. He is equipped with a row of legs on both sides, as close together as they can be spaced, and extending all the way from their head to their tail. When in motion he crawls perfectly straight, but one cannot, for the life of them, tell just how he does it. All of the legs are in action the whole while, yet no two of them ever separate. Waves form at his head, moving his full length until

they reach his other extremity. Several waves are visible at all times, all moving from his forepart to the rear, yet, as already stated, none of his legs ever separate at any point. His legs represent the ribs of the rattler. If the reader can imagine the "thousand-leg worm" wearing a garment like the rattler's, with the end of his legs attached to the skin, and with cleats on the skin of his abdomen, then he would see the rattler's equipment perfectly duplicated.

DO SNAKES HAVE LEGS?

The answer is, yes, but they can't walk on them. This is a fact well known to the ancients, and Moses makes mention of the fact very briefly in the Book of Genesis. Zoologists tell us that they sprang from a lizard-like creature. Given sufficient time and an ever-changing environment, they finally discarded their legs, or at any rate now have them tucked away beneath their skin where they are invisible under ordinary circumstances. When one has been run over and crushed by an automobile or exposed to heat they sometimes appear.

The joint-snake is a living example of one of these creatures which has not yet made the grade. He is no snake at all, but a legless lizard. People can be fooled as regards his true identity very easily, but a tomcat can't. They regard them as a delicacy and never permit one to pass by without hailing him. Yes, the joint-snake is indeed a queer creature. When he suddenly finds himself face to face with a bloodthirsty enemy whom he knows full intends to slit his gullet, he flees for the grass or bushes, shaking his long, luscious tail, simply inviting a thrust at that particular part of his anatomy. When his pursuer, be it a catbird, hawk, or tomcat, lays hold upon that long and luscious appearing tail of his it snaps as though it were made of glass. Some call them glass snakes for this very reason. The broken-off piece of tail commences such a series of gymnastics that it requires the best efforts of a real athlete to capture and subdue it. While thus engaged the joint-snake takes the vital part of himself away to a safe hideout. He can grow another tail. True, it may not be quite so long nor as handsome as the original, but will serve him quite well in similar emergencies which may later arise.

The question is asked repeatedly: "Do rattlers eat little creatures they fang?" Most assuredly. Nature equipped them with fangs and venom primarily for the purpose of enabling them to acquire food. True, they utilize such weapons for purposes of self-defense, but this is of secondary importance. Venom taken internally would injure no one, provided the

mouth and alimentary tract be free from ulcers. It is the condition it sets up in the blood which produces fatal results. There are many elements, all harmless under ordinary circumstances, which would produce death if injected into the circulation, not that they are necessarily poisonous, but rather that they do not belong in the blood stream.

The writer was once asked by an aged chemist known throughout the nation: "In your long study of the rattler in the wild state, just what do you consider the most interesting things you have learned about him?" My answer was that the interesting things about a rattler were many and varied, but, in my judgment, the mysterious power of his eyes was the most baffling and absolutely defied satisfactory explanation. Few indeed are those who have ever seen it, and their description of it differs slightly, some describing it as having the appearance of a flickering electrical beam and others describing it as a handful of mirror chips so maneuvered as to throw the reflected rays of the sun upon the eyes of the observer. Small animals, and even human beings, both weaken under its power. Who knows but that the diamond-back might be in possession of the death-ray for which would-be world-conquering warlords have searched so long? Perhaps it may be well for the human race if the rattler continues the lone possessor of this fiendish device.

There are only a few instances recorded in which man actually fell victim to this mysterious power of the rattler's eyes, or his other means of fascination, but the writer holds firmly to the view that if a man, strong of body and will, were placed in a quiet cell with a rattler, and neither of them disturbed or given nourishment, that the rattler would survive the man, and that the latter would sooner or later fall victim to these mysterious powers of the reptile.

It has been noted by those who cultivate an intimacy with the diamond-back that the female appears to fast while carrying her young about foraging for them. They explain readily that since the mother has the habit of swallowing her young

when danger threatens, then she must of necessity keep her stomach empty so as to provide space for the little ones should the necessity arise. Notice has been taken of many newspaper and magazine articles, evidently written by some pseudo-scientist, and in every instance the contention was put forward that if a rattler actually swallowed their young as laymen contend that the gastric juices of the mother's stomach would quickly destroy them. Many well-informed people are taken in by such presumptions since their line of reasoning sounds most convincing. Such logic leads to an erroneous conclusion, inasmuch as it is based upon utterly false premise. This is just one more instance where the college-trained herpetologist fumbles the pass and this self-instructed old master of arts recovers the ball. The college man builds up his theories around the supposition that the gastric juices of the rattler attacks everything within the stomach as in the case of other animals, but in this he is mistaken. Strange as it may sound, the stomach of a rattler is used chiefly as their cold storage plant, and small animals once taken inside her will neither sour, decompose nor be digested until it arrives at a certain point where the gastric juices are released. Thus the head of a rabbit or squirrel may be completely digested and the midsection in a perfect state of preservation. It is at the lower end of the stomach, where the same tapers off to a point that the process of digestion is set in motion.

I was on one of my many hunts with Uncle Dave once when he walked up boldly to a gopher hole, paused for a moment as though he had observed signs that the hole was inhabited by his enemy. He relieved himself of the burden of the crocus bag he was carrying, and as it fell upon the ground one sounded his rattles violently, followed instantly by a loud "his-s-s." The old gentleman stepped a single pace backward, saying as he did so with absolute calmness: "I can't hear their rattles any more, but I can hear 'em hiss." He had thrown his bag squarely upon one in his coil, and at a distance of only three feet. In connection with this particular incident the old gentleman once made this distinction between the habits of the diamond-back

and the water-rattler: "The water-rattler don't give you no advance notice—the 'his-s-s' and the thrust come right together, so's when ye hear 'em hiss you're done bit."

When I was a very small boy I learned something of the details of a young country school teacher who was bitten by a large diamond-back. The lad had been down in the woodland one fine spring day, on Sunday, while members of the household were sitting around enjoying their week-end rest. Soon the young fellow, an admirable chap, came running in greatly excited and grief-stricken announcing the fact that the two of them had come upon a rattler and that his dog had been bitten and killed. Filled with compassion for the little boy, who happened to be one of his students, he went with him immediately to hunt the villain down and slay him. Being shown to the exact spot, he commenced beating the bushes here and there, directing his strokes to whichever cluster of weeds and bushes appeared the most likely one in which he would have concealed himself to make a stand, by-passing a small cluster of bushes concealing the deadly villain. He had not yet learned that he could not trust his eyes, and it cost him his life.

A bird hunter was once out with dog and gun one fine spring day. Seeing the dog make a beautiful point, he drew in near. Seeing himself menaced on all sides the rattler (for that was what it proved to be) commenced singing his rattles with head and neck protruding from a deposit of wiregrass near one of these gopher holes. The hunter stepped a pace or two backwards, unloading the contents of his shotgun into the coil of the rattler. The dog made the mistake of thinking that this was his master's signal to rush in for the kill. The load of shot had completely severed the reptile's body at a point about twelve inches below the head. The dog seized the business end of the serpent as he was accustomed to do when retrieving quail and was bitten. The owner of the dog returned from the hunt alone—this sad experience taught him some things about rattlers.

Still more unbelievable is the fact that there is a definite menace in the carcass of the rattler until the flesh is entirely dead. There is a prevailing myth to the effect that one will

not die until the sun goes down, no matter if his head be completely beaten off during the early part of the day. Such report is not entirely without foundation. The reader has surely taken note of the fact that the flesh of beef will continue jumping and quivering until the carcass of the slain beast is entirely cold. Now, the brain of a rattler may be entirely destroyed, yet he remains capable of directing a thrust with amazing accuracy. If, for any reason, the brain becomes wholly incapacitated or destroyed, the solar plexus (that secondary nerve center about his midsection) seems to take over, performing practically all the functions of the brain so long as the flesh remains alive.

The following incident has been reported to me which provides a graphic illustration of the danger to which one exposes himself when he trusts too much to the behavior of a rattler—I mean one supposed to be dead. This uninformed person had slain a large one while fishing and conceived the idea of taking his long string of rattles as a trophy of combat. The head of the brute had been so completely pummeled that he entertained not the slightest fear that the reptile would behave in a manner unbecoming a dead rattler, so laid hold upon his tail to cut the rattles off. When he did so, the rattler gave an over-body thrust, piercing his hand with one fang hanging loose about the disfigured head of the reptile. The wound inflicted caused him no little pain and inconvenience. Thereafter he refused absolutely to trust rattlers—no, not even a dead one.

In the rural areas of one of the Carolinas, a diamond-back once perpetrated a triple tragedy in a single home where the victims had a perfect right to feel themselves far removed from such menace. The mother and housewife was busy compounding ingredients for a cake she was preparing at the instance of her three small daughters. Her supply of eggs in the kitchen being depleted, it became necessary to suspend operations while she rushed the three children off to the barnyard where a hen nest was attached to the side of the barn. The same being above their heads, it became necessary to reach and feel for the eggs. The first withdrew her hand in haste, screaming, saying to her sisters that the hen had pecked

her. The second chided her sister for not having the courage to resist the attack of the hen and put her hand into the nest, but with the same result. When the third had made the same attempt, but without results, the three went running to the house and told their mother. The mother, seeing that there were two wounds upon each of their hands, had her suspicions aroused, so went to investigate herself. Being able to see, she found a five-foot rattler coiled within the nest. For the want of immediate medical attention, the bite was fatal to all three of her children.

A similar tragedy came dangerously near being re-enacted in a home, the members of whom were all well known to me. The family lived in one of those hardwood hummocks along by the side of a large creek. For a week or longer prior to the occurrence, members of the household took notice of a peculiar note in the direction of the barnyard. It was the subject of nightly discussions. Some insisted that it was the note of crickets while others said not. Finally, a small girl was sent by night to get some eggs from a nest underneath the shelter for their breakfast. In the darkness she felt something in the nest which alarmed her, so hurried to the house and told her father. Going immediately with a flashlight he found a large rattler in the hen's nest. This reptile had found a spot where he could earn a living all summer. All day long he would remain in his place of hiding and by night would come forth to devour all the eggs laid by the farmer's hens during the day. The note they had been hearing was that of this rattler talking to his mate off a distance, and had this family been familiar with the note might have avoided this unnecessary exposure.

In all probability the one committing the triple murder of these three innocent children had been about the barnyard uttering such call for days, but the parents made the fatal mistake of believing it to be the note of some nocturnal bird.

A friend who related to me this observation had made his way to a lake deep in the swamp and quietly sat down by the side of the stream and commenced fishing. There was absolute quiet about him for an hour or so—the stillness was broken by a dull thud upon the ground. Turning about to determine

the cause of it he saw a squirrel apparently dead lying upon the ground. He was in the pink of condition and he marveled that a squirrel so sleek and fat should have died so suddenly and came toppling down out of the top of a black-gum, but carried on with his fishing, looking to the future for a solution of the mystery. Presently a swamp snake came slithering down from the top of the tree to the lower limbs, which almost touched the ground. Leaping from the lower limbs he hurried along to claim his quarry. There had been no struggle up in the treetop, and the reptile was not the venomous species, so what was the answer?

An aged friend, known to me to be absolutely truthful, related in detail an exciting encounter he once had with a diamond-back which illustrates unmistakably that this reptile possesses unbelievable fleetness when speed appears to him to be the safest deliverance from an unhealthy situation. At the time, he was riding his saddle horse. Dismounting, he opened the gate to a large field which had been grazed clean by his cattle, and as he did so he came upon a large diamond-back on the inside of the field. A dense swamp at the lower side of the field, some two or three hundred yards away, appeared to him to be the safest refuge, so he headed for it at a dizzy pace. My informant mounted his steed quickly and followed in hot pursuit of him. He was never able to overcome the rattler's lead, but suffered the humiliation of seeing him glide like something greased into the tangled undergrowth in which he felt he could best offer battle to his opponent.

Another friend, noted far and wide for his speed on foot, had gone into the center of a large field to a plum tree laden with ripe fruit. His enjoyment of the luscious plums was suddenly interrupted as he looked backward to see a large coach-whip snake with head reared menacing him. All creatures appear to have been endowed by Nature with at least ONE gift which enables them to repel their enemies, and with a superior gift which will enable them to procure a sufficient supply of food. The one outstanding gift of this snake is his menacing appearance. Everyone knows him to be absolutely harmless—i.e., their reason tells them as much, but the trouble is their feet simply refuse to believe it. This young man ran,

as he thought, for his life, but when he reached the rail fence two hundred yards away, the snake was already there, waiting for him on the other side.

A newspaper story was brought to me, in substance as follows: A gentleman with two or three small children had his attention attracted to them, seemingly playing a game of "Ring around the Rosie." They were running in a circle, and at a certain point in the circle would leap over some imaginary object, as he thought. Their behavior was so unusual that he went to look into matters. He found them playing with a large rattler, the latter enjoying the game as much as they.

After slaying the reptile he instituted a search in the vicinity and found four others. I was asked if I had any faith in the veracity of the one who sent in the story. All I could say was that everything was strictly in line with the known habits of the creature. The time was mid-September, their mating season. The one with which the children were playing was evidently the female, who was taking no part in the fight going on inside the nearby "rough," but crawled forth at the sight of the little children for a little innocent pastime with them. It was as certain that the other four were males, engaged in a regular love tournament to determine whose bride the female would be. The female rattler is utterly devoid of any sentiment in such matters—her love goes to the strong man, whoever he might prove to be.

AMERICA'S UNCROWNED KING

When the mists of the early dawn of creation hung like a pall over the earth the rattler was with us, secretive, vindictive, and sullen to be sure, but nonetheless undisputed ruler over a vast realm. Then, as now, there was not to be found among men or beasts one who dared challenge his right of thoroughfare.

During that remote era he must have witnessed with disgust the eternal struggle in which his enemies of the human kind engaged solely for the sake of mastery, little realizing that whichever won he (the rattler) would still be king. The Mound Builders and the Cliff Dwellers suffered complete annihilation. The Eskimos saved themselves by retreating toward the Arctic Circle where the weather was so inhospitable that their enemies would not follow and offer further battle. This new influx of warlike adventurers who supposedly hailed from the plains of Mongolia soon declared themselves triumphant over all adversaries, yet the rattler sent no emissaries bearing white flags.

Then came the white man, and with him a re-enactment of all the savagery of past ages. If this reptile had been endowed with sufficient wisdom to correctly interpret all that he witnessed, then there is little wonder that he absolutely declined to enter into a state of self-imposed exile merely to oblige these new conquerors.

Uncle Dave knows full well that there is no creature on earth, sea, or air quite so deadly as a diamond-back rattler. Asia has its king cobra, Africa its black mamba, South America its bushmaster, and Australia its death adder, but the diamond-back rattler, because of its size and length, his terrifying appearance, the amount of venom he injects, plus the ferocity of his attack, leaves him no close second among reptiles anywhere on earth, and fully justifies the title Uncle Dave has conferred upon him, "The most-to-be-shunned living reptile." If any man had never before seen nor heard of such creature, and should suddenly come upon one, he would instinctively give him a wide berth. His intuition or instinctive nature, which-

ever one chooses to call it, would instantly suggest caution.

Men unfamiliar with the fraternity of the rattlesnake chase will say unhesitatingly that they hate these creatures with all their being, but I cannot recall that I ever heard a single individual among a score of men with whom I have hunted for many years ever make such statement—they do admit, however, that they positively are afraid of them, and they never neglect their precautionary rules in which they have trained themselves with such painstaking care. They realize that they are dealing with a deadly creature.

It appears to be a weakness in human character which influences men to insist that they "hate" this man or that. This nation of people or that (especially when at war with them), or that he hates this creature or that. We usually hate individuals, nations of people, or creatures we cannot stamp upon with impunity, or that is what the general run of men would have you believe. If the writer's opinion is of any worth, I would suggest that such persons either consciously or unconsciously employ the wrong word with which to express their true emotions. What they really mean is that they fear such individuals, peoples, or creatures. A brave soldier never indulges in swearing at an adversary, discounting his prowess, or expending his reserve energy hating a brave foe. Such is a poor means to any laudable achievement, and an obstacle in the way to victory itself.

Granting that all that has been said against the rattler is strictly true, and I think few would doubt it, yet there is much to be said in his favor. Holy Writ substantiates the contention of the writer that in wisdom he rates second only to man. In his daily observance, or non-observance of the pristine virtues, we owe it to him to admit that he comes out a next-best also. Let's make some comparisons:

He is clean of person, and particularly clean as concerns his eating habits. He eats only the choicest of food, and even then wants it fresh slain and steaming hot. When he has a rabbit or squirrel only partly swallowed and is compelled to disgorge, thus unsheathing his fangs for a fight with some intruder, he invariably goes hunting for new game.

Occasionally a human being will be bitten, and not by reason of any aggression on his own part—merely passing within striking distance of a reptile he had not seen. Rattlers, not unlike men, oftentimes go about with a chip on their shoulder—some enemy had provoked a fight with the serpent and his temper had not yet subsided. Most altercations in which men engage are not the outgrowth of any act committed at the time, but rather because of a mutual dislike of long standing.

Now, the rattler will brook no interference whatever with his honeymoon, clandestine though it might prove to be. Anyone intruding upon his privacy at such a time is very likely to pay with his life—and whether such intrusion was intentional or unintentional makes no difference whatever. Now could man, with a clear conscience, hurl the cynic's ban.

A rattler will fight to the death to protect the life of his young. From man's point of view is there anything wrong with that?

They are such peace loving creatures that they will never permit their paths to cross that of man if there is any possible way to avoid such meeting.

When one is encountered he will slip away from the fight, provided it can be done on terms compatible with his dignity as a rattler.

Self-preservation being Nature's first law, of course he will fight to protect his own life. What of it?

He will fight when men invade his hunting grounds, and this brings to mind an observation by a profound student of history. He made a deep study of all the great wars of the past, gleaning all that was available from the secret files of the chancelleries of the participating powers, snatching the pious false-faces from kings, prime ministers, and diplomats. When his finding was shorn of all hypocrisy, false accusations, and then condensed into the fewest possible words, his summation of the underlying causes of all such wars was that they were "OVER THE WORLD'S BEST FEEDING PLACES." Now, if the rattler is under indictment for defending his own feeding grounds, and if the finding of this historian be true, then our only alternative would be to nolle prosequi the indictment.

There is not the slightest trace of insincerity to be found in his entire makeup. No charge of hypocrisy can be truthfully leveled at him, neither can it be said that he ever sails under false colors. He presents himself to the whole world for exactly what he is—a deadly creature. All in all he is not a bad fellow, especially when compared with those serpents of the human kind who greet you with a smile, plant a kiss upon your cheek, but all the while are secretly planning your Gethsemane.

Compared with other beasts of the field, he occupies a position of high honor. The hyena deliberately follows the lion, knowing him to be a good hunter. Not a single hyena, but two. When the lion makes a kill the two draw in to share it with him and then the fight starts. One of the pair engages the lion in battle while the other feasts upon the carcass—the hyena does not particularly care whether he kills the lion, but is merely fighting a delaying action. When the one at the carcass has had his fill they change positions. When both their appetites are fully satisfied they slink away into the underbrush.

Unlike the eagle, he is no hi-jacker. The latter will sit by playing the role of gentleman of leisure while the fish-hawk beats his brains out diving for fish. When at last his efforts are rewarded the eagle “dive-bombs” the poor fish-hawk out of his just earnings, carrying it away to his own unfeathered clan awaiting his return upon a ledge on some lofty mountain peak.

The rattler will labor with patience and persistence after the manner of his kind for his own food. He will hunt rabbits by the moonlight all night long, or perhaps in the cool of the day lie in wait for a squirrel for days and days for the purpose of determining just what path he is following, and if possible learn where he is obtaining his food supply, all of his patient energies directed to the end that their paths may one day cross.

Roger Conant, Curator, Philadelphia Zoological Garden, and William Bridges, Curator of Publications, New York Zoological Park, pay eloquent tribute to the virtue of reptiles in a volume published by D. Appleton Company, New York, titled, “What Snake Is That?”

“Each year Nature puts on ‘The Greatest Show on Earth’. For lovers of the spectacular she displays her flaming sunsets and her woods in autumn glory. Flowers and storms and the

song of birds are free to all with the eyes to see and the ears to hear. But there is another part of the show to which only special guests may come.

They are the naturalists, either professional or instinctive, whose sympathy and understanding give them admission to the secret life of the fields and forests and swamps, the barren plains and the country streams and rocky mountain sides where Nature's humble citizenry go about the exciting business of living. Among these are none so humble as the snake—the lowly snake who, nevertheless, was singled out for the thunder of a Biblical curse. Doomed to crawl and suffer the enmity of Man, as if conscious of the immemorial stigma, the snake leads a life apart. Rarely does his kind seek out human habitations or dispute the way with the Lords of Creation—for man has not forgotten the curse, and through countless generations has relentlessly crushed the head of the serpent under his heel.

In the Book of Revelations the question is asked: "WHO CAN MAKE WAR WITH HIM?" If this query might be applied to the diamond-back, then we have a ready answer: to the present time none have been found throughout the whole wide world able to dethrone him, consequently he remains to this good day America's Uncrowned King. Uncle Dave believes that he has the answer, but he will tell the reader as candidly as he has told me that it is not a one-man job.

The story of this intrepid old gentleman's lifelong warfare cannot be concluded without a final summary of the achievement which distinguishes him from any individual in America. The author has set forth in this volume a series of his thrilling encounters, each story illustrating some additional knowledge of the reptile's life and daily habits. He has honestly endeavored to acquaint his readers with the motives that underlie this one-man battle. The repeated attacks on members of his own family, and his friends, brought home to him, as nothing else could do, the need for action. Such unprovoked attacks finally kindled within him that flame of indomitable determination to destroy this treacherous enemy. From his firsthand knowledge of events, the author has gone further than a description of his hero's exploits, for he has shown what one resolute and

fearless pioneer has done to organize a movement with tremendous and far-reaching possibilities for the future. The concrete results achieved by himself and his little army are truly amazing. There is an area of approximately 500 square miles immediately surrounding him where a diamond-back does not dare poke his head out of the wiregrass, lest Uncle Dave or one of his lieutenants be standing by with a stick and noose, ready to harness him and lead him off to one of their stockades. However, he is not satisfied with victories that are merely local or temporary. It is his earnest purpose to inaugurate a movement, and to disseminate such information as will drive his arch enemy to utter extermination throughout the deep South.

As his story reveals, he has exposed himself to many, many dangers, and for this reason is sincerely desirous of passing to others what he has learned by thus exposing himself, all this to the end that the nation might finally be free from her most dangerous internal enemy, and that those who follow after him may live their lives without the fear eternally gripping their hearts that days spent in the great open spaces, hunting, fishing, or boating may not end abruptly as they find themselves upon a deadly diamond-back.

Looking back over his long life, one views with admiration his continual exhibition of courage. He has defied danger and death, since his ceaseless warfare with the rattler has kept him in a perpetual state of hostility and risk. Peril and adventure, however, are congenial to his nature, surrounded by an enemy as pristine and savage as ever defied primitive man or wilderness trail-blazer. And, like those invincible fighters of America's early days, he is always prepared. His weapons—spade, flashlight, stick and noose—are as ready to his hand as were the pioneer's bowie knife, musket and powder horn. He has taken a thousand chances, pitting his skill and daring against an enemy whose mode of warfare is surprisal and ambush. He has faced death without losing his cool nerve and sagacity. That fearful rattle which chills the average man's blood in his veins is sweet music to his ears. Indeed, had he fled in panic, when suddenly menaced, it is not at all probable that he would be here today to tell his story.

All that has been recorded herein of a complimentary nature about the diamond-back is strictly true, yet he is a killer of the first order whose varying moods it is impossible to predict, and should therefore be destroyed.

Uncle Dave does not have it on his conscience that he started this war, and just why the diamond-backs should have precipitated hostilities is not quite clear to the writer. Had they known this old gentleman as I have come to know him they would surely have held their fire, since no person in America was better qualified to promote their utter undoing.

Relatives and friends have pleaded with him to make an end of it—to call the whole thing off—lest Dame Fortune some day turn her back upon him at a critical moment. Their entreaties serve no useful purpose—merely “Nettles” him. He has absolute faith in a sort of psychic feeling by which he has always been governed, and believes confidently that no rattler will ever have a hand in writing the concluding chapter of his life.

THE END.

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