PART 2.

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HE INSECTS OF AUGUST

That Warm Month the Agile Grasshopper Achieves His Full Stature.

e Rocky Mountain Migratory Locust Is a Very Destructive Pest.

g of the Katydid Heard in the Land—The True Army Worm—Eastern Fleas.

[Written for THE HELENA INDEPENDENT.]

N AUGUST THE INSECTS COMMONly called "grasshoppers" in America, but more correctly known by the name locusts in other parts of the world, begin be the most prominent feature of the omological landscape. During the early t of the season they have been hopping out in the grass with undeveloped wings and hardly noticed cause of their small size; but out this time of year the majority of the cies become full-winged and fly, frently with a crackling noise, for greater shorter distances. Most of the forms in eastern United States have comparaely short wings and their flights are correspondingly short. One species, however, own as the lesser migratory locust (caotenus atlanis) is capable of moreended flight and occasionally es great damage to crops. n valley of the Merrimac in w Hamsphire and northern Massachuts has frequently been visited by swarms these locusts, which have destroyed a eat deal of cultivated vegetation. The ebrated Rock mountain locust or migrary grasshopper of the west (calpetenus relus, Fig. 1) belongs to the same genus

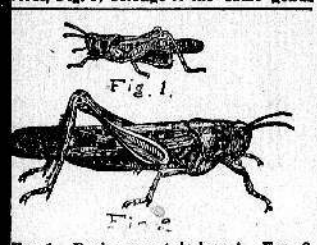

FIG. 1. Rocky mountain locust. FIG. 2. arge American locust.

id the enormous injury which it inflicted on farms in our western states and terries in the years 1873 to 1876 is a matter history.

There come occasionally seasons in hich local or non-migratory species which e with us from year to year increase to an ndue extent and excite alarm. They are ten mistaken for migratory species, and, fact, are abundant enough to warrant medial work. One of the most noticeae of those is the American locust. (Fig.)

The best remedies consist in ploughing nder the eggs in localities where they have en abundantly deposited, and in catching e young locusts by means of a contrivce which has been variously modified and hich is known in the west by the rather phuistic name of "hopperdozer." This onsists of a shallow, oblong, rectangular an of sheet iron, about two feet wide and ve or six feet long, preferably divided to three or four compartments. A small uantity of kerosene or coal tar placed in the pan, which is then drawn hrough the infested field by horse-power. he young locusts, or "hoppers," as they re generally termed, jump up as the pan pproaches and fall into the kerosene or al tar and are destroyed. On this principle many devices have been invented for atching the young individuals, and where eristently operated much good can be necomplished by their use.

An interesting development of the locust ague of the '70's was the use of these inects for food. Careful experiments were arried on in this direction and it was asertained that cooked in several different ays they form a not unpalatable and quite ourishing article of diet. Thus many of ur Indian tribes, and many of the people f the east who use them habitually as articles of food are quite justified and it eems ridiculous that people should starve o death when locusts have devoured everything green, when in reality the insects themselves furnish under such circumtances an abundant food supply.

Between three and four hundred species f true locusts inhabit the United States nd as they are readily captured and mounted they form an excellent group for he beginner to collect. The eggs are atinly laid underground in pod-like masses nd in this condition the majority of the pecies pass the winter. There is usually but one annual generation.

The song of the katydid begins to be heard about this time. Of these curious insects, related to the locusts, but possesing long, slender, antennæ as contrasted with the short thick ones of the locusts, we possess several species in this country. They are all of a beautiful green color and mimic to some extent the green foliage upon which they occur. The females of

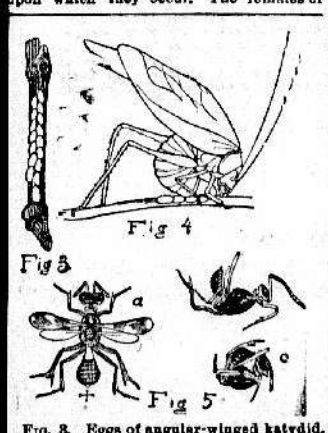

FIG. 3. Eggs of angular-winged katydid. FIG. 4. The angular-winged katydid laying its eggs. FIG. 5. The katykid egg parasite: a, female from above; b, same, from side, beginning to roll up; c, same completely rolled up—greatly enlarged.

nearly all are characterized by an extended sword, or scimeter-shaped ovipositor with which they lay their eggs either in the bark of trees, the pith of plants or attached in a double overlapping row, as shown at Fig. 3, to the edges of leaves or along small twigs. Of the true katykids, the angular-winged species (microcentrus retinervis), Fig. 4, lays its eggs in this wise. The broad-winged species (platyphyllum concavum) thrusts its eggs in the soft bark of various trees, while the narrow-winged species (phaneropteru curvicauda) thrusts them into the edges of leaves of various kinds.

Certain other large green grasshoppers inhabit our meadows and are sometimes called meadow katydids. These all thrust their eggs into pithy stalks. The katydid call is made by both sexes, but principally by the males, and produced by the friction of certain large veins situated mostly in the inner margin of a tale-like plate at the base of the wing-covers. The sound is a love call to the opposite sex.

The eggs of the angular-winged katydid, one of our largest species which is particularly common in some of the more southern states, are frequently infested by a curious parasite shown at Fig. 5, and is known as the "back-rolling wonder." It is known scientifically as eupelmus mirabilis and it possesses the peculiar power of being able to roll itself up backwards into a ball.

Those who wish to obtain further details about these curious insects can do so by consulting my sixth report on the insects of Missouri.

There are various insects which have from time to time been designated by the term army worm, but the term is properly applied to an insect which usually in the early part of July in more southern latitudes, but in August and even later in more northern states, appears in vast numbers and well deserves mention in this series of articles.

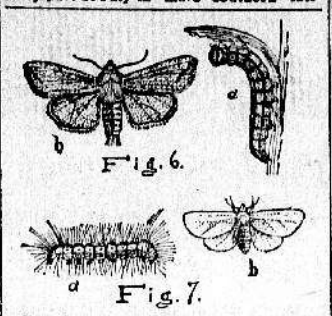

FIG. 6. a, army worm; b, army worm moth. FIG. 7. fall web worm; a, larva; b, moth.

This worm is the larva of a moth of the family octuidæ and is known as leucania unipuncta. The larva or caterpillar grows to a length of an inch and a half and is striped with brown and blackish markings as shown in figure 6, a. The moth (figure 6, b.) is of a dark brown color and has a small white spot in the center of each front wing from which it derives its scientific name. It is unnoticed during some years, but in years of its abundance whole tracts of grass land and small grain are overrun by the worms which move in vast armies from one field to another.

The eggs are concealed at the base of the leaf-sheaths or between the folded leaves of grass or corn, and while there are several generations in the course of a season in southern latitudes, only one of them is destructive. The insect hibernates principally in the moth condition in northern regions, but in the more southern states it is also found during the whole winter in the half-grown larva condition.

The marching hosts may be headed off by ditches and destroyed by sprinkling strips of grass or grain in advance of the army with Paris green water.

This species prefers low moist hills, and is apt to multiply unduly during very dry seasons when low, marshy grounds dry out. When such dry years are followed by wet springs, the parent moths are obliged to resort to the higher cultivated fields for oviposition, and from this fact army worm years are very apt to be coincident with wet springs and previous drought.

The second generation of the fall web worm, hyphantria cunea, is now beginning to make its appearance in the more southern cities, such as Washington and Baltimore. This insect, although single-brooded in the extreme northern states, has two generations in those localities, the first making its appearance the latter part of May and the second early in August. It is one of the most injurious of our shade webs upon branches, gradually defoliating entire trees. It resembles somewhat in its habits the regular tent caterpillar of the orchard, familiar to every person who has an apple tree in his garden. The caterpillar is shown at Fig. 7-a and the moth at Fig. 7-b. In 1886 nearly all the shade trees of certain species and particularly the box elders, poplars, cottonwoods and ashes lost their foliage in Washington through the work of this insect.

In spite of its dest uctiveness this insect is a very easy one to kill. If the first webs noticed are burned by means of a torch (and the best time to burn them is at dusk) the insect will not increase injuriously. It may also be checked by spraying the trees

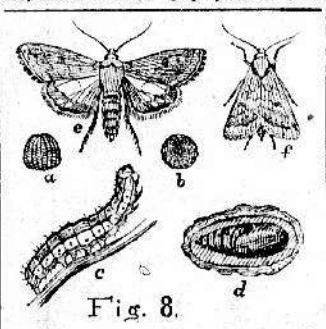

FIG. 8—Corn ear-worm, a, egg from side; b, same from above, greatly enlarged; c, full-grown larva; d, pupa in its underground cell; e, moth with wings expanded; f, moth with wings closed.

with Paris green or London purple in the proportion of one pound of the poison to 250 gallons of water. The last larvæ in the fall spin their cocoons under leaves and other rubbish at the base of the trees, under the bark and upon neighboring fences.

Few insects are so extensively parasitized as the fall web worm and it is also attacked by two fungus diseases, so that frequently great numbers are killed off without apparent cause except to the careful observer.

Like the army worm, this insect is the larvæ of the noctuid moth (heliothis armiger) a —Fig 8.) It is a cosmopolitan insect and a very general feeder, being identical with the tomato fruit worm and the cotton boll worm. In the north its principal damage is done to corn. The eggs of the moth are laid upon the corn silk and the young larvæ hatching work their way down into the ear and feed upon the ripening grain. There are several generations, but the insect in the north hibernates in the pupa state underground, where, before transforming, the caterpillar forms an oval cell lined with glutinous substance. The best remedy where the worms cannot readily be killed by hand, as in a small garden, is to plough the fields late in the fall. It has been ascertained that this late fall ploughing breaks up the pupa cells of the corn ear worm, and that soon after the cell is broken the contained pupa dies. In the south, where the same insect frequently does enormous damage to the bolls of the cotton plant, the problem of fighting it becomes a very serious matter. The best plan is to plant a few rows of early corn to attract the first generations of the worm. After the eggs have all been deposited the corn is cut and fed to stock. Just as with other injurious insects which have several generations in the course of a season, the dest uction of a few individuals of the early generations in this way means the saving of damage from infinitely greater numbers later in the season.

For many years this insect was supposed to be peculiarly free from the attacks of other insects, but of late years several parasites have been discovered and it has also been found to be subject to the attacks of a fungus disease. Experiments have been made by the government recently looking to the dissemination of this disease, but as the caterpillar is more or less solitary in its habits there is little chance of contagion through contact of one individual with another.

During wet summers of late fleas have become extremely abundant in houses in a number of our eastern cities. This seems to be particularly the case in houses which have been left vacant for a month or so while their owners have been away at the seaside or at the mountains. Frequently persons returning after such a vacation find their houses overrun with these disagreeable pests. Wet weather seems to be favorable to the rapid increase of these insects and their occurrence in closed houses in greater numbers than in those which have been constantly occupied is probably due to the fact that in the latter case they are kept down to some extent by constant sweeping and by the free admission of sunlight and air. A few fleas, however, doubtless pre-existed about the premises and these probably came from pet cats or dogs. The larva of the flea is a very slender, white, footless maggot. It lives in dirt and dust and derives its nourishment from the grease and other animal matter found in floor crevices and other inaccessible places.

The very best remedy for fleas in houses is to spray thoroughly every crack and crevice with benzine. This is best done upon a bright, sunshiny day, and after the operation the house should be thoroughly aired. No light should be brought into the treated rooms for three or four hours after the spraying. Fresh California buhach (a powder ground from the flowers of pyrethrum cinerariæfolium) is the best substance with which to treat animals infested by these insects, to be followed by a good washing with castile soap or a soap-kerosene emulsion not too greatly diluted.

C. V. RILEY.

The Nerves of Generals.

"Grant was entirely destitute of nerves," said Capt. J. C. Hawley, of Peoria, Ill., to the gossiper in the corridor of the Southern. "I saw a six-inch shell explode within four feet of him at the siege of Vicksburg, and he never missed a puff of his cigar or looked in the least startled. He was standing watching the placing of a gun, and when the shell cracked a dozen men near him ran their noses into the ground. A horse was killed and the gun dismounted, but not a man was hurt, and when we looked up and saw Grant puffing away so unconcernedly, we felt skeepish enough. I can tell you. Gen. Custer, as brave a man as ever charged a battery, was all 'nerves,' and Fighting Joe Hooker would start like a schoolgirl at the snapping of a tent rope."

Two Ways of Putting It.

"In his acting," said the Boston dramatic critic, "I discovered with a single, and, as it were, casual glance, that there were lacking most apparently the first requisites necessary for the achievement of his ambition—and who shall say it is not a noble one!—to become a high and exalted luminary of the Thespian art. And so, in my critique, it became incumbent upon me, as a true exponent of my convictions, to launch upon him my severest and harshest disapprobation, which I did with no covert attempt to disguise in the most infinitesimal degree my dissatisfaction with his interpretation of the dramatists."

"Yes," observed the Chicago dramatic critic, "I ripped him up the back myself!" —Boston News.

When St. Louis Was Laid Out.

"I met a queer old man yesterday," said a St. Louis man.

"Yes?" queried the Chicago man.

"He was old—very old."

"What was his age?"

"Well, he must have been a hundred or so."

"Yes?"

"He says he was present when St. Louis was laid out."

"Indeed! That's nothing. I've got a neighbor who isn't over 30, and who says he was present when St. Louis was laid out. I've forgotten the date, but it was only a few years ago. He was a real estate dealer there, and was laid out at the same time."

"Oh!"—Chicago Mail.

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THE THREE GREAT FIGHTS.

They Will Come Off Before the Olympic Club Early in September.

Mike Donovan Gives Some Straight Tips as to the Three Winners.

He Picks Corbett, McAuliffe and Dixon, Although Not so Confident as to Jack's Chances.

(Written for THE HELENA INDEPENDENT.)

I DO NOT RECALL AN EVENT OF such transcendant importance in the pugilistic world as the tournament at New Orleans which is to decide the heavyweight, the welter-weight and the featherweight championships of two continents. No American pugilistic organization can compare in enterprise with the Olympic club of the Crescent city, which overcame what appeared to be insurmountable obstacles and arranged definitely for the greatest fights of the decade, and therefore I say, "All honor to the Olympic club and its fine corps of officials."

As I understand it, the Myer-McAuliffe fight is to take place Sept. 5, the men to weigh in at 135 pounds, and the purse to aggregate $20,000. Of this the club puts up $10,000 and the backers of each man $5,000. The second fight is to be between Dixon and Skelly, who are to go into the ring at 118½ pounds. In addition to the purse offered by the club, each man is backed for $5,000.

On September 7 comes the great match of the tournament, in which James Corbett will do battle with John L. Sullivan. Corbett will go into the ring weighing about 192 pounds and Sullivan's backers say he will tip the scales at 210. This I doubt, and my reasons are given below. But a fight for a total of $45,000 is certainly unparalleled in fistic history, and I doubt if in this century we will ever again see so large an amount at stake.

I admire the arrangements for the great fights, as no stone has been left unturned to make certain of the contests, and the guarantees posted are an assurance to the public of the squareness which inspires all the doings of the Olympic club. The fights will take place in the magnificent new club house, in which the arena is arranged to comfortably seat ten or twelve thousand people.

In my opinion all the fights will be first class, and Sullivan's friends will find that Corbett is an all round fighter, a fighter with nerve and muscle to back it, and with quickness, skill and science to aid him. Sullivan is training down from 245 pounds to 210, and all this he is doing in two months' time. Now, in my judgment, it is unreasonable to suppose that a man can get off thirty-five pounds in that time and retain his great strength, particularly as the bulk of this superfluous flesh is about the abdomen. Personally, I think that Sullivan will scale nearer 225 than 210 when he goes into the ring. In my career I have gone through the experience of overtraining, of reducing too low, and, as a result, I was invariably weakened. The system won't stand it. Then, too, sudden reductions in flesh are bound to develop any inherent weaknesses in the system, and this is one thing Sullivan will have to guard against with the utmost precaution.

I have seen Corbett two or three times since he went into training, and he is as fit to fight as was ever a man who stood up in the ring. In fact, he was in condition a month ago, and when I saw him I felt convinced that he was every inch a champion. He hits with every pound of weight in his body. There is no wasting of strength at any juncture in his battle. When he hits his arm is guided by an excellent judgment, and he hits with 192 pounds, or more, every time. He is clever, too—in my opinion the cleverest man in the ring to-day. He is sound as a dollar; every limb and every part is perfect, and Sept. 7 will see him facing Sullivan, the greatest fighter the latter ever met.

The Myer-McAuliffe fight is a difficult one to forecast. If Myer has improved, and I understand he has, McAuliffe will have a hard battle. But they are both plucky, nervy fellows. McAuliffe has the advantage of having fought Myer before, and being a tactician will improve by that experience. Myer is not so much of a general as McAuliffe, and it is doubtful if he will profit much by his last experience with him. Myer fights peculiarly. His position is anything but correct, and yet he manages to do some very clever work. Taking the old fights as a criterion—I refer particularly to the draw at Judson, Ind.—I should say that McAuliffe would stand a good show of winning if he cuts the pace at the outset and goes in to finish rapidly. In that fight at Judson Myer proved himself cool-headed. He never once led. I remember meeting him shortly after that fight, and I asked him why he didn't go in to win.

"Why," said the "Cyclone," "those people down in Streator had mortgaged their houses and their farms to back me, and I wasn't going to run any chances."

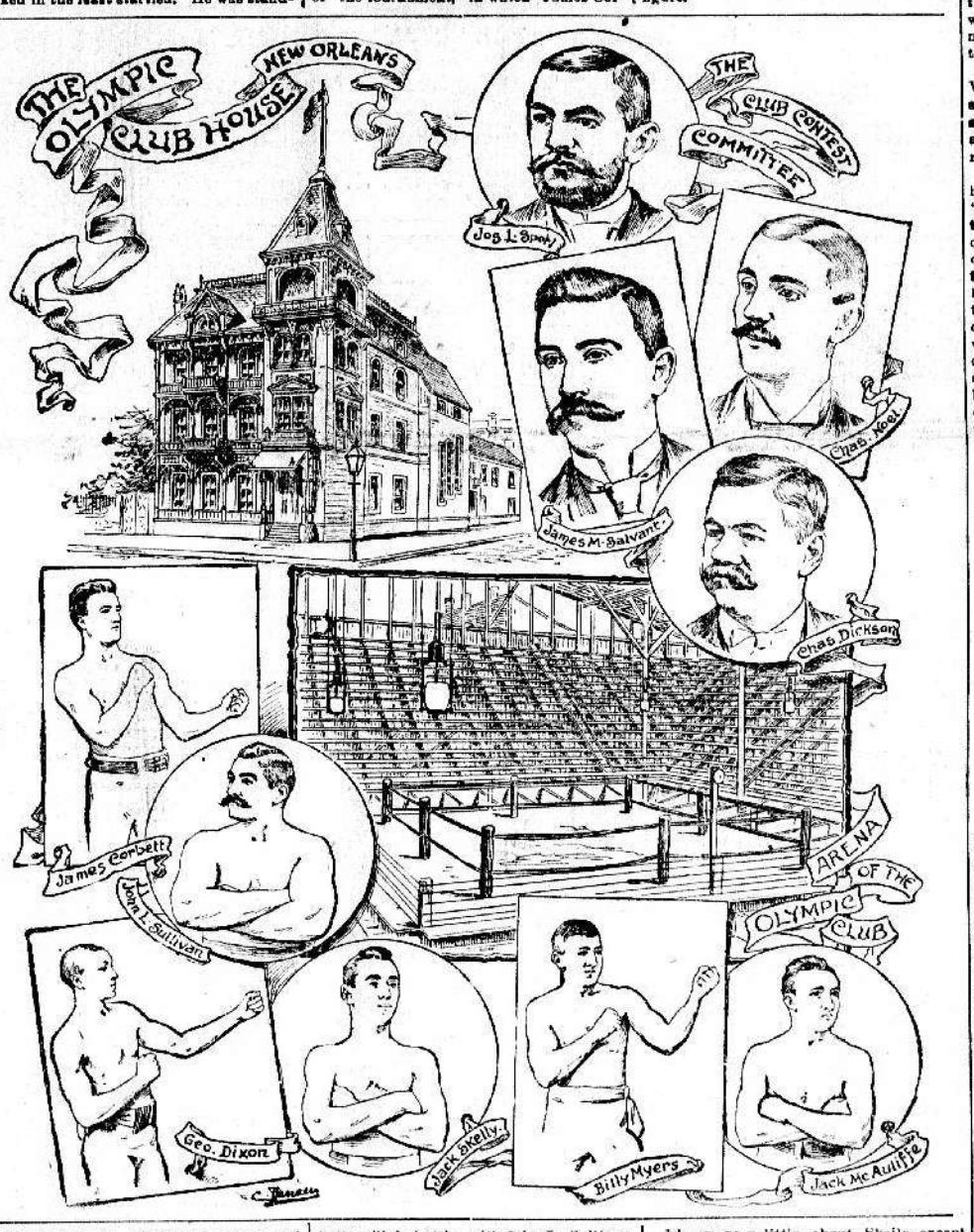
Another strong point about Meyer is that he is not affected by the jeering or cheering of a crowd. He will hold off if he sees it to his advantage, no matter if the house is hissing itself hoarse.

McAuliffe, on the other hand, responds quickly to the calls of a crowd and makes brilliant rallies. I am of the opinion that it will be a splendid fight, a fight in which there will be lots of science and skill exhibited and plenty of muscle.

As to the last fight, that between Dixon and Skelly the odds are of course strongly in favor of the little colored wonder. Dixon is a wonderful judge of time and distance, and that is a thing that comes to a prize fighter by intuition. I have found in my experience that they can't be taught, and you can tell in a second whether a man is a natural born fighter by his skill in this direction. Dixon, as I say, is a marvelous judge on these two points, and in his last fight with Fred Johnson, who, by the way, is a good fighter, had the Englishman completely at his mercy. Skelly and Dixon are to fight at 118½ pounds and I imagine they will have no trouble in weighing in at that figure.

I know very little about Skelly, except that he is a very clever Williamsburg amateur. But I have always argued that an amateur, no matter how good in his class, is never the equal of a professional. The latter has had an experience with professionals, knows a thing or two about the professional ring, and in that he is always the superior of the first-class amateur. So, while Skelly is a good man and clever enough, he has yet to get a good bit of professional experience before he can be expected to beat Dixon. That man is big-boned, muscular, sinewy, nervy, "eagey;" his eye, his head and his hands work together all the time. His body blows are terrors, and I must say that Skelly, fine as he looks, will have a hard time of it against the clever Boston boy. But Skelly is in the hands of Jimmy Carroll, the man who trained Fitzsimmons for his fight with Maher and had a good deal to do with that fighter's success. Carroll is a prize fighter all through and will give Skelly the best of training. On that fact alone Skelly's friends must lay their hope.

MIKE DONOVAN.



Luck in Horseshoes.

The popular idea about the horseshoe for luck is rather in the ascendancy just now, says the New York Morning Journal. Walking in the country you will see many maids eyeing the roads wistfully, in the hope that they will be lucky enough to find a horseshoe. If found the shoe is gilded and hung with bright ribbons over the drawing room door, just about the time the favorite swain is expected. It is noticeable in scarf pins and other articles, that the horseshoe is set with points down. This should never be done; it should be hung with the points up to "keep the luck from running out," as it would be apt to do if otherwise hung.

The Length of Life Averages Higher.

As far as can be calculated, the average length of life, which is computed in the seventeenth century to have been only thirteen years, was in the eighteenth increased to twenty, and in the nineteenth to thirty-six. Men used to be considered old when they passed fifty.

SLAUGHTER OF BLACKS.

Astounding Figures as to the Treatment of the Southern Colored Population.

T. Thomas Fortune Tells Why They Submit to the Ill Treatment.

Frederick Douglass Insists That Justice for the Negro Should Be Made the Campaign Issue.

FROM the subversion of the reconstruction governments, in 1876, down to the present time the perpetual iteration and plea of southern statesmen and editors have been:—"Hands off! This is our fight! We must have home rule!" and the like, and the nation has accepted the plea of one-half the population of the south, while the other half has remained silent or been unheeded when it found a voice. Over the protests of some of the wisest and best of our statesmen the black south was turned over to the tender mercies of the white south. The governments of the southern states passed out of the hands of those who had fought to save the Union into the hands of those who had fought to destroy it. The war amendments were as effectually negatived as if they were not indestructible parts of the organic law.

The revolution was sweeping and complete. The stone the builders had rejected, as the logic of a fearful war, again became the head of the corner. The north hoped, and was inclined to believe, that the white south had learned wisdom and humanity in the terrible school of experience through which it had passed from Sumter to Appomattox, and from Appomattox to the electoral commission.

How has the nation's trust been treated? What have been the fruits of "home rule" and "white supremacy?" We have had sixteen years of these and it ought to be an easy matter to reach an estimate of the result.

When the reconstruction governments had been subverted, when "home rule" and "white supremacy" were firmly seated in the high places of power with the consent of the whole nation, did the old master class forget the past and turn its face to the light of the new morning, or did it still hanker after "the flesh pots of Egypt?" On the contrary, it was found necessary to the continued ascendancy of the white south, which the late Henry W. Grady derisively dubbed "The New South," to crush the spirit, the manhood, of the enfranchised blacks. When it was discovered that this could not be done by legal forms the machinery of the law was set aside and all power was given to the mob. "White supremacy" must be maintained by fair or foul means. To this end a spirit was turned loose which defies all existing agencies and which threatens even those who originally invoked the unholy power.

T. THOMAS FORTUNE.

A pretext—an excuse that would appeal to the nation and padlock the mouth of protest and indignation—was necessary, and the crime of rape was hit upon; hit upon by men proclaiming themselves the special champions of female virtue, who had used the brutal power of the slavemaster to create a race of mulattoes! They could not have a sharper edge than this.

The following newspaper waif was picked up not long ago out of some one of the 150 Afro-American newspapers:

> There is a growing tendency on the part of thousands of people in the north to ignore the discussion of the subject entirely, or to look upon lynch law as justifiable. The north is told the Afro-American is lynched for good reasons; that this lynching must be kept up in order to stop the assault of the Afro-Americans upon white women. But to show that they are killed for other reasons than that of rape, we here produce some figures as to the number lynched each year since 1882:
>
> Number lynched—1882, 52; 1883, 39; 1884, 53; 1885, 77; 1886, 73; 1887, 70; 1888, 72; 1889, 95; 1890, 100; 1891, 169; 1892 (to date) 65.
>
> Of the 728 Afro-Americans lynched during the past eight years, 269 were charged with rape, 253 with murder, 44 with robbery, 37 with incendiarism, 32 with reasons unstated, 27 with race prejudice, 21 such; 13 with quarreling with white men, 10 with making threats, 7 with rioting, 5 with miscegenation, 4 with burglary.

Since these figures were published there cannot have been fewer than a hundred men and women lynched in the southern states. If the ratio is maintained up to the end of the year, we shall have upward of 400 murders by the irresponsible citizens of states the authorities of which oftener lend aid and comfort to the murderers than to the maintenance of the law. It must not be lost sight of for a moment that in every one of the states where these murders are committed all the machinery of the law is in the absolute control of the Simon pure "home rulers," the chief stickers for "white supremacy;" and that by no means whatever could any guilty man escape, especially if he have a black face. But, even as in the days of slavery it was considered that the law was too precious a thing to be enjoyed by the black slave, as affirmed by Chief Justice Roger B. Taney—a creature of Andrew Jackson's making—so even now the black freeman is considered to be without the pale of the law. If he undertakes to vote he is shot; if he strikes a white man he is shot; if he looks at a white woman he is shot; if he is a law abiding citizen, attending to his own affairs and accumulating a competence, he becomes dangerous and is shot. There is small chance of escape for him, whether he be bad or good, lazy or industrious. Neither the constitution of the state nor the United States affords him any protection. He is regarded as a pariah, and so treated by individuals and by the authorities of the law. When he is lynched the militia is not ordered out to suppress the mob and preserve the peace. When he strikes back—as at Jacksonville, Fla., and Paducah, Ky., recently—martial law is at once declared and all the available soldiery