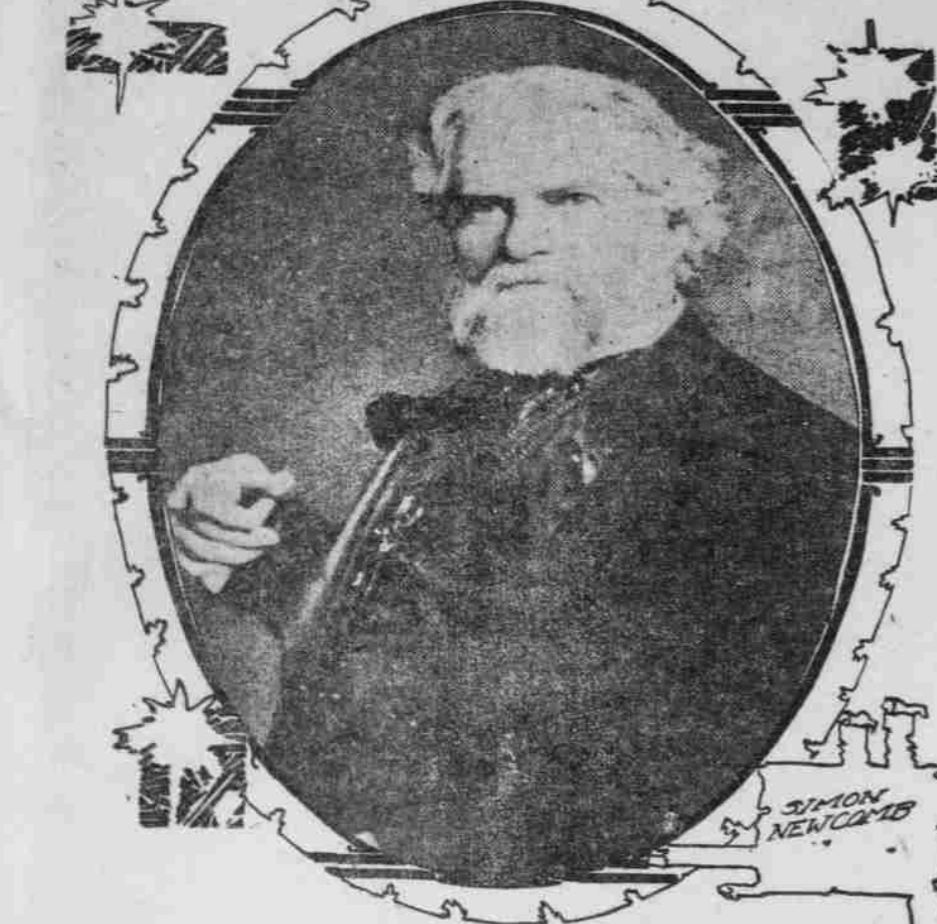
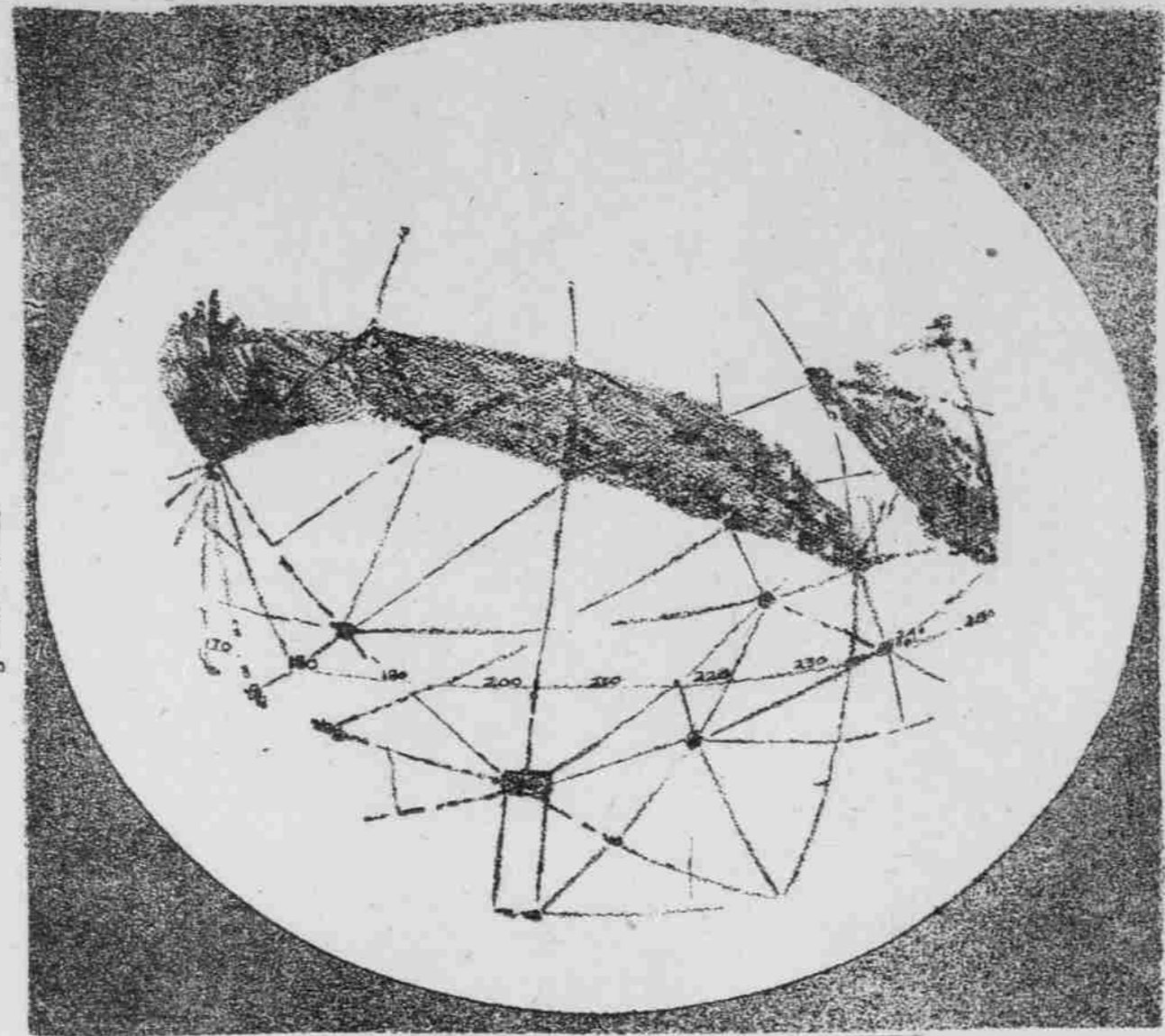


WILL THEY SOLVE THE MYSTERY OF MARS?

IN A FEW WEEKS THE PLANET WILL BE NEARER THE EARTH. THEN ASTRONOMERS WILL TRY TO SETTLE THEIR DISPUTED POINTS



SIMON NEWCOMB



MARTIAN CANALS. DRAWN BY LOWELL



PERCIVAL LOWELL

WILL H. PICKERING

BY JOHN ELFRITH WATKINS.
THE much-mooted Mars is a seductive flame in which many astronomer moths have scorched their wings during the past decade. During the weeks now to come we will hear more and read more concerning this interesting planet than ever before, which is saying much; and this unprecedented interest will be due to the fact that during the present Summer Mars will come nearer to earth than it has ventured since man commenced to discuss its "oceans," "oases" and "canals." It will approach within about 85,000,000 miles of the earth's orbit, or nearly 2,000,000 nearer than it was two years ago, when its then close proximity caused considerable popular excitement.

The news was flashed through the English-speaking world that "canals" had been discovered on Mars. "Who" had gazed the ways upon which this theory was so easily launched was a stroke of guess work, made by no less an authority than Sir John Herschel. He had commenced to lead his fellow astronomer by calling the darker parts of Mars surface "water" and brighter parts "land." Later research, however, convinced the more conservative astronomers that there was little or no water on Mars and that what might be there was frozen light. Perplexity over the probable function of the "canals" was added by the further discovery that they crossed the so-called oceans as well as the "land."

Enter Professor Lowell.
 Theories were all criss-cross until some 15 years ago, when our astronomer, Percival Lowell, after running his eye over the length and breadth of the land in search of "good seeing" selected a place in Arizona, a mile and a half above sea-level, and here erected apparatus, with which he proceeded to snatch the "Martian" secrets from the skies. At any rate, he has seen things on Mars that other astronomers have seen or have thought they have seen, all of which is alleged to be due to the fact that the altitude and peculiar quality of the air above his observatory render his 24-inch telescope the most powerful instrument in existence, although it is not so large as several others in this country.

long and its two lines are 130 miles apart. About 150 dark spots which Professor Lowell sees at the points where these "canals" cross he calls "oases."
 To clinch all of this with photographic evidence, Professor Lowell during Mars' near approach in 1907, sent Professor David Todd, of Amherst College, down into the Andes Mountains, where the atmosphere offered greater penetration even than at the Lowell observatory. Professor Todd took with him an 18-inch telescope, to which he attached a special "planetary camera," and with this apparatus he made some 7000 negatives of Mars. Professor Todd is the man who is alleged to be going up in a balloon to make tests for possible signals from the Martians.

Mars' image on these negatives is some three-sixteenths of an inch in diameter—about the size of the head of a carpet tack. Yet Professor Todd and Professor Lowell claim to see "canals" in them, especially when they are enlarged some three to four diameters. In such prints from these negatives as have been thus far published no astronomers outside the Lowell-Todd camps have been able to see anything suggesting a canal. But Professor Lowell says one's "brain must be open to them, not his eye alone." "It is like Riley's youngster," "seeing" things at night."
 Conservative astronomers make all bones of intimating that he is. Al-

though the disk of Mars is, at best, only 1-5620, that of the moon and its breadth of "oases" canals is said to be but 1-236 that of the disk of Mars. Professor Lowell says he sees these streaks as a network of fine pencil marks, so fine, however, that they are visible only on special occasions of atmospheric clearness and steadiness.
 But they are only an indescribable perplexity to Professor E. E. Barnard, director of the Yerkes Observatory, upon Williams Bay, Wisconsin. And Professor A. E. Douglas, of the University of Arizona, who was Professor Lowell's chief assistant for seven years—until 1901—has lately come out with the suggestion that some of the Martian canals seeming to radiate from the so-called oases on Mars may be due to illusion of vision similar to that which makes rays appear to extend from a star; also that the doubtful canals are due to the well known halo illusion. "There are fundamental defects in the human eye producing faint canal illusions," adds this former chief assistant of Professor Lowell. Professor Simon Newcomb, one of the greatest of living astronomers, admits that some streaks exist on Mars, but adds that "the enormously complex variety of light and shade which the best observer sees to exist on Mars and which is at the very limit of visibility by the best eyes, may be interpreted by the brain in an unending number of ways, and the

mind of each observer will after long practice choose that mode of interpretation which best suits preconceived ideas."
 But these workings which he sees or thinks he sees are proof to Professor Lowell that "the ability to fashion them is present there at this very moment." He says that such "straight lines are not natural products." But how about straight cracks in a volcanic crust? Could they be those?
 Professor W. H. Pickering, another of Professor Lowell's former assistants, but who is now assistant professor of astronomy at Harvard, suggests this explanation. According to this theory Lowell's "oases" are really craters from which the straight cracks have originated and from which they radiate somewhat as streaks radiate from the craters of the moon. In these cracks may grow vegetation, fed by carbon-dioxide and water issuing from within.

freezing point, except possibly in the torrid zone under a high sun. But even here, in the equatorial regions, the night temperature is colder than any ever experienced on our globe.
 If any water exists on the planet it not only must be frozen, but the temperature of the ice must be far below freezing point, and water in this condition is not very convenient for irrigation enterprises, as we know them, at least. Life will develop more rapidly in a warmer than a colder world that ours, he further believes, and Venus, therefore, would be better adapted to life than Mars. Indeed, some planet revolving between the orbits of earth and Venus would be better adapted than even the earth for the development of higher forms of life. Finally, as to Mars, it is unfavorable to any form of life except that of the very lowest order.
 So that of Mars is another case over which the doctors widely disagree. Mayhap during the coming weeks this brother planet will approach near enough to whisper some answer to the great riddle which it has propounded. 'Tis more likely, however, that it will venture only within sufficient distance to spring a fresh mystery that will plague astronomers for another generation.
 Washington, D. C., June 1.

TO CARE FOR GOTHAM'S INJURED

Police Report About 50,000 Accidents Yearly, and All Are Given Relief Through Fine Scheme of Ambulance Calls and Hospital Districts.

NEW YORK, June 5.—(Special.)—In a little-known office on the third floor of the police headquarters, the greatest repository of secret news and information in the country, there may be found the man who, for years, has held a unique title. Officially he is the chief surgeon of the police department; actually, he is the director of human repairs for Greater New York. As an expert in the distribution of the human floss and letsum injured in the hurly burly of the city's daily life, his unofficial title is unparalleled, and sitting in the obscure center of a complicated web, it is his duty to know of and arrange for the care of every person reported by the police as injured in the city.

How enormous is this task is shown by the fact that there were more than 50,000 reported injuries in this city last year, 83,134, to be exact—an increase of 2301 over 1907, or approximately equal to the percentage of increase in population. That, roughly, is equal to 148 calls every day, or one call every 10 minutes.

Way System Works.
 To the average person, the clanging of an ambulance gong means that some one who has been injured is being taken somewhere for some reason. But before this has happened, an intricate piece of machinery has been called into play. How this machinery works may be illustrated by an actual example. A man steps off a car in front of the Grand Central Station, let us say, puts his heel on a banana peel, falls and breaks his leg. Unless he is with friends who take charge of him and thus relieve the city of this duty, he will very shortly find himself in the Flower Hospital, the institution founded by ex-Governor Roosevelt P. Flower. There is no chance of his landing anywhere else, for the Grand Central is a part of the district apportioned to this hospital, and although few persons realize it, the system which makes possible his speedy relief also does this as to where that relief shall be given.

The whole system of ambulance service, which is the chief visible factor, so far as the public is concerned, in the work of repairing 50,000 humans each year, is only a part of a still larger system in which the hospital is the basic factor. There are in Greater New York today more than 80 hospitals divided into two groups—the city hospitals, commonly known as Bellevue and Allied Hospitals, and the institutions not under municipal management, of which the Flower Hospital is a prominent example.

The basis of this service rests on the division of the city into what are known

as ambulance districts, of which there are now 20. The whole city is divided up into specifically defined territories, each of which is covered by designated hospitals. Every ambulance call in a given territory is covered by the institution to which it is assigned. These districts being fixed on, the whole work of human

repairs, so far as the city is concerned, has its basis.

Simple as it may seem, the system involves not only much labor, but has been subject to much misunderstanding. Aside from the thousands of hospital workers engaged in this labor of human repairs in the workshops, that is, the hospitals, 84 employees of the city itself are a part of the system, and the administration of the physical end of the relief work, consisting of the development of the service is always going on as is indicated by the recent signing by the Mayor of an ordinance providing for an enlarged board to supervise the ambulance service. Likewise, the director of human repairs is called upon constantly to study the record and to make recommendations looking to more efficient service. Curiously enough, these changes often lead to public misconception.

On the list of last March, for example, a change was made in certain districts due to the withdrawal of the ambulance service of the Roosevelt Hospital. The territory formerly served by it was apportioned among three other institutions, the Flower Hospital receiving the busiest section. A recent ambulance report of the latter institution showed 562 calls for the month of March and April as compared with 545 for the same period a year ago. This hospital is now handling about one-tenth of the ambulance calls of the city, and has just added two power ambulances and the necessary equipment to meet exactly this contingency.

Odd Mistake Made.
 The publication of these figures showing increased calls, however, caused people to jump to the conclusion that accidents were about three times as common this year as last, a conclusion, of course, entirely erroneous. But even with New York's accidents increasing only at about the same rate as the population, the handling of them is by no means a simple matter. Others are trivial, involving only a bruise or a slight cut. The report of the Flower Hospital shows that only about eight out of every 22 patients are brought to the hospital. Nearly one-third are cared for by the ambulance surgeon without being brought in, while one-fifth either decline treatment or are taken home or to some other institution. But less than 4 per cent die before reaching the hospital, so efficient is the service.

Christmas Wedding Ends in Court.
 A Christmas wedding has ended in a May divorce suit. Lucy E. Cram is suing Henry S. Cram. In a complaint filed in the Circuit Court yesterday she says that her husband refuses to allow her to live in the same house with him. She married him December 25, 1925, she says. Mrs. Cram wants to care for their three children.

PROFESSOR WHO IMAGINES HE CAN TALK TO MARS, AND HIS WIFE, WHO IS HIS HELPMATE.



PROF. DAVID TODD



MRS. DAVID TODD

NEW YORK, June 5.—(Special.)—Professor David Todd believes it possible to hold communication with other worlds, and in an attempt to get signals from Mars will ascend in a balloon to a height greater than usually reached. He will be accompanied by Leo Stevens, the aeronaut. This plan to surmount natural difficulties will be tried not later than September, when the planet Mars is nearest the earth. Professor Todd believes that if life really exists on Mars they have been trying for years to get into conversation with us, and perhaps wondering what manner of stupid things we are not to respond. In arranging for this ascent, Professor Todd will use every device known for the safety and success of the enterprise. The balloon will be the largest attainable, and he wishes to reach a height of ten miles. At the top of the bag will be constructed the wireless antennae, which will be connected with ground wires, and which may open up to the world a new source of information from our celestial neighbors. Professor Todd was born at Lake Ridge, N. Y., in 1855, and married in 1873 Mabel Loomis Todd. He has been the astronomer in charge of a number of eclipse expeditions to Japan, West Africa, Tripoli, Dutch East Indies and a number of other expeditions. Mrs. Todd has accompanied her husband on a number of his expeditions, and has been a great help to him in his work. She is an author and a contributor to leading magazines of articles on travel, astronomy and other topics, and is also a popular lecturer.

NIGHT WATCHES FOR BIG GAME

FROM Sebaste to Thamasette, both of which are pools of water situated on the old Hunter's road from Francetown to the Zambesi, is, roughly speaking, 75 miles. Since the railway has been opened up between Francetown and Bulawayo this road is never used, and is practically deserted. We had started very early in the morning. Just about sunrise I heard a rustle in the bush close to the road, behind Arnold W. Hodson in the field. Thinking it was only a stoat or a weasel, I paid no attention till I heard the animal bound away. When it struck me as making rather a loud noise for so small an antelope, I then caught sight of a yellow object moving parallel to the road and saw it was a lioness.

She bounded into the road and stood looking at me. I had my thick gloves on, as it was very cold, and in consequence rather fumbled pulling off my right protector, which, to save time, I dropped on the road instead of putting into my pocket. My pony, however, became nervous, and I had to dismount before I could get him in hand. The lioness bounded away. I galloped after her down the road, but she soon got into the thick bush, where we lost her.

We got to Thamasette the next day and found old lion spoor, but none fresh. Some days afterward one of the bushmen appeared and reported that the lions were at Thamasette. I got ready as soon as possible and left that evening with one native. We rode all through the night and arrived at our destination the next afternoon. The lions did not come down to drink till the third night, when the morning we found their spoor still fresh and damp. We followed it up carefully, going through thorn bush.

We got so close to them once or twice that we could hear them growling (there were five altogether), but the wind changing, they smelled us and made off, and although we followed them up for some time, we did not catch sight of them again. Eventually we had to give it up.

The following day we found the spoor of one male and one female, and followed them up for about 12 to 14 miles. We would come to a place where they had been sleeping, and then, evidently smelling us, we could see how they had become uneasy and gone on a short distance, where they had slept again. This went on till we had gone too far and had to go back.

After this experience I decided to try different tactics, so we dug a hole 15 yards from the water, in which I intended to watch at night. We made the hole as inconspicuous and secure as possible, and then went around to the outside pools and filled them all up, so that the lions, if they wanted to drink, would have to come down to our water. At sundown I took up my position in the

head (the native name for "game hole"). A few hours afterward the lioness and roan antelope came down to drink, and it was a very pretty sight to watch them.

They approach the water carefully and when quite close suddenly bound away. My opinion is that they do this to see if changing there is water in the water hole, because the latter lies up close to the edge of the pool in the shadow of the bank and then spring on the game when it drinks. The mere fact of their bounding away would probably entice the lion forth. The sable antelope seemed to me to be always more cautious than the roan antelope, who was going down to the water came 12 times to the water and dashed away each time. Of course she may have just smelled me, which would have accounted for it; but did not think she did, for she eventually drank.

I kept watch night after night, and although I saw plenty of game, no lions came. It was very lonely by oneself in these holes, and the cries of the wolves and jackals are at times very uncanny. One evening at dinner time just as I was about to go to bed, a lioness came in the soup, one of my little bushmen, a splendid little chap of about 14 and very plucky, who was going down to the water to fill his belly, suddenly began yelling with all his might "Neww! Neww!" (leopard, leopard) and then, still shouting, commenced running after it across the veld. I snatched up my rifle and ciling to the dogs rushed after him. Luckily, I had on a pair of light running shoes instead of my usual heavy shooting boots, so was easily able to keep up with the others who had joined us.

We must have gone about three miles when we heard the dogs barking and knew that they had bayed the leopard. In a few minutes it would be quite dark so I put on a fresh spurt to try to get a shot while I could see my sights. The leopard was standing outside a thick patch of bush with the dogs, furiously excited, surrounding him. After several shots we missed, the leopard breaking away each time, a lucky shot struck him in the neck and killed him.

I was glad the matter ended as it did, for I found that two of my previous shots had hit him, and it is seldom that a wounded leopard does not attack his assailant. It is curious that he did not take to a tree, as is nearly always the case when chased by dogs. He was an excellent specimen of a large male. We got back to the camp about 9 P. M., very jubilant party, and when I had had my supper I again took up my position at the water hole. Plenty of game came that night, but no lions.

The next day was very hot and oppressive, and we felt sure that if lions were anywhere near they would come down that night to drink. I took up my position soon after sundown, and about 12 o'clock, as we had no meat, shot a male

sable antelope. He was mortally wounded and ran about 50 yards to die, when, as I discovered in the morning, he was pounced upon by a lioness and immediately killed. I heard nothing and saw nothing till about 3 A. M., when I heard lap, lap, lap from the pool in front of me.

As soon as it was light I could see her ears moving and fixed near, this time hitting her just below the head, which finished the matter. She was a splendid specimen of a lioness. My first shot had hit her in the neck, and the second in the stomach. Her skin was perfect and very glossy. We found the remains of the sable antelope she had killed about eighty yards away, and saw by the spoor that there had been at least six lions around the pool that night.

They had evidently been frightened by the fate of the lioness and had not come down to drink. We followed the spoor of a lion and a lioness. After we had gone a short distance the bushman pointed to a tree and showed us where the lion had been standing up on his hind legs clawing it. He said that the lion was looking around for the lioness I had shot and was very angry at being disturbed from his rest of the sable antelope. We went on until after mid, but a breeze springing up behind us we had to go back.

That night I again sat up at the water hole, but saw nothing more exciting than a few sable and roan antelope. The next day it was again very hot, and at night I went down to the hole full of hope that the lions would come.

About 3 A. M. the same morning I could hear some animals at the remains of the sable antelope. The cracking of the bones was one of the most horrible noises I have ever heard. I made sure that the lions had come back, and expected them when they had finished their feast to come down and drink; but they did not come, and in the morning we found that they were jackals that had been eating the meat during the night.

I continued to sit up at nights, but the lions did not return. On the third evening just before going down to the game hole the leader came running into the hole and said that he had heard the cries of a dying sable antelope, so we went out as quickly as possible to the place and on getting near to it heard the peculiar half-growl, half-bark uttered by wild dogs. They were four or five of them. They did not run away when they saw us, but bounded a few yards and then turned round and looked at us, all the time making a hideous noise. I shot one of them and the rest then decamped. These wild dog appeared to me to be differently marked from one I had shot a few weeks before more to the southwest. These brutes do no end of damage among game, and the bushmen say that sometimes if they are disturbed in their orgies they will attack a man. They certainly look fierce enough to do so.