STORY OF THE CENSUS

Photograph of a Continent, Revealing Its Achievements and Misfortunes.

SUPT. PORTER REVIEWS THE WORK

Hopes and / mbitions of Millions Arrayed in Columned Figures.

ARMY OF FIFTY THOUSAND INTERVIEWERS

The Lights and Shadows, the Progress and Drawbacks of the Nation.

A STUPENDOUS AND MOMENTOUS WORK

A Comprehensive Review of the Eleventh Census and What It Demonstrates-Vindication of the Count-Decrease of the Birth Bate-Future Growth.

The average reader of a newspaper will recoil in undisguised terror at the dismal array of figures, the ghastly tabulated state ments, the never-ending string of knockdown facts which the census suggests. There is, however, a broader and more attractive view of the census which is rarely brought out; a view of intense concern to the nation and touching in one form or another almost every human interest. Approached from this standpoint the sombre statistical garb falls off and a subject with life and soul is revealed, breathing of the achievements and misfortunes, the progress and drawbacks, the joys and sorrows, the crimes and no bility, the greed and the self-sacrifices, the hopes and the ambitions of millions of human beings. It is the photograph of a continent In the area which is shown many of the mighty nations of the world can be tucked away in corners upon its broad surface Surely we have here a theme rising above mere columns of figures and an inspiration that will transport us beyond the enumera tion of hard, dry facts.

To my mind it would be difficult to imagine a more fascinating task than that of photographing these millions, in which the field was a vast continent reaching from ocean to ocean and spreading from the snow-clad mountains of Alaska to the tropical ever-glades of the gulf.

INTERVIEWING TWELVE MILLIONS.

Those engaged in the work had to talk with all sorts and conditions of men and women on almost every topic of human interest. Over twelve million people had to be seen; over twelve million dwelling houses must be visited. On foot went this army 50,000 strong, elbowing their way into the crowded tenement houses of New York city, where more human beings exist to the square mile than in any city in the world, on horsealong the mountain paths of Wyoming and Montana in search of the little mining camps, in boats on the rivers and inlets of the northern extremity of the republic late the fishing villages of Alaska, in caravans accompanied by artists and photographers far into the Indian reservations, not only to as-certain the number but the condition of the numerous tribes of North American Indians. In an old church building in Washington, D C., may be found nearly 20,000,000 of original C., may be found hearly 20,000,000 or original schedules upon which are written the names and a brief history of nearly 63,000,000 hu-man beings. These myriad sheets of paper come as it were from every home and dwelling place within the domain of the stars and stripes. Nay, more than this, not a farm. factory, a mill, a business house, a corporation, a person, a fishing boat, a court record, a county recorder's or registration office, a municipal or state bureau, a charitable Institution, a school, a church or a prison was omitted. The history of all these operations formed no small part of the st tistical harvest of 1890, and engaged the tabulating and preparing for final publication. STUPENDOUS AND MOMENTOUS WORK

The widest range of humanity, of climate of conditions, of endeavor are found in thes returns. From huts of mud and surroundings little better than those of the primitive age to dwellings of oriental splendor and princely magnificence; from the simplest and crudest operations in fishing, mining, procuring food supplies and furs, to the mos intricate operations aided by invention, electricity and the highest human ingenuity aditions barbaric to conditions typica of the highest civilization. To decid by which these millions shall be the manner this continent shall be traversed, the best methods to be employed the information to be sought and to put the and a good fortune that can come to but fev men. The field work of the United States census when undertaken by an impromptu organization brought into existence for the purpose is one of the most stupendous and momentous civil undertakings a man can assume. Not only is the census the condi-tion precedent to our form of government and by it we apportion both direct taxation and political representation, but by guiding legislation and thought of all kinds it touches every artery and every vein of our ma-terial, physical and moral progress, and thus in some degree affects the interest of

almost every individual.

THE ROMANCE OF STATISTICS. The amount of information gathered at most surpasses belief. The enumerator and special agent had to cipher out the crops, appraise the value, number the live stock and estimate the eggs, butter and cheese of every farmer. From the manufacturer and owner was obtained the number of hands employed, wages paid, capital in-vested, quantity of product and value of production: to say nothing of the still further information demanded by nearly 100 expert special agents who devoted several years to fully investigating special branches of production in the agricultural, mining and manufacturing branches of the census. The fisherman was interviewed as to the specie and quantity of his catch; the florist to find out the variety and development of green-house production and the surprising sumexpended therefor; the horticulturist given an opportunity to tell a statistical romance on the expansion of truck farming and the viticulturist interrogated in relation to the marvelous achievement in native wines-mak-ing. Transportation by rail and water, revealing a railway, lake, ocean and river system equal to that of all the rest of the world, occupied for three or four years some of the keenest experts and accountants in the world, while the entire range of in surance, life, fire and marine, involving interests that when measured by dollars make one dizzy, was covered with a thoroughness and detail never before attempted by any

A TRINITY OF GLOOM That trinity of gloom—taxation, debt and death—occupied no inconsiderable amount of thought. Transcripts of every registrar's and every recorder's office where deaths and individual debts are recorded were searched and transcripts were made for the purpose of ascertaining the physi-cal and financial strength and weakness of the population, while in the statistics of special classes and pauperism and crime we were able to guage the moral welfare of the people. Cognizant alike of the lights and shades of humanity, much that is gratifying and hopeful may be found in the advancement of education, of religious sentiment, of home owning and of the gen-

eral improvement in morals and increase of thrift.

It is difficult to paint this picture except by a few bold strokes, for the detail of it would become tedious and fail of the purpose in mind, that of giving in a few words a conception of the greatest marshalling of facts relating to a nation's progress ever attempted by any government in the world. That not a failure or abin the world. That not a failure or ab-solute miscarriage occurred in any branch of the work speaks as highly for the con-

scientious, able experts invited to take part

The eleventh census was of unusual interest and importance from the fact that it would show the advance of 100 years' march of the republic—the first census had been taken in 1790, the year after the formation of the government under the constitution, and the results of the last enumeration would furnish the material and mark the growth during this important period. On the last of June the work of enumeration was begun, and with the exception of a few was begun, and with the exception of a few outstanding districts that month closed with the census practically completed. Then followed the shipment of the schedules to the office and the first rough tabulation. In October of the same year the results were appounced and it was found that the popula-tion exclusive of Indians not taxed according to the phrase of the constitution was 62.622,250. And this total will stand for all time to come. The count was pushed with such energy that the count was pushed with such energy that the census office had the official returns ready on the convening of congress in 1890, causing no delay in the apportionment of national representation, which was made two years in advance of any other census. Of course there were many who expected a larger total, and among them the superintendent himself. The work

had been done with unusual care. As far as possible the weak spets in the work of 1880 had been strengthened. The usual complaints of cities and ambitious towns were answered by partial recounts or by evidence of the correctness of the count, while those making unreasonable and partisan attacks for political purposes were given an opportunity to make the usual inflated and trustworthy "boom," "police" and "school" censuses to meet the great expectations of civic pride and the neces-sities of those anxious to "lessen" the per capita cost of expanditure and magnify the work of the Health department by minimizwork of the Health department by minimiz-ing the death rate. Unwilling to wait until the complete tabulation, when the census would prove its ewn accuracy, the fact that the aggregate population did not come up to popular anticipation was used to stir up the claims of dissatisfied cities. Several congressional investigations were made and though one lasted nearly twelve months and was thoroughly conducted by a committee rewas thoroughly conducted by a committee po-litically opposed to the administration at Washington, the office and the work was vindicated in every respect. Some fault to be sure was found with the system and suggestions made in the line of a permanent cen-sus bureau, but the verdict was that consid-ering the magnitude of the undertaking and he material available for temporary work of his kind the results were remarkably satis-

DECREASE OF THE BIRTH RATE.

The time has now come for a complete vin

factory and complete.

lication of the great count of 1890. The other branches of the eleventh census need no defense, for friend and foe alike agree in praising the special work without stint, while our good statistical brethren across the sea declare it stands unequaled. It is also gratify-ing and perhaps pardonable for me to say in this connection that Canada, Austria and Italy have adopted the scheme of tabulation is acgurated by the eleventh census, and that today Scandinavia, the German government and the municipality of Paris are making a study of the system with a view of adoption in future statistical work. To some perhaps the popuiar surprise and disappointment at the an-nouncement of the tetal population was sufficient evidence of something wrong in the count. Statisticians, however, with any regard to their reputations would hesitate to accept this sort of a proof, and as a result I do not recall a single statistician of any repu-tation joining in the epidemic of abuse which swept over the land in consequence of an imagined shortage of a million and a half in the eleventh enumeration of the population of the United States. When questioned on the subject they wisely answered, wait until the tabulation of the population by periods of life and ascertain how many of the inhabitants of 1890 were under ten years of age. Should the proportion of the total population under ten years of age be the same as it was in 1880, namely 26.7, it will be time enough to doubt the accuracy of the count. If on the other hand the birth rate has suffered a sharp decline the eleventh census will be cor oborated in one of the most essential points Estimates and expectations work well some times, but just as you begin to rely upon this method they take a sudden tumble and the "estimator" is ignominiously e-tinguish d. In this particular instance the birth rate did decline. The population under ten years of age in 1880 was 26.7 per cent; in 1890, 24.3 per cent. Now what does this mean? It means that if the population of 1880 had been maintained in 1890 the population of the country would have been greater by sixtee or seventeen hundred thousand and the ag gregate population over 54,000,000. This would have been equal to the most liberal estimate of our population and the fact that the actual enumerated population did no qual the estimates can be explained entirely by the falling off in the birth rate during the previous ten years.

THE PEOPLE RESPONSIBLE. The more the figures are studied the more convinced any fair minded individual would become that the enumeration of 1890 is substantially exact. Again the falling off in the birth rate finds corroboration in the returns showing the falling off in the size of families from 5.9 in 1870 to 4.9 in 1890 Thus the figures prove that the people of the country, not the superintendent of census, are responsible for the shortcoming of the population returns of the elevent enumeration. The actual returns, even if a few of the enumerators have been careless are always more trustworthy and satisfac ory than estimates from the most profound tical sharps. For example, there Elkanah Watson, who in 1815 estimated the opulation of the United States for each lecade until 1900. In 1820 he was only about 3,000 out of the way, in 1830 about 32,000, in 1840 in the same neighborhood; in 1850 some thing like 650,000, and in 1860 over 310,000 Then he took a mighty fall, and was million; Then he took a missy father too much in 1870 and 1880, closing nearly 15,000,000 too high in 1890, while his estimate for 1990 of 199,235,985 will probably ex-

need the autual count by 25,000,000.

Not deterred by the ignominious fate of the most accomplished of our estimators, I suppose the latter-day statistical prophets will be on hand in 1900 with their comvehemence and old time exagger These persons seem to have never ation. heard of the law of decreasing rate of in crease. Gibbon has shown that the further conquest is carried the wider and the mightler becomes the resistance and the hostility which the conquering power is forced to encounter. So it is with natural growth, whether in wealth or in population Not only do the limitations of nature become more and more stringent in reducing the rate of increase, but that increase does of itself create moral and social, not to speak of distinctly political tendencies which traverse its own course, and, if not strong enough to defeat further growth or accumulation do at least make any successive gain more slow and painful.

THE FUTURE GROWTH OF POPULATION What will be the future rate of growth of the republic? On this subject General Walker recently

said: "There is reason for believing that certain forces and tendencies not heretofore felt, or at least not heretofore recognized in ou national life, are beginning to affect power fully the reproductive capabilities of our people, and that these forces and tenden-cies have contributed in a very large degree within the last decade to bring down a rati of increase in the native poulation."
What are these forces? To what extent

they industrial, and to what extent al? How much of this decrease is due to the fact that the line of agricultural oc cupation is drawing closer to the great bar-ren plains? That manufacturing is taking course westward and southward; that population is concentrating in our large cities of industrial energy; that the strug gle for existence in these compacted com-munities increases in severity, and to the oncentration of wealth? hand, how much is due to the fact that the population tends increasingly to fashion population tends increasingly and social observance; that diet, dress and equipage become more and more artificial; that home life and housekeeping gives way to boarding and residence in "flats;" that to boarding and residence in "flats;" tha methods for controlling the size of families beome better known; that families decrease children become more burdensome, and mar-riage responsibilities are assumed later in life? It is difficult to give with any degree of exactitude the particular cause for the decrease in the birth rate, but I have here enumera ted some of the principal forces which affect the reproductive capabilities of our people in the eddy and awiri of social and in-dustrial currents through which the nation

in the work as for the thoroughness and care with which it was planned and brought to a successful termination.

A HUNDRED YEARS PROGRESS.

The eleventh census was of unusual interest and importance from the fact that it would show the advance of 100 years' march of the republic—the first census had been nation's life. The first census had been duction in the birth rate and increase in the matriage age, and in view of the present care with which it was planned and brought to estimate its future rate of growth. The present desired the growth of population. For the first time in a generation or more the gates of Castle Garden are swinging outward and not inward. Allowing for a still further reduction in the birth rate and increase in the marriage age, and in view of the pres-ent conditions and tendencies, the republic will not likely greatly exceed 75,000,000 souls when the century which brought it into existence closes its march of 100 years. ROBERT P. PORTER.

ARBITRATION IN ONTARIO.

There are probably few persons in the United States who do not believe that some means should be adopted for the cultivation and maintenance of better relations between employers and employes and for the prevention of such strikes and lockouts as those from which our country has suffered from time to time, and particularly during the last few months. That there should be some more simple method for the settlement of industrial disputes is universally admitted, and a method which will at the same time tend to promote a more active sympathy between employers and employes is particularly desired. Probably the present generation will never see the complete solution of the labor problem, and possibly it may never be attained, but and possibly it may never be attained, but that something should be done in the way of legislation to meet present conditions is evident. Without attempting to discuss the question as to how far an employer has the right to control the wages of his employes and to fix their hours of labor, or the no less important question as to the right of employes to inaugurate strikes in order to enforce their demands, the writer devices enforce their demands, the writer desires to call attention to an act lately passed by the legislature of the province of Ontario, Canada, which seems to provide for the amicable settlement of all the more importamicable settlement of all the more settlement of all the more settlement of all the more settlement of articled "An act respecting councils of conciliation and of arbitration for settling ndustrial disputes."

The act is a rather lengthy one, and only its more important features will be noticed. The word "employer," as used in it, is defined to mean any person or body of persons employing not less than ten workmen in one business, and the word "employer," any person working for such an employer. The subjects of decretically. The subjects of dispute of which the set takes cognizance are:

1. The price to be paid for work done.

1. The price to be paid for work done, or in course of being done, whether such disagreement shall have arisen with respect to wages or times of working.

2. Damage alleged to have been done to work, delay in finishing the same, not finishing the same in a good and workmanlike manner or according to agreement, or a dispute respecting materials supplied to employes and alleged to be bad, or unfit, or unsuitable.

3. The price to be paid for mining any 3. The price to be paid for mining any mineral or substance mined or obtained by mining, hewing, quarrying or other process, or the allowances, if any, to be made for bonds, refuse, faults or other causes whereby the mining of the mineral substance is im-rected. peded.

The performance or nonperformance of any stipulation or matter alleged to have been in an agreement, whether in writing or not

or not.

5. Insufficient or unwholesome food supplied to employes where there is an agreement to victual them, or to supply them with provisions or stores of any kind.

6. Ili-ventilated or dangerous workings or places in mines, or unwholesome or unsanitary rooms or other places of accommodation in which work is being regreated. salitary fooms or other places of accommo-dation in which work is being performed, or want of necessary conveniences in con-nection with such rooms or places.

7. The dismissal or employment under agreement of any employe or number of

agreement of an employe or employes.

8. The dismissal of an employe or employes for their connection with any trade or labor organization.

The settlement of disputes in regard for the settlement of d For the sottlement of disputes in regard to these matters, provision is made for a council of conciliation, and a council of arbitration, both of which act under the direction of a registrar of councils appointed by the lieutenant governor. A council of conciliation consists of four persons, two of which are nominated by each of the parties to the dispute. A joint written statement of the case is submitted to them whenever possible, but if no such statement can be possible, but if no such statement can be agreed upon, each party provides them with a statement, after which a meeting is convened at such a time and place as is most convenient for the parties concerned. At this meeting an effort is made to bring bout an adjustment of the dispute. In case a settlement cannot be reached, however either party may then petition the registra to refer the dispute to the council of arbitration.

There are two councils of arbitration, the hree members of each holding office for two One council is for the settlement of lisputes between railroad companies and wage-earners in their employ, and the other for the settlement of disputes not in con-nection with railways. One member of each council is appointed by the lieutenant ernor on the recommendation of the em-ployers of the province, and one on the recommendation of the employes, the third, who acts as president of the council, being nomiby the two already appointed. the person to be recommended by the em-ployers, every employer and organization in the province employing at least ten per-sons, is entitled to one vote, and every legally constituted Board of Trade is likeise entitled to one vote. For the person to be recommended by the employes as a mem ber of the council of arbitration ters not belonging to railways, every trade and labor council, every district assembly of the Knights of Labor, every federated coun-cil of building trades, every lawfully incor-porated trade wice. porated trade union, and every organization of wage-earners of an industrial calling is entitled to one vote. For choosing the person to be recommended by employes of rail-way companies every organization of railemployes is similarly entitled to one

The council of arbitration sits and conducts its proceedings as in open court, and in making its decisions is governed by "the principles of equity and good conscience." It has the power to summon witnesses and administer oaths, and for the purpose of pre-serving order the president has all the power of a judge of the high court of justice, except that he cannot commit for contempt Witnesses are entitled to the same fees as in the division court, and all the expenses of ouncils of arbitration as well as of councils of conciliation are paid by the province. The report or award of a council must be made within one month and be signed by a maority of its members. In case the parties before the case is heard, agree in writing to be bound by the award, it may be made a rule of the high court of justice and en-forced by legal proceedings.

There are a number of interesting pro risions intended to simplify the proceedings the act and insure justice. either party may be represented before the council by from one to three persons, such council by from one to three persons, such persons must be parties to the dispute, no counsel or attorney or paid agent being allowed to appear. It is also provided that no proceeding shall be deemed invalid by reason of any defect of form or any technical irregularity. Should either the employers or the employes become dissatisfied with their representative upon the council of arbitration the lieutenant governor uses, their recent lieutenant governor, upon their recom mendation, may cancel his appointment and appoint another in his place. In case one party to a dispute has applied to the registrar to have the matter referred to a council of conciliation and has appointed conciliators and the other party refuses to submit the case, the council of arbitration may proceed to investigate the causes of the dispute and report what parties are in the opinion of the ouncil mainly responsible for the same and

how it should be settled.

From this brief resume of the act it will be seen that while no provision is made for compulsory arbitration, every facility is aforded to employers and employes for the settlement of their disputes amicably and without expense. Although the findings of the council of arbitration are not legally binding, except when the parties have signed an agreement previously to that effect, they will certainly have great weight with the parties themselves and will have a controlling influence upon public opinion. As a strike or lockout inaugurated in the face of public opinion is doomed to almost certain follure, it is reasonable to suppose that such extreme measures will seldom be resorted to in Ontario hereafter and that the governin Ontario hereafter and that the govern-ment of that province in passing this act has taken a decided step in advance in the mat-ter of labor legislation. Americans, at any rate, will be interested in watching the re-A. HUGH HIPPLE.

TOMORROW IS LABOR DAY, AND IT'S

LABOR NIGHT AT POMPEII! AT COURTLAND BEACH.

FIRE FOUNTAIN

(Fifty Feet in Diameter.)

IN THE MIDDLE OF THE LAKE.

Fireworks Display Ever given in the west, including PAIN

RESERVED SEATS ON SALE AT Kuhn's, 15th and Douglas. Kinsler's, 16th and Farnam Fuller's, 14th and Douglas

Kiplinger's, 13th and Farnam. Up to 5 a'clock of the night of the performance.

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TERRIFIC

FORCE

LEVEL THE

PALACES.

LIVING

FLAMES

SPRING UP

ALL OVER THE

CITY.

YOU MUST

SEE IT.

EARTH-

Throwing a Shower of Fire 100 Feet High.

Portrayed in a fireworks frame 20x40 feet.

Take the Sherman avenue cars and change cars at Locust street; no transfer slip is necessary after 3:00 p. m. On entering cars at Locust street after 3:00 p. m. pay ten cents, conductor gives you a return ticket. On returning from Courtland Beach conductor takes up this return ticket and hands you a transfer slip which will take you to either end of the Sherman avenue fine you may desire to go.

Glittering Scenes of Amazing Beauty, Absolutely the Most Colossal, Costly and Majestic Outdoor Exhibition.

Tickets to POMPEII Also admit to Court'and

Beach after 3:00 p. m while Court and Beach tickets are not good for Pompeii at any time.

SCENERY. A BEAUTIFUL BALLET AND CLITTERING TABLEAUX. AWE-INSPIRING **ERUPTION OF** VESUVIUS.

5 ACRES

OF MASSIVE

Ladies and childen unescorted can visit this refined performance with perfect propriety.

MOST INSTRUCTIVE LESSON **EVER PLACED** BEFORE THE HUMAN MIND.

IMMENSE RAND STAND SEATING 10,000 PEOPLE.

U. P. train to Pompeii leaves Council Bluffs at 9th and Broadway at 7:00 p, m; returning leaves Courtland Beach at 10:45 p. m. Fare for round trip 25c.

Scale of Prices.

Pyrotechnic

Brightly blazing,

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lights will make the

grounds as light as

noon-day to see the

most wonderful per-

formance the world

has ever produced.

Admission, with good seat	50c
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Roman Sports and Games 18 Centuries Ago. 350 Performers on the Stage.

Charming Music by Boyd's Theatre Band.

Immense Lake 300 Feet Long 100 Feet Wide with Pompeiian Flotillas.

ARISTOCRACY OF SNAKEDOM

Foa Constrictors and Rattlers Lord'y Reptiles Under All Conditions.

nake Enchantment Unknown to Naturalists Who Have Studied the Ophidian's Habits-Their Movements Essentially Catlike

(Copyright, 1894, by S. S. McClure, Limited.) When I lived in the island of Trinidad in 1890 I had two baby boa constrictors just born. They were about as thick as a man's thumb and fifteen inches long. For their first meal I gave to one a mouse and to the other a humming bird, which they killed and swall-wed with all the formalities of their elders. Afterwards arose a difficulty which ended in the death of one, for while he who had had the mouse, being more easily supplied, waxed fat and big, and in tissue was able to take redents of a larger size, the one that got the humming bird starved himself to death because I could not supply him with similar delicacies. Can it be that their first meal determines their preferences in after life?

It may be laid down as a rule that olubrine snakes, venomous and nonvenomous, follow up their prey and catch i by persistent chase, just as we have seen the racer get his mouse. There is, however, this to be remarked, that none of them, as far as I have seen, keep it secure by pressing it with their body against neighboring objects, except the racer and ome of his near relatives in South America Whenever the animal they catch is small all the harmless colubrines (except three south African species, Leptodeira Rufescens, Psammophis Crucifer and Psammophylax Rhombeatus), which kill by constriction just like boas, swallow large, the pressure of their jaws kills it in the swallowing.

A LIVELY MEAL.

In May, 1891, I kept in my collection at Port of Spain, in the island of Trinidad, a large Macheta (Herpetodryas Carinatus), a species very like and nearly related to the icer, whose specialty is lizards, frogs and pirds, eschewing mice and toads. weeks this Macheta had fasted because I had found it difficult to obtain a supply of frogs sufficient for my numerous family.

I needn't mention that he was eager to get some, when one evening a boy came in get some, when one evening a boy came in with a goodly number. It tumbled at once fifteen into his cage. Instantly there was a wild jumping of frogs to escape, and a violent lashing sbout of the snake to catch them, making of the cage a perfect nest of confusion. The frogs were only of a medium size and the snake very large, so that as soon as he caught one it went down without trouble. Im less than three pin without trouble. In less than three min-utes he had stowed the whole fifteen in-side. From the quick spasmodic bulgings of his sides at various points I could clearly tell that they were kicking to escaps from his stomach; indeed, so widently were they alive within him that even their final croaking was still audible for some moments afterwards. Want of hir, however, put an end to their movements, and left the well gorged Macheia at peace to digest

The colubrine snakes, as has been said, both harmless and deadly, pursue and run down their prey just as we have seen the racer do whenever they know them to be species they can easily overtake, but when they know they cannot do this, as for instance when they have birds to deal with, their method undoubtedly partakes, in some es, of the stealthy manner of the boas and vipers.

CATLIKE METHODS.

To describe the boa's hunting, the word stealthy is very appropriate, for while the ways of the colubrines in pursuit of their prey are decidedly dog-like the ways of the oas and vipers are essentially catlike. The boa constrictor and the rattlesnake, which we have taken as representatives of these wo latter classes, are undoubtedly the aris-

tocrats of snakedom.

These lordly reptiles are never to be seen, like the vulgar crowd of frog-chasing coin-bers, scurrying for dear life through rocks and bushes in pursuit of a dinner; much lear will they hasten from the path of an enemy,

nor even move an inch if he approaches menacingly or with undue rapidity, but pre-pare for the combat like insulted knights and be ready if necessary to dispute the

possage.

Now let us see how very different from the way of the racer is my boa's method of se-curing that rat he already sees and longs for, STRIKING FEATURES OF SERPENT LIFE | which has been all this time making furlous efforts to gnaw its way through the wires of the trap in which he is confined. It is not more than eight feet distant from the corner where the boa lies colled on the rug. itis snakeship sees it, and yet he has never made a move to come towards it. However, 'tis time he should get it; so I open the cage trap and let it run loose in the room. Like a flash it runs beneath the furniture, hides among my books, climbs up the curtains, tries to escape by the windows, in fact it goes everywhere except to that corner where

> And yet what can that Irish rat brought over on the steamer's maiden voyage from Belfast know of the dangers of that colls? There are no snakes in Ireland, as every one knows. It can never have possibly seen a snake, and yet its terror of the boa is so great that in the reptile's presence it for ets its fear of man to such an extent that find it difficult, even with a stick, to drive t to the corner where the constricting executioner awaits it. After much chasing around the room, how-

> ever, the rat becomes tired and often pauses on the carpet, but only to make another rush for freedom as soon as I move. It now fre-quently dashes around close by the boa, nay, ven sometimes springs upon his back, and is again like a rubber bail before its feet have scarcely time to touch him. Nevertheless, with all this excitement to move, the waiting snake composedly main-tains the selfsame coll as before; for the motions of the lively rat are much too quick

for him to strike at. FATAL CURIOSITY. How does the boa know that if he remains quiet the curiosity of his prey will finally compel it to approach him quietly in a catch able manner? Who can tell? These problems of the psychology of animals are very difficult to solve. Once more I busily chase the rat until at last it stops for a moment to breathe on the open carpet, within a yard of the boa's nose.

I now cease my pursuit, whereupon it sits up on its haunches, and busily rubs over its snout with its paws—"washes its face" as the boys call the performance Then it reaches forward and sniffs toward the motionless snake, whose only sign of life is the tongue that now comes inquiringly out back, fine and double-pointed; yet not fitfully, and quick to be drawn in again, as is usually the case, but with a continuous lolling out, as if the little member had grown tired of inaction and needed a pro-

onged stretching.
Meantime, while the reptile's broad, flat head, set with grayish, cattike eyes, never moves at all, the neck immediately behind it is slowly resolving itself into that fiving spring, from whose lightning dash there is no escaping, nor does be shift his general position in the alightest, so that from the rat's point of view there is nothing alarming to be seen. His muzzle is facing toward the timorous, and yet curious rat, which is still sitting upon its hinder quarters watching that queer bifid tongue, which, excepting the catlike eyes, is the only sign of life is notices in the entire coil. A LIGHTNING EXECUTION.

There!!!-a dash upon the rat, and a folding, so instantaneously done, that the doomed animal hasn't had time to utter a single squeak. A gunshot could not be quicker The eye is too slow to follow the simultaneous open-mouthed spring-releasing and enfolding again, which leaves the rat now quivering in the throes of death, with two soils of the snake's neck around its body The reptile's laws are held closed like a vice upon it, nor will he let go either with colls or tec'h until every pulsation of its life has cessed. Even then he will cautionsly unloose only his jaws at first, and, still holding it tightly enwrapped, will feel over with his tongue again and again all the exposed parts before it will venture to entirely unloose it. This, however, he finally does, but even after completely releasing it, he will continue long to try it with that inquisitive tongue to make sure that it is cortainly dead, for no boa ever swallows living Does he cover it with saliva before swal-

lowing? Certainly not. No snake of any kind ever proceeds in such an unnatural manner. He simply takes it in, whole and unbroken-drinks it as it were, in the solid just as we saw the lively racer do with the mouse. Now it may be said to all this that both

the rat and the box, being in confinement, and interfered with by man, have not acted manner. The objection is only of apparent value. That my interference has brought in a for the squirrel or chipmunk which fails to stirring play, the scenes being laid confusion is necessarily true; but let us by a appear, notice in the distance a flock of nessee, New Orleans and Louisiana.

close study unravel the operations of nature in what we saw just now.

In the first place, the rat was in his cage, could see the boa moving on his rug. This made it fear the boa. My chasing it after letting it out of the trap made it fear me, and practically forget its fear of the boa. When I chased it to fatigue it jumped many

times on the boa without the reptile's making any effort to show that he lived or would injure. This action of his caused the rat to regard me more than the boa.

But when I ceased chasing it and it found that the boar is the boar of the boar in the boar. itself sitting close to the boa on the open floor its former apprehension became again somewhat aroused. But yet it had now only a remnant of its former fear left; because it saw that the snake, being yet and all the time motionless, had not injured it when it jumped on him before. its fear being slight, it did not retire at once and that very fear becoming by degrees partially allayed allowed curiosity to grow, until finally we find that the little quadruped's growing curiosity, flavored with a taste of fear, which mixture is so apt to lure men also into danger, secured for the

boa the dinner which he coveted. HUNTING IN THE FOREST. The same thing happens every day in he forest. The boa at twilight lies coiled y the woodside, perfectly motionless, waiting for his dinner to come smelling around The wood rat or squirrel comes scouting along, looking for its nuts or for its mate, and finds itself suddenly close to the apparently lifeless snake, who, if his head is in position, snatches up the luckless rodent the moment it pauses to sniff before jumping away. Should the snake be not in proper position of course the game springs of for a yard or so and sits up there on its hind legs to see if its fears were just Meanwhile the snake is getting ready, but with such gentle and imperceptible slow ness that the wondering rat sees no great cause for alarm and soon approaches again. urged on by that fatal curiosity made still more active by lessening fear, until it enters, cautiously sniffing with outstretched neck, within the magic circle of the boa's striking

This mingled union of curiosity and fear, the former ever growing more as the latter decreases, is the real explanation of the so-called serpent's fascination of his prey by the power of his unblinking eyes. "Tis astonishing how much verdant but unwholesome scientific scum a dreamy heorist can gather from the surface waters of zoology when he lazily sits him down to consider the ways of animals from the "human point of view." That "human point of view" is the very matrix of absurdity is the very matrix of absurdity,

distance, when its doom is certainly and in-

from which arises so much that is outre in what has been written on "mimicry,"
"fascination" and in general on "animal
intelligence," He who would perfectly intelligence." He who would perfectly learn to speak and write Italian, French or Spanish and to judge truly the characters of their countries must make of himself an Italian, Frenchman or Spaniard in thought, n tongue and in manners before properly speak the language or faithfully French, Italian or Spanish for English-speaking people. Much more must be trans-form himself to do justice to Zulu or Chinese And if this be so for a thorough knowledge

of mere human foreignness, how much more strongly is it true of matters pertaining to animal psychology. To inwardly compre-hend the ways of snakes one must become in some sense himself a snake. Understand-ing the words in their ordinary meanings, "mimicry" and "fascination" would probably never be strictly true in speaking of the ways of any animal, but certainly, as regards snakes, these words have no place whatever, and should not be used at all, for they are unfit, misleading and mischievous-in fact, speak it plainly, they are philological lies Science demands something better and ought to have it—stir yourselves, ye scientists! Let your vocabulary bearing souls overflow me serpents in so far as you can, and give us new words that will be true translations of matters ophiological.

As the boas secure their prey by waiting for it, and springing to seize it, when it omes within striking distance, so also does the velvet scaled rattlesnake and all his relatives of the viperine family.

A WAITING GAME. "Does not the hungry bon or rattlesnake then." it may be asked, "go in quest of their prey, or do they wait encoiled perhaps for days in the selfsame place, waiting until fortune may choose to send a meai in their way?" Not at all, quite the conterns way?" Not at all, quite the contrary, for they are seldom a whole day in the same vicinity. They change their lurking places as the haunts of their wildwood game may

vary. Should the food-seeking rattlesnake, coiled on the hillside at evening, waiting in vain for the squirrel or chipmunk which fails to

slowly and cautiously he glides down from his lichen-crusted rock and wends through the herbage his unsuspected way; nor does he hasten in his stealthy course, pauses, and with supstretched neck peers ahead through the grasstops and daisies which cover him, in order to be certain that still his direction is right, and that yonder in the bushes a fluttering victim still awaits

enough," says he to himself, as a bird flies right over him toward the lofty hemlocks behind, to plume her well gorged craw on the topmost branch; but as she passed she saw him, and now sends forth those well known notes of slarm which cause her feeding com-panions to join her. Then she gets courage from company, flies back to the spot, for she marked where she saw him, and sits on a sassafras close to his lurking place. she utters her warnings. She sees him encoiled by a birch stump, for he stopped when the flock flitted over and coiled to await their returning.

Quiet he lies there and gray, like the birch stump beside him. Soon they are fluttering around him, and none of him moves but his tongue points, all trembling like wings of an insect or pine needles hanging in cobwebs so commonly seen about birch stumps. Their fear having almost departed, they alight not far from him to view him. A curious one hops on the stump top, when instantly out strikes the rattler and snatches her pierced by his fang points, distilling their venom within her. Right down through her back near the shoulders they are deeply embedded in her lungs. She dies in five seconds, for when snake venom is directly injected into the lungs 'tis most certain and quickest of all to snuff life out. The lightning could not kill her quicker. I've seen the same happen quite often. In his mouth he holds fast her dead body, nor will he let go till he swallows; nor does he regard her companions, now screaming and fluttering in terror, in madness, in fact, close above him. Perhaps if we watch till he swallows we'll witness his catching another that happens to flutter too closely. Just here it may be asked, will the death-striking rattler or other viper dare to hold in like manner till it dies a powerful rat or squirrel, flercely armed with dangerous teeth, that could with one death bite sever his ver-

tebra and kill him while dying? Oh, no! The venom-bearing vipers know their business too well for that. 'Tis only the small and weakling prey they dare to hold in its death throes. The large and dangerous animal is struck as surely, but never held—not even for a single instant. The prudent snake strikes out like lightning, and flies back to his coil just as quickly, ready at once to defend himself, or repeat the stroke if to detend nimself, or repeat the across it necessary. He watches it in its death strug-gles, and when all motion has ceased gifdes slowly around the lifeless corpse, just as the boa does, examines it all over with his tongue to see that it is surely dead and then com-

mences to swallow.

As carnivorous quadrupeds of the kind generally hunt by day, and felius ones at dusk, at night when the moon is clear, or during the hours about the dawn, so too do the serpents which pursue their prey by similar methods.

When over the hilltops the morning sun pours into the valleys and rouses the diurnal animals from their lairs, the dusk-loving vipers and boas retire to the twilight shade of a thicket or hollow tree, or hide themselves away in some rocky cavern, wherein to pass in quiet the hours of heat and glare, and wait for the somber shadows of evening to fall, when they may again he in wait by the drinking place or watch encoded for their victims as they pass on the forest path.

On the other hand, in the brightness and warmth of the noonday the colubrine serpents

are mostly abroad, busily seeking for their fishes and toads by the swamp-side, as the garter and water snakes do-basking in the sun as the spreading adder on the sand hills, or as the black racer, gliding like restless spirits through the tall weeds that frings the brook side, seeking for the insect-catching, quick-diving froms, or the field miss that come there to drink, while some you will find in the tree tops, watching from leafy ambush amidst fruit or flowers for the birds they see flitting around them.

We have now seen how the colubers, that is to say, the common snakes, cobras and coral snakes, chase their prey like dogs; as w vipers and boas He in wait for and spring on it the latter strangling it, the former striking it to death with their venom.

Thus far the methods of serpents in catching and killing their prey. G. R. O'REILLY.

One of the most elaborate productions this season will be that of William Haworth's new drama, "On the Mississippi." Davis and Keogh will present it for the first time September 10, in Baltimore. "On the Mis-sissippi" is said to be a very breezy and stirring play, the scenes being laid in Ten