

**CAT
ITS USEFULNESS
DESTRUCTION OF RATS**

BY

Dr. and Mrs. Adrien LOIR

PREFACE by Dr FOVEÀU DE COURMELLES
President of the Federation of Societies Protecting Animals in
France and the Colonies

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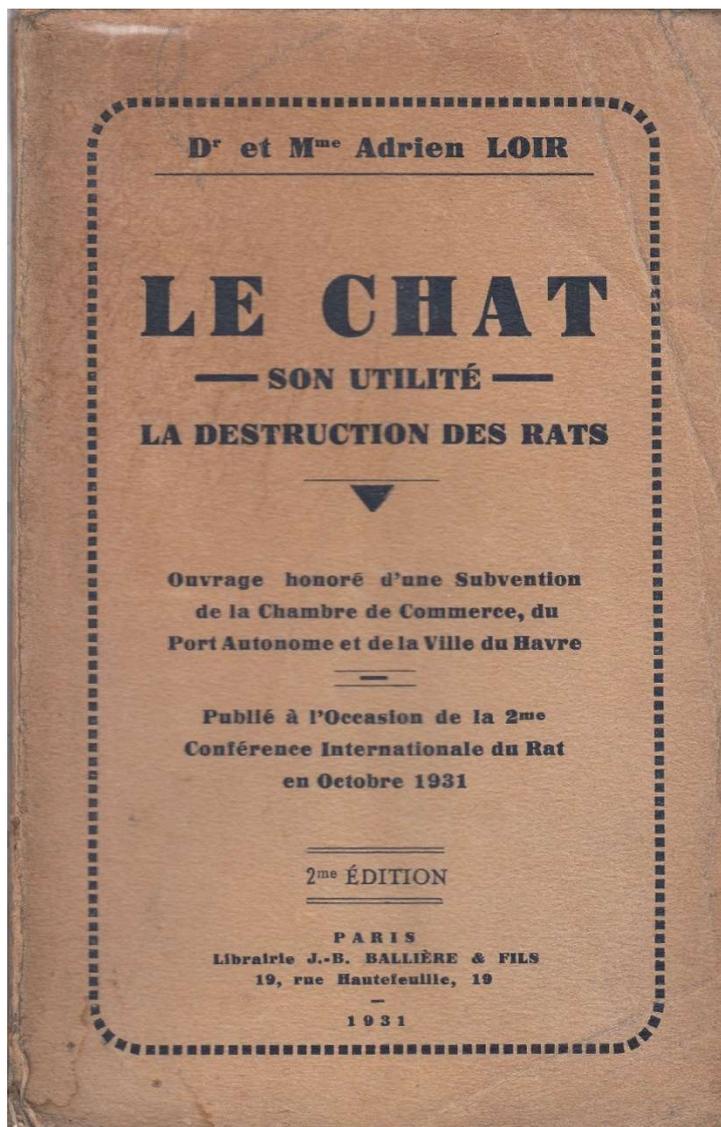


TABLE OF CONTENTS

Address to President Edouard Herriot
Preface to the First Edition
Foreword
The Cat
Ways of Destroying of Rats
The Rat Destruction Service in Le Havre
K.O.F. - Kill Only Females
Natural Enemies of the Rat
The Cat and the Fight Against Rats
Cats on Board Ships
Cat Behaviours
Cats Breeding and Feeding
Training of Cats
Use of Cats
Ratting Cat Breeds
Cat Cleanliness
Training a Ratting Cat
Improvement of Cat Breeds
The Siamese Cat
Story of a Siamese Cat
The Ratting Cat
Some Hygiene Precautions
The Cup for the Best Ratting Cat
Appendix and Conclusion

To Mr. President Edouard Herriot
Deputy-Mayor of Lyon

Mister President,

A few weeks ago, Mr. Léon Meyer, Deputy-Mayor, took you to the Natural History Museum of Le Havre which you so kindly took so much interest in that you returned three times in two days to spend long hours there. When, speaking of the great question of rats, you told me that you had used all the recommended methods to destroy them, but in vain you added that, in nature, there is always a way to overcome imbalances.

It was then that the cat was mentioned. Why not the dog? you asked. We told you about the disadvantages of that hunter and the advantages of the patient and vigilant cat. But not all cats are good ratters and to have good sentries against rodents you need to train them and have them in the condition needed for the fight in which they must engage, you also said:

"The mayor who finds a way to stop the rats' invasion will have done a useful thing. Come to Lyon and do the same tests that you have undertaken in Le Havre."

Let me dedicate this volume to you, this second edition of a book on the cat, first published two years ago, containing the fruit of new experiences. It is intended to be given to the members of the Second International Rat Conference to be held in Paris from 7th to 12th October, which will organize a visit to Le Havre on October 11, 1931.

Please accept, Mr. President, my respectful tributes.

Doctor Adrien LOIR,
Curator of the Museum of Natural History of Le Havre.

PREFACE to the First Edition

The cat is the pet par excellence, the one that spends most time by our side, but, we can say, independently. It is silent and only obeys wisely, this animal, "the inferior brother", is not lavish with his affection. Except for M. de Buffon, and despite the scratches which, when nervous, he sometimes gives, it only has friends, and never expects people to love or pamper him, and parts from them only when forced. He is just and has a sense of justice, only taking revenge if there is good reason!

He does not pay or owe taxes, and does not pay to travel by rail, but obediently stays in his basket.

What advantages! not to mention the inherent advantage of the versatile feline: to fight rodents, controlling their devastating plagues more than is commonly believed. Mice and especially rats cost French production hundreds of thousands of Francs. It is the same in all countries. The rats are the Huns, the Vandals of the animal race, they are the epitome of barbarians, in their destructiveness, their depredations, they are most barbaric of all beasts.

These are legitimate reproaches against rats, well below the truth - there is more, alas! Don't we import the plague by ships, "this evil which spreads terror," according to La Fontaine, which had been reduced, almost extinguished, thanks to the immortal Pasteur and his followers. Moreover, if we do not fight the hideous rat family, the plague would quickly reappear to swarm its victims, thanks to the rats' parasites, the fleas that transmit the deadly germs to the human race.

Is that all ? Not yet. The rat is a large family with multiple species ; it destroys our houses and our harvests, it starves us. It swarms in cities where too many improvident, ignorant housewives leave it abundant food, in the garbage cans where the often unwanted "peelings" contain so many vitamins are a beacon to rats. In the countryside, in the open air, it is even better fed - let us revisit the lovely fable of "the Town rat and the Country rat" - he lives freely and takes more than his fair share of what should be our food.

Is there any limit to what it can eat? There is not! Its function is to keep gnawing. Its teeth grow continuously and require it to gnaw on anything and everything ...

It even destroys houses. The collapse of two buildings in Marseille at the end of November 1929, which buried so many people under their ruins, proved this. The rats had undermined the foundations, nibbled, made the plaster and cement crumble

until all supports gradually disappeared. A heavy truck went past and finished the job, causing injury and death to the many victims. Three months earlier, rats were certainly not innocent in a similar collapse on the Rue des Consuls in Algiers. The rent crisis is increasing and will continue to increase because of these insidious disasters in the making.

What can we do about this prolific rodent except keep on destroying it, again and again because its reproductive rate means its population is renewed indefinitely and infinitely? However, all our methods fail or have limited success against this dreadful and intelligent menace, and fewer let themselves fall victim to the same traps and same poisons.

What can we do?

We must use our even more intelligent friend: THE CAT.

We must educate this enemy of M. de Buffon. We must develop their instincts, make raticides of our feline household companions, make them - as Doctor Adrien Loir so excellently realises - the most terrible and surest destroyer of rats. For that, it became necessary for selective breeding to further increase their already powerful faculties, their instincts, their compulsion, their guile and quiet patience. Being hated by our great naturalist, is it not a glorious thing, it has gone down in posterity as an "inferior brother" - the cat, not Buffon - but it is not as inferior as you may think! That alone would have saved the cat from being overlooked by ungrateful humans. But now the cat seems more useful than ever, I would even call it essential!

How many great men have already rehabilitated it! and Dr. Loir skilfully proves this himself by showing, quite rightly, an excellent assessment of this great destroyer of rats, an essential destroyer, I repeat. But Dr. and Mrs. Loir say and prove this much better than I do, and I do not know why I wrote the above lines, which summarizes their work so badly - I should delete them, but I tell myself that my poor prose will serve to highlight the excellence of theirs, and the correctness of their cause (the destruction of rats) which is championed so brilliantly

And, if my lines were needed, which they are not, the contrast means they will be read all the more willingly! . . .

Of the authors, I would like to say everything good that I can think of, and of Dr Loir, known for so long; I could not be happier or more eloquent. He has been greatly aided in his good fight by Mrs Loir, his lifelong companion, who has followed his intense struggles in all countries, collaborated

with him, given him the benefit of her knowledge and her dependable feminine intuition!

In 1885, the immortal Pasteur studied rabies, its prevention and its remedies. We know the huge discoveries that followed. Professor Grancher, a doctor at the Hospital for Sick Children, assisted this research. Among the students, there was Dr. Adrien Loir, nephew of the great "discoverer" and ... myself. I knew there the excellent comrade and friend, the good and fine worker. Life separated us, but I had followed his progress from afar, his career, his brilliant work, and his application of destructive viruses of rodents around the vast world. Australia, Tunisia, Southern Africa, and Russia, in their turn, saw him creating Pasteur Institutes.

Enlightened zoological study, and scientific research, brought us together many years ago. In the meantime, we had met with the State Councillor, Louis Herbette; Loir went to Canada, as a professor at the Faculty of Medicine in Montreal, and there met the friend that the Canadians and French called "the uncle of Canadians".

This describes the length of our friendship, but my eloquence (?) is insufficient to describe all the merits of Dr. Loir, of his work, of the active and refined participation of Mrs Loir, of their creation of feline ratters. To describe that, it's necessary to read this work!

Doctor Foveàu de Courmelles,
Vice-President of the Society for the Protection of Animals in France
President of the Federation of Societies Protecting Animals in France and the Colonies.

FOREWORD

When called upon in my capacity to deal with various parasitology issues, I have, in the course of my career, had to deal with preventing the invasion of pests.

It is for this very reason, I can say, that I owe the origin of my missions around the world. The cues given to me by Pasteur, who understood that a great scientific effort was required to stop the danger, sent me to Australia where rabbits swarmed in such a way that they did serious damage to pastures, thus compromising the richness of livestock which was the primary source of Australian prosperity.

During my stay in Southern Africa, where I had founded the Pasteur Institute of Bulawayo, the government helped me study methods of destroying termites which greatly damaged agriculture and also attacked the works of man, the shops and residential houses, undermining water pipes and capable of reducing the country to a state of famine and drought in a remarkably short time. All the files of a law firm were destroyed in less than eight days. In 1902, I managed to limit this plague by using poisonous gas.

At the end of the last century, Simon demonstrated the role of fleas in spreading rat plague to humans. In 1901, Doctor Roux, in his course at the Pasteur Institute on the plague, asked that a way be found to spread a gas poisonous to rats in ships. The gases that we thought of at that time were carbon dioxide, carbonic acid, and sulphur dioxide.

In May 1902, in the Hygiene Review, Langlois and Loir published a study on carbon dioxide and sulphurous acid.

On arriving in Copenhagen to attend the Second International Congress of the Merchant Navy, these two authors found a League established for the rational destruction of rats for bounties, the promoter of which was the engineer Zuschlag. During the Congress of 1902, an International League Against Rats was founded which held a session in Paris in 1911 and was to meet again in August 1914, in Le Havre, but war broke out.

In France, rat-elimination on board ships with sulphurous acid became compulsory in 1903 as a preventive measure against plague, following a report by MM. Proust and Faivre. Since that time this measure has been applied in different countries.



*Professor J. P. LANGLOIS
1862-1923 (in memoriam)*

Former intern at Le Havre Hospitals; Associate Professor of Physiology at the Faculty of Medicine of Paris; Professor at the Conservatory of Arts and Crafts; Member of the Academy of Medicine.

He was one of the first to deal with toxic gases for the destruction of rats on board ships.

(Hygiene Review, May 1902), Langlois and Loir - The destruction of rats on board ships as a preventive measure against the plague.

The defensive arsenal can be summarized as follows:

Sulphurous acid produced by the combustion of sulphur. This gas is also obtained by the vapourisation of liquid sulphurous acid.

Carbon monoxide, as used in Germany and Japan, and hydrocyanic acid which as used in Germany and America.

Finally chloropicrin [nitrochloroform] according to the methods of Professor Gabriel Bertrand.

A struggle was undertaken, inspired by the fear of seeing the reappearance of the terrible epidemics of long ago, and the flea-carrying rats, mediums of the plague, were destroyed in the boats.

I noticed that thorough rat extermination destroyed the rodents on board, but I was then confronted with a major problem because, while rats and mice succumbed at the time of rat extermination, it took the introduction of only a few of these creatures to quickly repopulate the ship. It would then have been necessary to repeat the operation continuously, prescribed moreover, by international measures, every six months. Meanwhile, things had to be let go, which meant it was almost a vain attempt, no gendarme being able to prevent these unwanted passengers gaining access to the boat and getting on board, attracted by the food as they are everywhere. Rat proofing has come into fashion.

Rats also invade the docks, very few of which are rat-proof, to use the American expression. To prevent rats from gaining access to de-ratted boats, to prevent them from entering the docks, the cat is the only sanitary worker and can be a valuable defence aid.

In Le Havre, as in all the frontline ports of France, we were rightly moved to action by the proliferation of rats in the docks. This is where I was able to study the results of the cat's defence against mice, results which I share in this book.

Mr Léon Meyer, deputy mayor of Le Havre and his assistant, Doctor Daniel, took an interest in our tests. Encouraged on all sides, we were able to create the Feline ratter Club of Normandy [Club du Chat Ratier de Normandie] there. The main commitment of the club's members is to collaborate with us in training and improving our breed of hunters.

The Bureau of this new Club, founded in 1929, is made up of:

Active Committee

President: Dr A. LOIR;
Vice-Presidents: Mr Ph. SCHMIDT and Mr HUGUES;
General Secretary: Mr G. FELLER;
Assistant Secretary: Mr G. LE ROY;
Treasurer: Mr E. CORNET;
General Commissioner of Cat Shows; Mr H. LEBRET.
Assistant Commissioner: Mr A. LECOQ;
Committee Members: Mr DE MEY, Mr LECOQ, Mr MASSELIN, Mr BORIN.
Technical Advisors: The veterinarians DUMONT, GIBARD, LESUEUR,
LAVERGNE, COMMENY;
Judges: Veterinarians Messrs DUMONT ET COMMENY.

Thanks to the help of the members of this association, we were able to organize an exhibition of purebred cats in Le Havre for three consecutive years, which, by arousing the curiosity of the public, also gave rise to an increase in sympathy for cats.

We would like to acknowledge the kindness shown to us by the Scientific Research Fund, by the Le Havre Laboratories Fund, by the City, the Autonomous Port, the Chamber of Commerce of Le Havre, the Paris Cat Club, the Central Feline Society, Assistance to Animals, and the Society for the Protection of Animals.

To all those who have supported us, we send our warmest thanks.

We ask them to continue promoting the feline ratter, defender of our economic wealth against the depredation of rats, and superior guardian and protector of man against the terrible scourge of the plague.

Doctor Adrien LOIR,
Correspondent of the Academy of Medicine.

THE CAT

The usefulness of cats has always been recognized and is proven by the way cats were revered in antiquity. In Egypt, the cat was worshipped, either in its natural form or in that of a human with the head of a cat. It was considered to be the symbol of Isis, or the moon, and Plutarch says that the Egyptians believed that the litters born to the cat were subject to the natural progression of the numbers 1 to 28; it was supposed that it had as many young as there were days in the lunar month.

Ptolemy, says Diodorus of Sicily, was unable to prevent a Roman from being put to death for having accidentally killed a cat. When one of these cats died, the household went into mourning and its body was taken to Bubaste and buried in the sacred house reserved for these burials. It had the honour of being elevated to a divinity.

In Rome, in the bas-reliefs of the Trajan column, cats can be seen in various postures.

The cat figures in coats of arms: the Alains, the Suebi, the Vandals a sable cat upon silver, and the heraldic leopards transmitted by the Normans when they conquered England were most probably cats.

They have also been held dear by many great men. Famous writers had cats for friends and too pleasure in their silent friendly company during their work.

Moncrif has written their story and, in a sonnet, the unhappy Tasso begs his faithful cat to lend him the light of her eyes at night.

Dante and his friend Cecco often debated problems. One day they asked "Does art trump nature?" Dante maintained that it did, and an experiment was made using the great poet's cat. This animal had been trained by its master to hold a lighted candle between its paws to illuminate the evening meal. But when Cecco opened a box and set loose two mice, the cat, immediately dropping the candle, rushed after the two prey animals. Cecco won his case. This is the curious origin of the Italian proverb: "Chi gatta nasce sorice piglia". When you're born a cat you run after mice.

Jean-Jacques Rousseau preferred the cat to the dog because the cat does not have the servile character seen in dogs.

The Ancients placed the cat at the feet of Liberty; it is the symbol of independence. Those who are lit with civilization's

torch are pleased by the cat's grace, gentleness and cleanliness. Funerary stelae were erected in Bubaste by grateful humans, in recognition of the services rendered them by the cat.

At the time when the Middle Ages, brutalized by the scourges and lead weights of religious tyrants and feudalism, marked a return to barbarism, the cat was persecuted; these poor creatures were drowned, they perished in the fires of St. John on charges of witchcraft and sorcery. The dog was also an object of contempt as evidenced by the words derived from its name: cynisme [cynicism], canaille [scoundrel].

Montaigne, Racan, the Duchess of Maine, the Princess of Bouillon, Mme Deshoulières, Colbert, Fontenelle, Bernardin de Saint-Pierre, the painter Landon, Siéyès, J.-B. Say, and Delille all had cats for friends. Nita, Richelieu's favorite, always followed her master, who had a cattery near his room. Nowadays, we know Prudence, the Tiger charm, which Georges Clémenceau bought when he arrived in London and took away as a mascot before signing the treaty with England. "You will take care of Toto, right?" repeated the dying Pierre Loti, recommending his own favorite cat. Colette, whose pen has managed to make animals think and speak so well, has a pretty cat with her in a basket. Let us also mention the painter Laurent Gsell's cat, Mr. Paul Brulat's black cat, Mrs. Marcel Adam's Birman cat, and Paul Gsell's family of Siamese cats.

Often slandered, cats have been accused of hypocritical wickedness. But in a conscientiously written history, we could cite traits of loyalty and dedication proving that these animals deserve the attachment that has been shown to them. Those who love cats are also distinguished by their philanthropy and finesse.

The cat is accused of being a thief, but he only uses petty theft when he is hungry. We know he is greedy because, despite hating for water, he will dive in to catch a fish. He has been a scapegoat, charged with many misdemeanors, and often false accused, hence the expression: "It was the cat", when the real perpetrator of the crime is ignored.

Many expressions and proverbs are derived from its name. We know that the she-cat makes advances to the male, hence the word "catin" [strumpet]. The cat is most suited to roam at night, so we say: at night all cats are grey.

We say "to take out the cat" when quietly leaving a house. We also know the expressions: to go where there isn't even a cat; giving a cat by the legs [presenting a thing in the most difficult way], throwing a cat at the legs [blaming or

maliciously embarrassing someone]; have a cat in one's throat [croaking voice]. And the proverbs: A scalded cat fears even cold water; to a good cat, a good rat [tit for tat], etc.

A counter-dance figure is called a cat's tail. In the thirteenth century, a war machine which had a joist fitted with iron claws (cat's paws) was called a cat.

Cats are very nervous, with remarkable hyper-excitability. They easily pick up the sympathy that we feel towards them and let this influence them. On the contrary they move away from those who do not like them.

Doctor Lépinay, one of the main founders of the Comparative Pathology Society, president of the Feline Society of France, cites the case of an irascible, nasty, very spoiled cat that he had to treat for breast tumors, he could only control and touch her by forcefully scolding her and glaring at her during the time she was under his care.

Pope Leo XIII owned a cat which was looked after by Doctor Lépinay. In June 1900, Pope Pius X, who loved cats, recommended treating animals well. It was the first time the Catholic religion talked about animals. However, in the canticle of the three children, an exhortation to all nature to celebrate the glory of God, the animals that are mentioned are: "Laudate Dominum de terra dracones et omnes abyssi ... Bestiae et universa pecora, serpentes et volucres pennatae (1), but Pius X only recommends kindness and charity to them.

((1) Creatures of the earth, monsters contained in the seas... Wild beasts, herds, animals that crawl on the earth, birds that fly in the air, all sing the glory of the Lord.)

In the animal cemetery we can see epitaphs honouring the traits of cats.

Mr. Guingand, general secretary of the Feline Society, praised the remarkable loyalty of a Siamese he had possessed.

Benefactors have taken an interest in the fate of these unknown and unjustly forsaken friends.

But it is time, after the trials we have done, to rehabilitate these guests in our homes by entrusting them with the useful role which foresighted nature intended for them.

By developing the quality of their instincts through selection and appropriate training, they will be a valuable aid in our fight against one of the greatest economic and unhealthy scourges of our time: the rat, a born malefactor whose

insidious and formidable invasion brings devastation, ruin and death. The cat will fight against it like a lion, for doesn't he become a miniature version of that dread beast when he defends his home - roaring, bristling his fur and showing the claws hidden within the velvety softness of its paws?



Squill - *Drimia maritima*

WAYS OF DESTROYING RATS

To get rid of rats, commercially available chemical poisons, such as preparations based on phosphorus, arsenic, strychnine, and barite, are used in where a bounty is paid for each rat caught.

We can also use asphyxiating gases in gardens and apartments. When we see a rat hole, we drop in a few pieces of calcium carbide, plug the exit hole with a little earth, then pour water on it, this enters the tunnel and on contact with the carbide gives off acetylene, which is toxic to rats. Carbon monoxide, sulphur dioxide, chloropicine, and hydrocyanic acid are extremely toxic and dangerous products, and are reserved for use on ships where it is easy to prohibit people from boarding.

The maritime health police refer to these ship-board processes as de-ratting. We say rat-elimination [Loir says "deratization,"] that is to say, when the operation is done properly, there should not be a single living rat on board the vessel. We insist on this term, because there is a tendency to generalize de-ratting as anything that is considered as a means of combatting rats. After rat extermination on board, there will no longer be a single live rat, but it is necessary to repeat the process regularly - every six months according to the current regulations - because, during stopovers and when renewing the cargo, new rats are introduced on board.

There are no ships without rats, except immediately after de-ratting according to established rules. We reserve the term "destruction" for other activities.

Microbial poisons require certain precautions when used, which is sometimes difficult to achieve. You can use preparations of squill against rats; this has the advantage of being safe around humans and pets, while being poisonous to rodents.

[Translator's Note: Squill - *Drimia maritima* - is very bitter, so most animals avoid it. Rats, however, eat it readily, and then succumb to the toxic compound scilliroside. This has made Squill a popular rodenticide for many centuries. The bulbs are dried, powdered and mixed with rat bait. Squill has been cultivated to develop high-toxicity varieties for use as rat poison. It has been used medicinally as a diuretic since ancient times.]

Everyone is aware of the different rat and mouse traps, which have only limited effectiveness; these are best used in confined spaces, cellars or dwelling houses which are not too infested. In places overrun by this vermin, or in large

spaces, they do not give good results.

The best way to combat rats is to make it impossible for them to find food. This is what Americans are doing by building "Rat Proof" ships. This consists of preventing, by means of grills, access to the galleys. In the cities, it is necessary to put rubbish in crates or closed rubbish bins. To prevent rats from entering houses and attics, suitably placed screens are required.

Doctor Hasse, president of the Federation of Feline Societies of Belgium, recently told me that there are very few rats in Antwerp. The sewers are washed with plenty of water every day and this meticulous cleanliness scares away unwanted guests. In addition, they have, by selection, created a remarkably powerful and strong breed of cats.

But these measures must be combined with a means of protection, with what we call:

1. Thorough and periodic rat-elimination;
2. Destruction of rats by means which can be used daily.

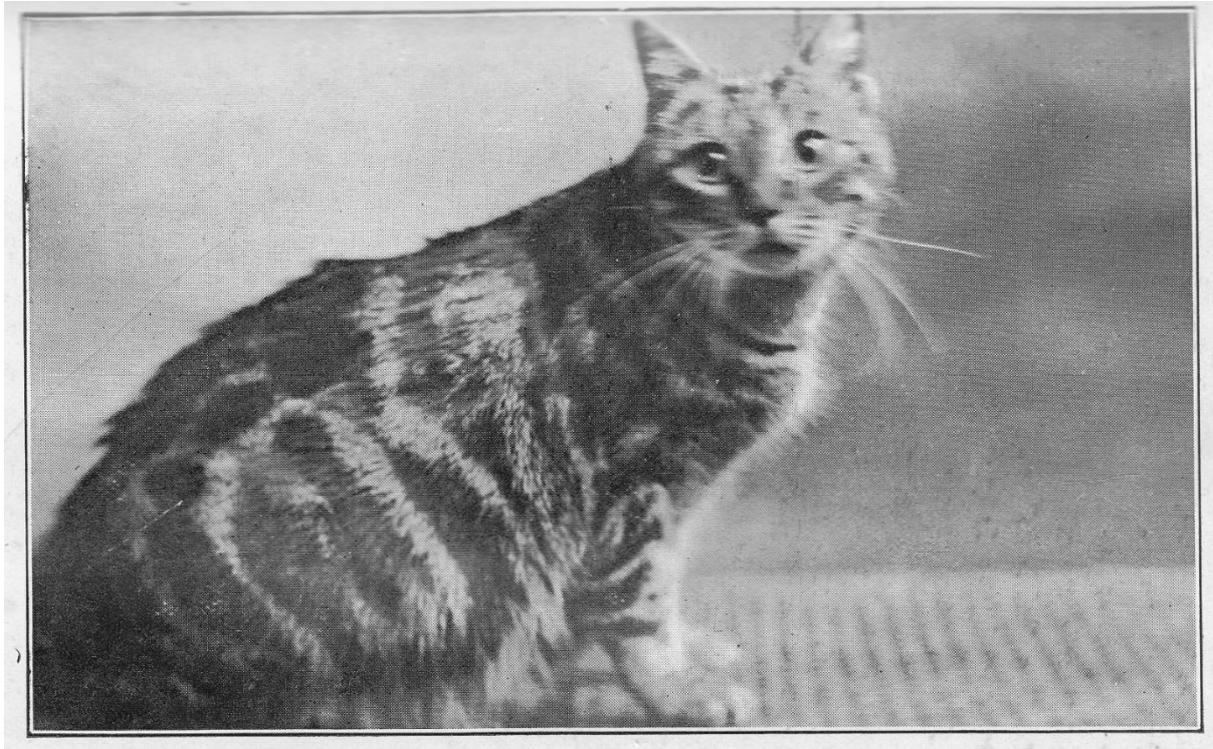
Much effort has been put into the destruction of rats and preventing economic loss, and this has been a big boost for those dealing with hygiene. It is easier to stimulate good will where there are economic interests than where it is a purely sanitary question.

The rat is the enemy of man in two ways: it is a peddler of diseases and it is a destroyer of goods.

It arouses our admiration by the way it has adapted to our way of life and has shown more intelligence than us as it has not overlooked any opportunity to live at our expense. We must admit that we, for our part, have made little progress in our ongoing fight against it, and the invading rat has become bolder. It has been spreading intensively for several years.

The extermination of certain species of wild animals and birds which, in less than fifty years, have almost disappeared from the earth's surface, is due not only to hunting, but mainly to the precarious conditions of existence we have made for them. Rats, on the other hand, had a field day and multiplied. We have done nothing to diminish the conditions that facilitate their prosperity. From the food waste that we negligently throw around, to the open dustbins that we leave out in the streets for long hours, they find plenty to eat, especially since they eat almost anything and voraciously pounce on everything they find. In the ports, they feed on the debris of merchandise (grain, rice, coffee, cocoa) left on the ground

from refuse that is thrown overboard. No one thinks of this continuous hazard, which is a constant threat to our health and our industries.



THE RAT DESTRUCTION SERVICE AT LE HAVRE

In his fable, La Fontaine presented the "Town rat" and the "Country Rat," and we could catalogue the black rat and the brown rat under these designations. These constitute two different breeds whose cross-breeding seems to have provided the other species.

The black rat (*Mus rathus*) is the true gentleman of the breed, its fine paws, its slender tail longer than the body, and its dark brown coat with its light belly give it a most dignified appearance. Always very clean, and having only a few fleas, it lives among us, nesting in piles of clean rags, and is a fussy eater. It was driven out by its relative, the Norway rat (*Mus decumanus*) or gray rat, which was introduced into France around 1851 from the vicinity of the Caspian sea and was brought to Le Havre, in particular, by ships from the far East. This is the sewer rat and is the one that we call the Field rat.

The much stronger Norway rat lacks the Black rat's elegance. It has a thick tail, hair that is always dirty, and a rather repulsive appearance. It has large paws, and is built for the fight. It lives in burrows, is always eating, and spends its life looking for food in the sewers and among garbage of all kinds. Endowed with powerful incisors, it can make tunnels through the hardest materials and lives for destruction; hunted on all sides, it leaves its burrow only to return soon after if food is abundant.

In France, we rarely the Black rat although it is sometimes brought to Le Havre in boats coming from Brazil.

The rat can breeds all year round, but the main breeding season is from June to November. The average litter is 12 to 14 pups. The female can reproduce at the age of three months, gestation being five weeks and the proportion of large females being around 30%, it is said that a single pair of rats can provide 860 individuals in one year.

Fortunately, their fertility is limited by their very competitive struggle for life. The number of rats is a factor in the food available to them. If the food runs out the rats will look for food in other places. Sometimes, if the number of rats is too high, the adults devour the young and wage real battles with each other.

Similar battles also occur between males when females are few in number, and this is something interesting to note from a prophylactic point of view.

The destruction of rats is a universal problem. The loss caused annually by these rodents is estimated at five or six billion; moreover, these animals spread deadly germs: plague, trichinosis, rabies, ringworm, etc ...

A Danish proverb says: "The rat wears things away more than time does".

All countries are looking for the most effective ways to destroy these rodents, which has led the various powers to encourage an International League for the destruction of rats.

The main principle is to make it impossible for rats to stay in homes. This struggle should not be temporary, but permanent. It must not be believed that it is enough to destroy a few rats in scattered places; on the contrary, the surviving rats find more food and multiply quickly and soon the population has grown as large as before.

Nor is it enough to have a big one-time effort. A real result can only be obtained with patience and perseverance, it is necessary to accustom people to observe utmost cleanliness and to not leave out waste except in closed places so that rats will not be able to feed.

The whole campaign must be waged continuously among the population, but unfortunately this will take a very long time. We will have to build our homes and organize basements and sewers to prevent rats from entering our homes: this principle of rat-proofing seems to be gaining importance in several countries.

These transformations will take a long time before becoming general and because it is necessary to proceed quickly, we must consider other means of rodent control at the same time.

On land, rat-elimination can be done by chemical poisons, physical agents, viruses or microbial poisons, traps, animals, but none of these methods destruction seems to give a completely satisfactory result.

Rat-elimination on land, whatever the process employed, must be done simultaneously over a vast, extensive area, so as to destroy rats in fairly large numbers, but it is necessary to continue this operation for some time, so that the rat finds no peace and abandons the area. This is when animals trained for rat-hunting can be of great service; their odour alone often prevents the arrival of rodents who feel disturbed by the comings and goings of that animal.

To obtain a good result, it is good idea one or two days

beforehand, to attract the rats to easily accessible places with a non-poisonous bait. When the rodents have got into the habit of going to those places to find food, without changing anything else, we poison the food. The bait can consist of meat, fruit, fish or flour. It must be strong smelling (musk, anise, lavender) and be handled as little as possible. Rats are fond of anise which they find intoxicating.

(After rubbing our hands with a little anise we took some live rats which, in this case, never try to bite, but on the contrary roll in the hand with a kind of satisfaction). Mice prefer fennel.

The bait must also be changed frequently and the food should be used which is not often found nearby (particularly in warehouses and food stores where rats always find the same things). So in a butcher shop use vegetables, fruit or flour, and, vice versa, use meat in a bakery.

Traps should be placed on a hard, dry surface.

An exterminator familiar with the habits of rats is attached to the Health Office. Every day of the week, he visits a district of the city, the people have gotten into the habit of going to the Health Office to ask for rat extermination which is provided free of charge. It is very rare that a tenant refuses a visit to his building to look for the presence of rodents. A daily report indicates the houses visited.

We use the box-trap, the spring-trap and mainly the squill. The squill bait is prepared every morning with minced cold meat. Heat decreases the potency of the squill powder.

In Le Havre one sees only the brown rat which is found in the streets at night, rummaging in the piles of garbage which are all too often dumped there in the evening. At the slightest warning it hides in the drainpipes. During the day it is found in cellars and lean-tos built in courtyards, rarely on the upper floors. The sewer system does not lend itself to being a rat habitat, one finds only a few in the larger sewers.

In the port, under the tents, the rats are less abundant than one would suppose. The packages are constantly handled, and the rats are not left undisturbed so they prefer to remain in the ships, rarely leaving when there are major repair works on board. These rats seem to have lost much of their agility and the workers kill them very easily.

In the docks and warehouses the rat mainly hides among piles of tarpaulin bags or wood piles. Hunting is done mainly with animals, although squill paste has given good results.

Rats captured in the port and in the city near the basins or warehouses are brought to the laboratory and examined, in particular they are examined for possible cases of plague.

We thank our collaborator, Mr. Legangneux, Pharmacist, Head of the Laboratory of the Hygiene Office, for having written this chapter in which he describes the functioning of the service he directs.

A. L.



K. O. F. - KILL ONLY FEMALES

Last year, while preparing a lesson that I was to present to the students of the higher hygiene course at the Faculty of Medicine of Paris at the request of Professor Tanon, I found in my notes the means used by Australians for the destruction of rabbits. In an experiment mentioned, they divided an area of one hundred hectares into two equal parts by a rabbit-proof fence. On one side they used all known means of destruction and on the other side they put traps. When rabbits were caught in the traps, they killed the females and released the males, who soon outnumbered the females. The remaining females, tired out by the attentions of the males, were soon in a state of being unable to carry litters.

After five years the trees and even the grass had disappeared in the first enclosure where the rabbits remained numerous, despite attempts to eradicate them, while the other part of the enclosure had lush vegetation and rabbits no longer existed.

The Australians call this process K.O.F . - kill only females. Translating this sentence into French we get: Tuez seulement femelles or T. S. F. This process could be designated by these well known initials - it is an excellent mnemonic and naturally, Pasteur could not have thought of it back in 1888 when I was sent to Australia to apply a microbial disease to destroy the rabbit invasion.

What are we doing to destroy rats? We use poisons, viruses, and traps. Which rats do we catch? Are they males and females and in what proportions? We wanted to make a count of this so last October we placed box-traps in the docks of Le Havre. In eight days we caught one hundred and forty-five rats, of which there were only nine females. So we are destroying the males and therefore facilitating the sustainability of the race.

When you want to breed cattle or sheep in great numbers in Australia or South America you castrate ninety-seven percent of the males. Then the females are no longer bothered by male attention and are undisturbed during their gestation period. Birds of paradise have been hunted for a long time, but they still exist because we only take the males with their beautiful plumage, scorning the females. These females will always find a male, and one male will service many females.

Because rates are polygamous, our poorly understood defence against rats has aided the multiplication of the species.

As we said above, when thinking only of defending the place where we have some interest in hunting rats, we only ever

manage to get rid of them temporarily. Rats quickly forget this persecution and do not hesitate to re-establish themselves in those places. In addition, the rats that have fled will settle in the surrounding areas and create new colonies. It is our own fault that the plague of rats gets worse every day.

In conclusion, we see that in order to fight rats more than in any other circumstance of life, we must practice selflessness.



5 LE HAVRE. — L'Anse des Pilotes, le Musée et la Rue de Paris. — II

NATURAL ENEMIES OF RATS

Regarding the natural methods of combatting rodents, these have been rather neglected, but we begin to be struck by their usefulness. The rat has many enemies, such as dogs, cats, weasels, ferrets, mongooses, hedgehogs, snakes, owls, and herons.

In wooded and marshy places in the North and North-East of France there used to be heronries. As a result of the war, herons have almost disappeared. Rats were frequently found in the stomachs of these birds. Other birds were also destroyed despite their usefulness.

Those are:

NOCTURNAL RAPTORS

European Eagle Owl. - Wingspan can reach 1.6 metres. Hunts all vertebrates, but rats, field mice, and squirrels form its main diet. A Pomeranian forester having taken a male Eagle Owl into captivity, put him in an enclosure where another Eagle Owl visited for four weeks to bring food: three hares, a water vole, an innumerable quantity of rats and mice, a magpie, two thrushes, a hoopoe, two partridges, a lapwing, two moorhens, and a wild goose.

We often see Eagle Owls continue to feed their young which have been locked up in a cage.

Owl. - Almost exclusively feeds on small mammals, especially field mice, voles, shrews, and rats.

Barn owl. - Feeds on mice, rats, shrews, and moles; hunts mice in barns and lives on good terms with cats.

DAYTIME RAPTORS

Common Buzzard. - Feeds mainly on small rodents: 40 to 50 per day. Blasius found 30 in the stomach of a buzzard, Martin found only rats in the stomachs of a hundred buzzards that he opened. 10,000 of these rodents would be destroyed in one year by a single buzzard. They are, however, birds whose destruction has sometimes been encouraged by bounties on the pretext that they destroy small birds.

The cobra inspired respect in ancient Egypt, it devoured rodents harmful to crops. Cobras were entrusted with the care of cereal crops.

But among the natural enemies of rats, there is one, the cat

we wage war on.

We cannot count the number of cats which are destroyed under all kinds of pretexts. While the rat is in a situation suitable for it to proliferate, the cat, which lives in our immediate intimacy does so under the most precarious conditions which are contrary to its nature so that the feline race degenerates. Also, instead of having the necessary vigour to fulfil its role as an enemy of rats, cats are often unable to take action and they let the rat pass unmolested, they have the feeling of being unable to get the upper hand in a fight against the rat.

Their reproduction occurs at random through encounters that are very often between cats which are physiologically wretched specimens.

However, the function of the cat on earth is to fight against rodents, not for food, but for sporting pleasure. It is enough to take a good male rather than a good female rather to obtain young which will have very good instinctive qualities. The ratting faculty seems to be the dominant quality of a strong cat.

When you want to obtain valuable animals, in all species, you select males and females who have certain qualities, and this is how you get the more and more improved breeds. What we already do with horses, cattle, sheep, and dogs, why not try to do this with cats? We already selectively breed fancy purebred cats, we must do it for ratting cats.

THE CAT AND THE FIGHT AGAINST RATS

Recently, discussing the question of rats with Doctor Dujardin-Baumetz, head of the plague service at the Pasteur Institute in Paris, he told me that he had always been a supporter of cats in the fight against rats. He quoted to me from an article by Doctor Buchanan: "Cats as plague preventors", published in 1910, in the "British Medical Journal". This author related that Japan maintained cats in eleven prefectures and seven cities. In the prefecture of Sukushima, there were 74 cats per 100 houses, in that of Nagasaki, 63 cats per 100 houses. In other cities, the proportion was less than 50 cats per 100 houses. In Tokyo, where there were only 5 cats per 100 houses, there were many rats. There are poorer results in combating rats, when there are fewer than 50 cats per 100 houses.

Koch, at the same time, recommended making the selection of ridding cats. It would be interesting to choose good hunters from which to breed cats, and thus to form a remarkable breed of ratter; this would be easy and achievable in a relatively short time.

At the time of the International Rat Congress, meeting in Paris and Le Havre in 1928 under the presidency of Professor Calmette, thanks to the initiative of Professor Gabriel Petit, Doctor Dujardin-Baumetz expressed himself in a report entitled "How a city can defend itself against the plague".

"Why not resort more often to the natural enemy of the rat - the cat - whose purpose of existence is to relentlessly track down small rodents? It easily overcomes black rats and young Norway rats; but few cats dare to attack the adult Norway rat. There would therefore be the greatest interest, as advocated by Doctor Loir who is an ardent defender of domestic felines, to choose from amongst them the best hunters of brown rats in order to obtain a breed of ratters, whose progeny we would spread."

CATS ON BOARD SHIPS

Rats are generally numerous on board ships. To kill them, we use, since Colbert's time, their natural enemies: cats. In the past, when a navigation permit was granted, the formula mentioned the presence of cats on board: "This ship is in a condition to sail: there are two cats on board".

In 1855, a captain who confirmed having a cat on board his ship was not responsible for the damage that rats could have caused to the cargo, and the shipper was not justified in accusing him of carrying only one cat on board. (Judgment of the Commercial Court of Marseille, President: M. Salles, June 20, 1855). Here is the document:

Commercial Court of Marseille

Captain. - Merchandise. - Damage caused by rats. - Cat on board the ship. - Responsibility.

Captain Drouot against A. Péchier & Company

Judgment:

"Whereas it follows from the report of the expert appointed to note the damage experienced by the beans and other vegetables making up the load of the ship 'Deux Sophie,' that the damage which he recognized to the said goods was caused by rats;

"Whereas Captain Drouot, commanding the said vessel, confirms that he had a cat on board;

"That the claims of Péchier and Co, to make the captain responsible for the damage, on the grounds that he should have had several cats on board, cannot be accepted by the court;

"That we cannot, in fact, admit that the captain was required to have on board several cats, whose presence would be almost useless, because of the difficulty they would have in entering the hold through the bale stowage, to hunt and reach rats there.

"That we must therefore consider, in the present case, the damage in question as an unfortunate event and not arising from the fault of the master;

"For these reasons:

"The court, not upholding the offer made by A. Péchier and Co, which is declared unsatisfactory, on the contrary, rules in favour of Captain Drouot and orders them to pay him the sum of 1,507.45 francs, the amount of freight in question, with

interest and costs."

(From June 20, 1855. President: M. Salles. Plaid. Mes. Cournaud and Berthou).

Today, 1931, when there are expert assessments on board, by expert captains sent by the Commercial Court of Le Havre, concerning damage consisting of emptying of coffee bags or other goods, by rat bites, those experts are in the habit of being presented with the cats on board. In their report, they put it this way: "We noticed that there were Cats on board". In this case, it is the insurance that settles the amount of the damage. The latter is considered sea fortune. If there is no cat on board, the shipowner is obliged to pay, and he has no recourse against insurance: it is negligence by the captain. Besides, sailors are aware of the value of cats. They love these animals and protect them. We saw a distraught chief of staff because the cat on board had been killed: "He was an excellent ratter!" he said. The cat is "Taboo" on board, it is a mascot. If one of the crew tries to harm it, all his comrades are against him. The cat is at home in all parts of the ship. When it comes to rest on a sailor's bunk, the occupant makes room for it.

When we want to de-rat a ship, we evacuate it in order to carry out sulphurization, or cyanohydrization, which would suffocate all living things trapped in the boat. The sailors often put the cats in crates which they carry onto the open deck, out of the reach of gas.

In the calm waters of the Atlantic region, the cargo hatch panels are sometimes opened in good weather for ventilation; we then see the cats go down into the hold and they soon come back with freshly killed rats which they leave in a conspicuous place.

Often, on long-haul journeys, sailors, especially the ship's cook, bring aboard the cats they have obtained ashore upon departure. They are locked in compartments reserved for the crew, particularly in the galley. On some boats, the camboose [above-decks ship's kitchen on a merchant vessel] on some boats, has three superimposed floors which are closed by openwork panels. The cats are put in these sections and remain there throughout the crossing. When one enters the camboose, we find on the panels, on the different floors, five or six rats that the cats have killed, and that they came to deposit in the place where they could be easily seen.

The mere presence of cats on board keeps rats away. Rats swarm on ships. Young rats are proportionally more numerous and can

be easily destroyed by cats.

Some cats come back on board when they have left their ship to go for a walk. Others, on the contrary, do not seem to like shipboard life and they leap to the ground as soon as they can and never return.

When poison gas has been used to destroy rats on board a boat, they quickly return. This mode of destruction is only periodic, while the cat is always there to take action if it is a good ratter.

Aboard a ship, the "Saint-Firmin", we saw a cat who was not a thief at all; he sat in the kitchen next to a dish of fish which he did not touch. He had caught rats during the whole voyage. The de-ratting was done by gas when fully laden, that is to say it was ineffective, as normal in this case, and three days later the cat brought back two rats.

On board the ship "Sambre," the cat brought the rats it caught during the voyage to the ship's gangway, probably because it had noticed that the captain gave it the best reward.

On board the sailing ship "Marguerite-Molinos," a cat placed the rats he had just killed at the door of the first lieutenant's cabin, and, when the door was open, he entered, and put them on the sofa. This cat had, one day, seized a fish that had been caught using a hook and had been left on the bridge; the hook had pierced the cat's lip, and remained stuck there for two days. This officer had removed the hook and it was probably in recognition of that act that the cat offered him the fruit of its hunts.

On an unarmed ship, a cabin boy went to feed a cat every day. This animal remained, during the crossings, in the vicinity of the linen room and neighbouring cabins, where it destroyed rats and mice.

CAT BEHAVIOUR

We found, on board a Danish ship, a cat that looked like those depicted on Egyptian pottery. We got the captain to let it disembark. We put him in a pen used as a chicken coop where there were rats. After two days, the hens came to lay their eggs next to the cat, probably to put them under its protection. Rats would break the eggs and eat them.

A great furrier from Le Havre recently told us the following:

"I have a large fur depot, where many rats had got in. One morning I noticed that, during the night, a valuable batch of mink tails, worth 15,000 francs, had been ransacked. I decided to put in my depot a young cat, born at my house to an excellent rat-catcher mother and already a good hunter himself. Since the cat arrived here, the rats have disappeared. Whenever he felt the presence of a rat, he located it very quickly, and killed it."

When this furrier notices mice in his house, he brings his cat. It is a very sweet animal, who knows and loves his master and obeys his voice. It is large, strong and robust. We feed him a cooked horse meat pate with bread. Next to this fur depot is a building site, where there are many cats, amongst which we recognize, by their very distinctive coat, those whose father is the furrier's cat. These cats have a lead-grey coat, which one seldom sees, and I found that they are all good ratters. Neighbors, wanting to get rid of rats and mice, often ask the furrier's wife, who says that her cat is a male and that she does not have kittens. The asker is told that there are almost certainly kittens sired by this cat on the building site, and to ask the owner for them.

The cat does not like water, but it gets used to being soaped and bathed. It is safe for him if he is then warmed up, dried and left by the fire. Someone told me that he saw a cat sit with its whole body immersed in water for several hours, watching for the passage of a rat that had its hole underwater, this cat did not hesitate to dip its head into the water to grab the rat when it passed.

The cat likes well-being and cleanliness. A she-cat growled when she saw the cushion on which she slept being removed, but said nothing more if it was being shaken. When she had rested on this cushion for several days, she pushed it away by herself for cleaning.

The cat is sensitive to cold and likes to get near to the fire much more readily than the dog. It likes to lie down on cloth or on newspaper that is greasy, but never on glossy paper.

Newspaper makes good cat bedding; it seems to like this paper. The dog's coat is oily, the cat's is not. For this reason the dog with the greasy coat is insulated.

When you put your hand on ordinary paper, you feel cold because it is a good conductor of heat; when you touch a newspaper you don't have the same feeling of coldness; it is a poor conductor of heat. Is it not to insulate itself that the cat chooses newsprint? In fact the cat easily loses heat in the form of electricity, as we know from the experience of cat skin which, when the weather is dry, produces sparks by simple rubbing.

Does the cat have wisdom? Is he likely to find his way home? These questions are generally answered in the negative.

And yet here is the story told in the British newspapers. A Coventry family changed their residence to settle in Bridgewater, in the county of Somerset. They travelled by automobile, accompanied by the house cat enclosed in a basket. A little while after arriving, the animal disappeared and two months later the family received a letter from Coventry announcing the cat's return there. However, there are two hundred kilometres between the two residences that the poor beast had travelled quite briskly. London newspapers claimed the feat was unprecedented.

I have also been told of the case of a Parisian cat whose owners gave to friends living in Versailles, and whom they saw returning to their Paris home a few days later. How did he find his way, especially in Paris?

Another reader assures me that he knew a cat from Epinay who returned to look for its masters in Paris, when they returned there from Nice, and did that every year. The masters never understood it.

A she-cat put in contact with our cat Lico, escaped after twenty-four hours and crossed the entire City of Le Havre to return home, in one night.

In Liverpool, on the Gladstone dock, I watched a superb black cat for a few weeks. It was a thin, feverish cat, always wandering and sometimes descending to the sea's edge, peering at the horizon with its green and sparkling eyes. Where did this inconsolable animal come from? We found out when a few days ago the "Adriatic" of the White Star Line returned from America. As soon as the cat heard the siren sound, it made every sign of extraordinary joy; jumping, meowing, arching its back, and when the liner reached the quay, the cat jumped aboard. This cat, named Tommy, was the ship's cat. He had

wandered who knows where on land, when the transatlantic liner sailed. Tommy has now returned to his familiar corner and doesn't want to leave it.

CAT BREEDING AND FEEDING

I have mentioned that she-cats teach their kittens the habit of cleanliness and lead them themselves to the container intended for their excrement.

The she-cat carries her young for fifty-seven to sixty-three days, and must not have more than two litters per year; a robust female should not be allowed to rear more than four kittens. The best time for birth is April and May. The she-cat is in heat three times a year, often four. To prevent her from going into heat, it is recommended to give a little parsley mixed with food every day. I have seen this method succeed frequently. I have sometimes managed to calm her down by giving her a whole branch of this herb.

When the litters are very numerous and too close together, the female gets tired, loses weight or abandons her young. Guided by instinct, she knows she can't feed them. I have seen cats in such a condition sacrificing part of their litter, devouring a few of them and keeping only those that she felt able to rear. A cat that always produced seven kittens could only feed four. I took the others at birth and they were bottle-fed with Nestlé condensed milk. The kittens are very good ratters and are now seven months old. A kitten from this litter, which I gave to friends, has, in three weeks, destroyed forty-four mice. I was able to verify the figure because, as soon as she caught her quarry she ran to show it to the people in the house, played with it for a while and ended up devouring it, which displeased her mistress. We advised the owner to try to make the cat revolted by the flesh of her victims by giving her cooked meat. Since then, the cat no longer eats the mice she has killed.

The cat is fond of milk all its life, but if it is prone to diarrhoea, so it is better to give it Nestlé condensed milk or even water.

A kitten should increase its weight by one pound per month, up to six months. At three months old, he must weigh three pounds. Males can be castrated at five or six months.

It is advisable to comb and brush cats daily to get rid of fleas, but twice a month use a dry shampoo, of which there are several formulas available, to remove any parasites.

In England, the seaside is recommended for cats that are sickly.

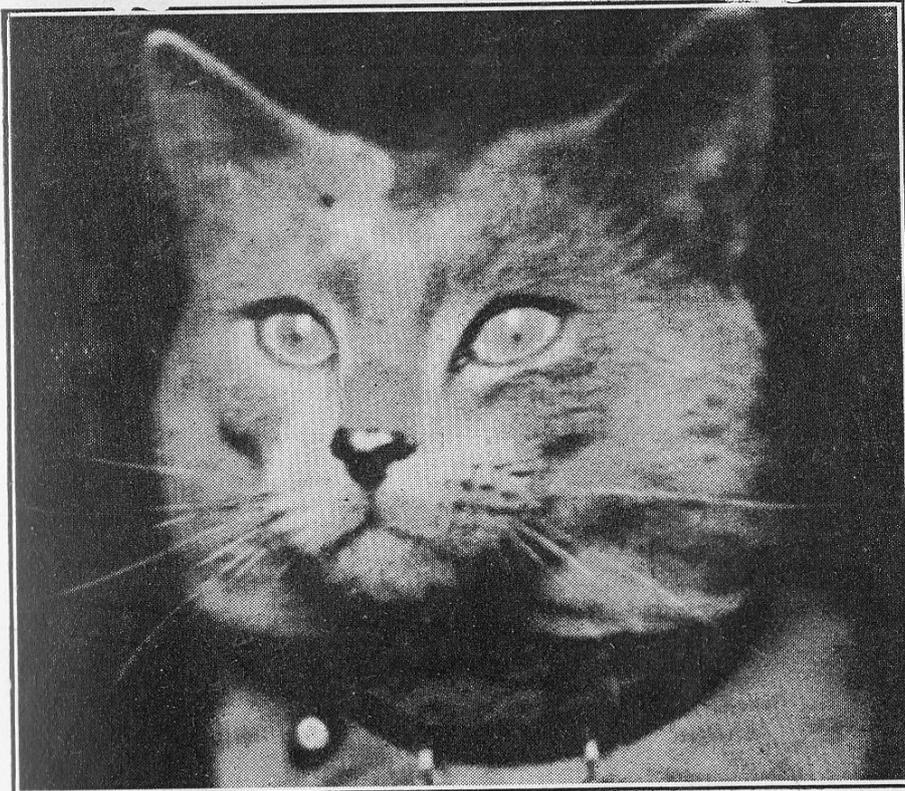
The cat is a carnivore; its main diet will therefore be meat and fish. When bringing a cat into a house, it is best to find

out how it was fed at its former home in order to keep the same diet. Adult cats can be given milk in the morning with a little bread soaked in it; at noon and in the evening, minced meat or liver mixed once a day with rice or noodles. Vegetables are refreshing, but avoid cabbage. The evening meal can be larger, especially in winter, and the animal will sleep better.

Kittens start eating around five weeks old; we can then give them a little milk mixed with water. Around six weeks, they have their first teeth; at one month, they can be presented with small pieces of well-cooked rice, with milk mixed with a little fish, and at two months, with a little minced meat. Only after five months can we offer them the same food as adult cats. Up to six months, you can feed Siamese kittens only fish. Their hair will be finer, more beautiful.

It was said that we should be careful not to foster Siamese kittens on mothers of another breed, but we frequently had two litters at the same time: one from our tabby ratter, the other from a very beautiful Siamese, a present from Mrs. Diot, through Mr. Delangle, general secretary of the Cat Club of Paris. The little ones, who have suckled from one or other mother have always been healthy.

In short, the cat is robust and easy to breed if it is put in the required conditions. It is thanks to this, we believe, that we have never had a single invalid among our many subjects of all breeds. However, these animals can contract certain afflictions which one will find perfectly described along with the means of preventing and curing them in the work "Breeds, Breeding, and Diseases of the Cat" by Doctor Jumaud, general secretary of the Cat Club of France.



MINET. Good ratter belonging to Mrs SIGAUDY-BRINDEAU



LICO and his Cup belonging to the Le Havre Museum.
Son of Lilith, a good female ratter and Coco, a good male
ratter from the Docks of Le Havre; First holder of the Rattling
Cat Cup in 1930.

TRAINING OF CATS

Cats train their own young to hunt. A captain recently told me that he had seen his cat bring her kittens, at the bottom of the bridge, a rat that she had captured and left alive. She meowed, and roused her kittens to hunt, and when the rat's movements became dangerous for them, she kicked it to weaken it. If one of the kittens wanted to go up the stairs, she would push it away and send it to the side of the rat with her paw.

The cat is perfectly trainable. We see these animals jump through hoops hung with paper, walk on a narrow bar, do several leapfrog exercises, bring back a rat that they hunted without hurting it, or jump three or four metres on command from one stool to another. To achieve this it is enough to have patience and above all to be gentle and to reward the subject with a treat.

For this sort of training, you must choose an intelligent animal, a few weeks old and educate it. To train him to hunt, you amuse him with a rabbit's paw, then with a mouse, and, if he looks promising, you continue. You have to be gentle, because the cat is vindictive and resentful.

Some previously lazy cats become excellent hunters, and remain infuriated all their lives against rats after having been bitten by one. I know of a cat that I put in a bone depot where there are rats with terribly infected mouths. This cat, from time to time, has a pustule on the head from a rat bite and cannot hunt for a few days. But, as soon as he was cured, he attacked the rats even more furiously, as if he wanted revenge, and he made more victims among them than usual. It is recognized that bad ratters have become good hunters after such an ordeal, while others have hesitated to attack the enemy.

USE OF CATS

In Le Havre, we receive school children in the Museum galleries: boys on Wednesday morning, and girls in the evening. There are about forty of them. When we ask these children if they have cats, while passing by the display case of rats, a very large number of hands are raised. We were able to calculate that there were around 80 cats per hundred houses in this city, while in Sanvic, a small town in the surrounding area, there were only ten cats per hundred houses. These being isolated, they have watchdogs and no cats.

During the war, food was expensive and many cats were killed, and the rats increased in number. Around 1919, a cat was sold for twenty-five to thirty francs. Seeing this, the people of Le Havre began to breed cats, and we currently have a large quantity in our town; unfortunately, not all of them are good ratters.

The majority of the inhabitants of this port have cats, they are in all the houses. Why not use this particular situation to fight against the rat, that enemy of humanity which is gaining ground every day? We would create, by selective breeding, ratting breeds and there will soon be only subjects able to hunt. This will do useful work from the double points of view of hygiene and social economy by stemming the depredations made by rats.

I have a cat that was found on a boat where it was used to being petted by everyone and is, therefore, no longer wild at all. I asked the captain of the ship to give it to me for the Le Havre Museum; it is a very good ratter. There he was used to living in a small mobile crate with a handle and a door. He goes there to sleep. When someone who does not want to have a permanent cat has rats or mice in their house, they ask us to lend them a cat. We take it to them in this crate, and, at the same time, take a box in which he is accustomed to make his droppings. He therefore finds, in his new home, his normal habitat, that is to say his case and his box. We leave him there for six to eight days, during which time he hunts rats. He doesn't start chasing them until he's used to the house, usually after two to three days. This meets a need since, in other neighbourhoods, the neighbours of the butcher or baker would often ask those people to lend them a cat if they had one.

In one district of Le Havre, cats were being killed by a resident who had fun chasing them with a gun. Rats there have increased in such a proportion that traps and poisons are no longer enough to stop their invasion.

During torrential rain, as is common in these regions, the cellars are submerged. Rats, driven from the sewers by water, take refuge in the upper floors of the houses, going up to the bedrooms. The cat would have an important role to play in front of this intrusion.

BREEDS OF RATTING CATS

Around 1910, Koch asked for a selection of ratting cats to fight against the plague, spread by rats. Although certain breeds of cats are regarded as better ratters than others, the instinct exists in them all and helped by training, any cat can become a good ratter.

Among the species considered to be hunters, we list the Chartreux cat, with long bluish-grey fur, and black lips and feet; the Isle of Man cat, which has no tail; the three colour cat - white, yellow and black. The Angora cat is considered a mediocre hunter and this is often wrong.

In general, she cats are better than tomcats, and castrated cats are superior to entire cats from the point of view of hunting, which tomcats sometimes abandon to pursue love; in general, we believe the opposite.

It is above all important, in order to obtain indisputable ratters, to make the cats strong and robust, by good feeding and appropriate hygiene. The cat must be strong in order to be able to measure up to the large-sized rats which defend themselves vigorously and can injure a cat. The thick coat of a healthy cat provides a shield against the rat bites.

The more the cat is well fed and cared for, the more it is strong, agile and flexible. It will thus become formidable for the rats that it hunts, not to feed on it, but for the pleasure of hunting.

Sociability does not prevent this instinct from developing. I know a cat which is constantly with her master and follows him everywhere; he taught her to jump through his rounded arms. This animal is an excellent ratter.

It is obvious that when the rodents are in great numbers they must be destroyed instantaneously, if possible by gas, on the express condition that the de-ratting is performed to fixed rules. One must also combat them by offering bounties, and using of viruses and poisons. It is especially after having used these methods that the role of cats asserts itself and, to prevent a new invasion, it is good, on land or aboard boats, to maintain as many cats as possible.

Their smell alone keeps the rat at bay. Terrified by the presence of the cat, the rodents no longer dare go in search of food and starve to death in their holes.

The 1926 International Sanitary Convention authorized the issuance of de-ratting exemption certificates to ships where

the rodent population was reduced to a minimum. At the same time as this certificate is given, care should be taken to ensure that there are good ratting cats on board to prevent a further invasion of rats.

When a sailor wants to take a cat onto his boat, at the time of boarding he takes this animal near the port and takes it on board. To procure a cat for a family, ask for one from a neighbour where a female has just had a litter, or welcome a lost animal which comes to scratch at your door. When it comes to getting a dog, we surround ourselves with many more guarantees; we often buy it and it has a pedigree. We have preferences for this or that breed; we almost always keep a dog that meets a particular objective.

There is a cat maintenance service in the docks at Le Havre. A man is specially charged with the task of feeding the cats. He is paid to look after the lives of eighty cats, whom he has to feed daily. This man knows which of them are the best ratters, about thirty out of eighty.

In the docks, we tried all the means of destruction, but the food materials are so numerous and varied, that the rats ignore the bait intended to exterminate them. Rat dogs were used, but to no avail. While it is easy to get rid of rats in a small space, a cellar for example, using ratting dogs, it is quite the opposite in a vast area like that of the docks.

In the ratodromes [rat pits], the dogs do feats; but in the docks, even where many dogs are used to getting together to hunt, they hunt one quarry only. They sometimes compete for prey with each other and their barking scares the rats away in all directions. The ratting dog, in its excitement, does more damage by chasing rats than these rodents do by themselves; he will knock over a stack of bags, or a bottle rack, etc. In addition, dogs are quite expensive to feed and are delicate. If you want to keep dogs, you have to give them some care.

Only cats have produced appreciable results in the docks by hunting silently, by tracking down all the undesirable vermin that almost never escapes them.

The domestic cat (*F. Domestica*) does not derive from the wild cat but rather from an African species, the gloved cat (*F. ocreata*). It was first tamed in Egypt where it can be found mummified in burials as a sacred animal from the twelfth or thirteenth dynasty. Its domestication seems to have been much later, it did not spread much until the first century. It remained rare in France from the eighth century.

Faune de France (Remy PERIER).



Capteur de rats au Havre
Chasse faite pendant une nuit.

CAT CLEANLINESS

By studying the cats' habits one is struck, above all, by their meticulous cleanliness at all times, in all aspects of their life. It is this essential quality of their character which dominates all aspects of their life. They only settle in a clean place, they lick themselves to clean their fur, using their paws like a sponge to wash their faces after eating; after performing necessary bodily functions, they carefully take time to cover the traces, not stopping until they are sure there is nothing left to see or smell.

Along with the pig, the cat is the only animal that chooses a place to perform its bodily functions.

Before giving birth, the female prepares her nest, or if it is agreeable to her she settles in the one offered to her. The day before the birth she washes even more carefully than usual. After delivery, the nest is almost unsoiled, and except for a few traces of liquid no stains remain. The mother swallows everything that has accompanied the kittens and that could soil her bed. One of our she-cats, having dropped a spot of blood on the towel placed in her basket, began to lick it frantically without being able to make it completely disappear. She seemed so worried about it that her mistress replaced the soiled linen with a clean towel and the cat quickly settled down.

When the young are born, they stay in the nest for three weeks without ever leaving it and yet it is always in a clean state. What happens to their droppings and urine? We have often wondered about this, telling ourselves that the cat could not constantly monitor her young to clean them. We observed that she did the following procedure for each of them several times a day.

Here is how she did it. At some point she turned a kitten onto its back, holding it with one paw and persistently licking its belly up and down. After a few moments, no doubt solicited by these massages, the kitten emptied its intestine and bladder. The mother continued to do this process for as long as it took until the kitten had grown large enough to clean itself. When the kittens are older, she directs them to the place where she herself is accustomed to deposit and bury her excrement. She covers their excrement, and her young soon learn to do this themselves.

When you want to raise kittens using a baby bottle, your main difficulty is not food - you just have to pour a little milk into their mouths from time to time, and this is easy. Hand-reared kittens rarely die of bowel trouble, but of uraemia. We

manage, indeed quite easily, to make them expel faeces, but with urine it is much more difficult; their fur becomes impregnated with urine and death results from this constant wetness. To keep them alive you must constantly monitor them, massage the bladder, expel the urine and substances by rubbing them with a piece of cotton.

The pigeon, when it incubates its nestlings, forces them to come to the edge of the nest by pecking; this same pecking probably also provokes them to evacuate their cloaca. Among mammals, none is seen as clean as the cat. The monkey, in particular, indifferently soils all corners of its cage.

TRAINING A RATTING CAT

We tried to breed cats in a facility fitted out in a roughly built plank shed, but this experiment did not give any result, all the subjects having perished.

The cat is a very delicate animal, it needs to be raised in a very comfortable shelter, without humidity, and I believe it is best to breed them in the home. The kittens need heat; cold, humidity, and drafts are deadly, and it is not uncommon to see entire litters perish in a few days following a sudden unexpected change in temperature. The cat is made for the intimacy of the home and this is essential to his development. It is there that, hunter and warrior, he likes to rest, to find good healthy food and the caresses of his master.

However, there are cats which are refugees in abandoned building sites, arriving there thanks to the food they are given out of pity, and living and breeding there. In this case they find the conditions for an almost independent life, but the result is feeble individuals who are, therefore, unable to hunt, which means that not all these cats are good ratters.

I saw a sickly and sad cat being collected. Put in the presence of a rat, it remained almost indifferent. After a few weeks of being nourished and well cared for, he became fat and played with the children of the house. He has become an excellent hunter, as I have seen. The cat is essentially a hunter, but he needs certain conditions to obey his instinct.

The habits of his ordinary life must not be disturbed. He will hunt in his house where he will mercilessly pursue an intruder unlucky enough to have introduced himself. He will certainly kill it. He will also hunt in the street if he is used to going out and feels comfortable there, chasing the rodents he finds in his path. It is very important to be aware of his abilities. Just because a cat is a good hunter does not mean we should expect to see him rushing at a rat if it finds itself in the presence of one.

I took a cat to a house where there were rats. It was summer, around eight o'clock in the evening. Several rats, in fact, had entered a yard about ten metres long by three metres wide. Upon arrival, the cat was put in this small courtyard. He sat in the middle and the rats ran and fled to a corner of the yard, on the side of the utility room, where they had their hole.

One of them, in his panic, took refuge at the other end of the yard under a pile of dead leaves.

I was at the window of the dining room, which overlooked this courtyard, watching what was going to happen. After seven to eight minutes the leaves moved, the rat came out of its hiding place, got to within a metre of the cat and returned under the leaves. A few moments later, it came out again, crossed the whole length of the courtyard to go into its hole, passing very close to the cat which did not move. This cat stayed in the house for seven days, but it was only the third day when it was familiar with the people and the layout, that it began to hunt. As soon as a rat appeared, the cat grabbed it by the throat and killed it. Since then the rats have disappeared.

I did another experiment and put a cat in a wire ratodrome 3 metres in diameter and 1.8 metres tall. Three rats were placed there. As soon as he entered the cage, a good ratting cat ran in panic to the walls of the cage, bruising its muzzle and hissing while looking at the people who had come to watch the scene. After a few minutes, the depressed cat crouched in the middle of the cage, motionless and resigned at his inability to regain freedom.

Emboldened by the cat's forsaken attitude, one of the rats approached the cat and nibbled its tail; the cat slightly moved a paw in protest but did not move. Then the rat went to bite its chest, then it stood up like a kangaroo in front of the cat and touched its whiskers with both paws. The cat maintaining its forlorn attitude and the rat brazenly put itself between the cat's paws, which was seen by the other rats who went to imitate the first, providing the spectacle of a group of cat and rats.

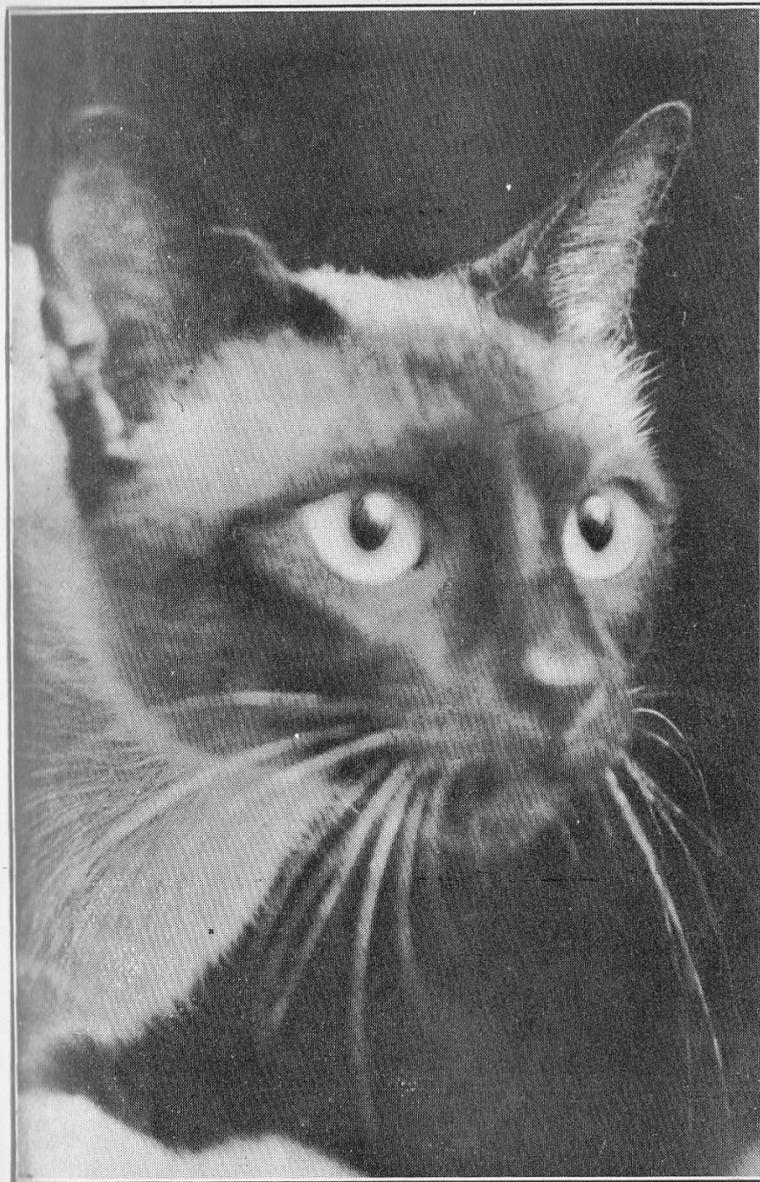
I found in a book written in 1800, that a Mr. Lemery once locked a good hunting cat in a cage with several mice. These little animals, at first trembling at the sight of their enemy, soon emboldened themselves to the point of annoying the cat which, bewildered and uncomfortable in its prison, contented itself with timidly patting them with its paws, producing no deadly consequences.

Identical events are seen every day in that less sensitive animal, the dog. In a ratting dog competition, where all the dogs were great hunters and proven rat killers, I saw subjects absolutely refuse to chase the rats. Out of ten dogs, two or three, more nervous than the others, perhaps because of the crowd or not being accustomed to the ratodrome, remained absolutely motionless, their eyes searching for a possible exit and seeming not to care about the rats in the least. I saw one just urinating against the mesh and another simply accepting it when a rat bit his side.

The cat likes its house, it does not want intruders there;

also, it is at home that it turns out to be a hunter. If a stranger arrives, dog or cat, the resident receives it badly by swearing and hissing. Sociable only with those it is used to having around, it tolerates them and often becomes friendly with them, especially if it has had contact with them from an early age. It is more difficult to get an adult cat to accept a companion.

By engaging in the sport of hunting, it defends its territory at the same time. It intends to remain the master of its home. This is where it can be made to perform its role of hunter.



POUPETTE

Chatte Siamoise à Madame LOIR

Elle est la mère de nombreux chats ratiers. L'un d'eux, à 3 mois, tuait sa 44^{me} souris et son premier rat à l'âge de 7 mois.

IMPROVEMENT OF CAT BREEDS

France is rightly considered to have some of the most beautiful livestock in the world. Many countries pride themselves on their agricultural competitions where they present choice animals. All peoples are eager for progress and improvement in their own backyards, their stud farms and their livestock, just as they strive to improve their army, navy and air force. Large areas of woodland are set aside for the pleasures of hunting; the hunts are repopulated with the aim of improving the breeds of big game, rabbits, hares, and pheasants. It is also a preoccupation to carefully select dogs to arrive at forms by ingenious crossings; good bloodhounds, robust subjects essential for hunting with hounds, agile greyhounds for chasing hares and foxes. I carefully studied the breeding of ferrets to take rabbits. Eugenics presides over the production of perfect living beings necessary for man. Why then did man forget himself in this general impulse where he has thought of practically everyone and everything, things and animals? He gives up only that which is inaccessible to his almost magical power. Thus, in the great desert, the Arab begs Allah to obtain the grace of a good harvest of dates, this bread from the desert. The wind is the only factor in fertilising the date flower, while in our colonies the planter pollinates vanilla.

For man, considerations of fortune, relationships, and vanity, are the main agents which regulate the unions intended to propagate our species, and as for the future of the offspring we take no care. While we carefully watch the eye, the chest and the hock of a vicious horse, we will not even think about avoiding what can be dangerous for the offspring of a couple of humans. Another race is thus abandoned to itself; the evil is perhaps less great because it knows neither syphilis nor most of the flaws that strike humanity. Also, it lives next to us, our paths crossing at the whim of its chance romances, and when we encounter, by extraordinary chance, an individual remarkable for its strength and beauty, we say, as we do for man, that it's an accident.

It is said that the class of true beauty has disappeared from civilization; this is not wrong. To return to it, we would have to create rules and take measures that appear terrifying and vexatious. Such as the laws of Lycurgus, which condemned all misshapen or abnormal offspring to death when they were barely out of the amniotic fluid.

America wanted to introduce draconian measures to curb vice and crime by attacking the very sources of life in the criminal, depriving them of fertility by castration. Most recently on the topic of scourges endangering our race, the

canton of Vaud, in Switzerland, passed a law applicable to anyone with a disability, mental illness or addiction. It is one thing to have thought of stopping the expansion of that which causes the greatest imbalance in humanity, but the application of such a law is in vain as it only reaches poorly-defined cases and there needs to be much reform in current ideas before we can think of it accomplishing anything. However, let us congratulate ourselves on having tangible proof of this preoccupation with improvement which, since antiquity, seems to have been forgotten.

An in-depth study on the improvement of a race we are in daily contact with, and which cannot be resistant to trials and experiments, will help to enlighten us and perhaps inspire us with more practical and applicable laws regarding the human race.

THE SIAMESE CAT

The ultimate hunter is an expensive pedigree animal: the Siamese cat. Its sharp, curved claws, its needle-like canines that are longer than those of the common cat, its body with tough muscles like steel and more contractile than those of the European cat, make it remarkable for its agility, suppleness and strength. It climbs, jumps and seems to have retained, even in the domesticated state, certain habits of the jungle for hunting and predation. Peaceful and familiar, the ordinary cat seems to return somewhat to its ancestral habits when taken to the countryside. There, the proximity of the woods and the presence of game return it to the time it lived by hunting, making it desert the home it loves, spending nights under the stars, harassing rats, voles, moles and shrews. The Siamese, transplanted from Asia, will resume life in the forest even faster. Among cats it is like the Australian Dingo which, even when bred in our countries, retains the instincts of a free and wild dog. The pet Siamese is attached to its master, whose voice it recognizes, whose presence it senses from afar, but this cat is formidable when not used to sociability. It will fiercely defend access to its house, pouncing on the intruder, clawing and biting him. In Siam, some of these cats are trained as guardians and one needs not close the doors of a home entrusted to this feline Cerberus. No bait can bribe them; any stranger, man or beast, will be mercilessly mauled and scratched. The Siamese cat is now quite widespread in France and some amateurs have superb specimens of this breed. Those of Madame la Comtesse Clauzel, president of the Cat Club of Paris, are remarkable specimens for their proportions and their beauty.

In this region, raising this cat during winter is quite difficult without certain essential treatment. It fears the cold and it is not uncommon to see entire litters perish if we do not maintain an equal temperature. Kittens should not be exposed to drafts. The Siamese will go hunting outside in the snow if it is attracted by prey, but it quickly returns to warm itself as close as possible to the fire.

It loves company and we have seen these animals die of grief when separated from their masters.

In spring, breeding is easy. They are easier to feed than cats of our own country being almost omnivorous. One could profit advantageously from this breed by making crosses. Most of the time, a Siamese she-cat refuses a European tomcat because of physiological conditions and it is dangerous for her to mate with it. The Siamese tomcat is amenable to mating with females of different breeds. We have thus seen a product resulting from mating a black Angora cat and a Siamese cat.

This cross was solid black, very large, very strong. It had the long hair of the Angora, and the musculature and suppleness of the Siamese cat. It had the blue eyes of the latter, with the red phosphorescence which is peculiar to it when irritated. Very attached to its master, he obeyed his voice; as it belonged to a local merchant, to avoid being lost or stolen, he was used to being on a leash and tied to the door of the shop with a bench and a cushion to rest on. It does great service to its owner by exterminating rats and mice from his store. He is very gentle but accepts caresses only from those he knows.

Given the climate of our country, the purebred Siamese can only live and render services in a comfortable house where it will find a lot of warmth in winter.

STORY OF A SIAMESE CAT

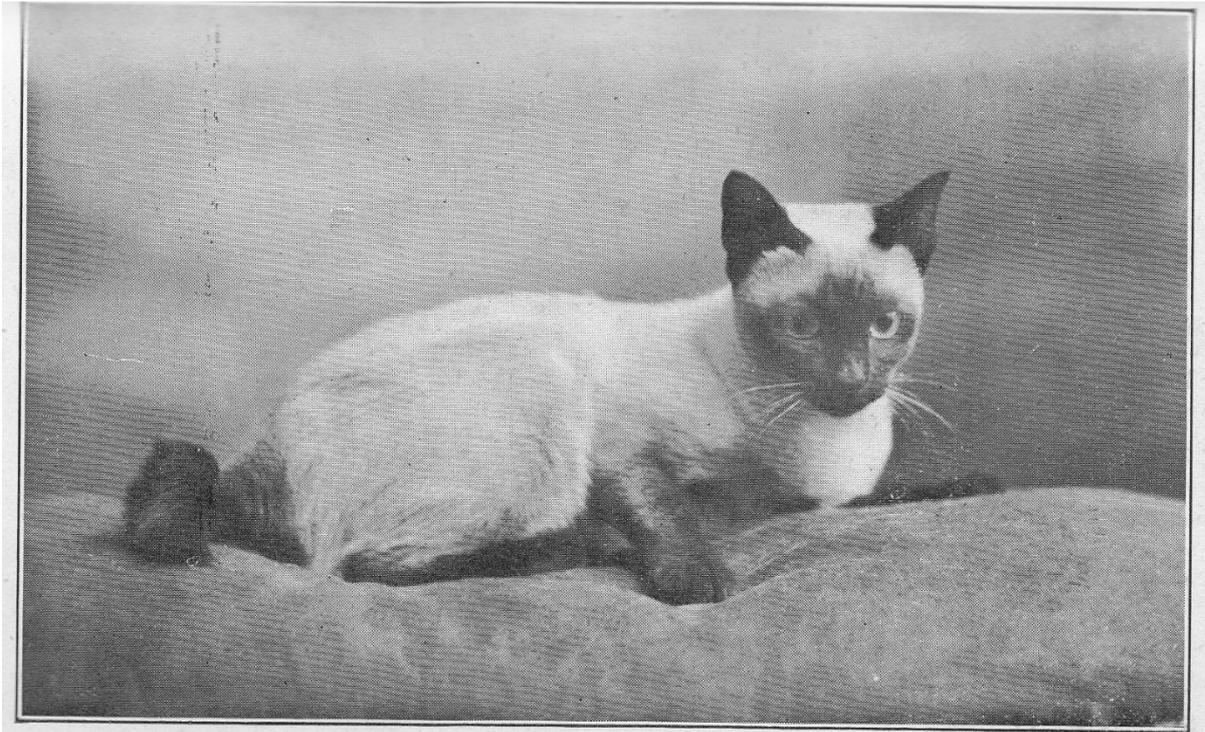
Here is the story of a Siamese cat named Sam. We lived part of this story ourselves. This is the cat from Bangkok that we talked about in a previous chapter. His coat was neither beige, nor brown, nor orange like the ordinary Siamese type, but was blue-grey. He was large in size with a long tail and long legs, an elongated neck with a very marked curve, small head and blue eyes.

This cat arrived in Le Havre at the beginning of 1929, aboard the ship "Ville de Metz." Our friend Marius Petit, in charge of supplying the ships of the Havre Peninsular Company to which this ship belonged, pointed out to us as a remarkable ratting cat that had completely eliminated these rodents in the vicinity of the on deck galley of the vessel. Taking advantage of his passage in Le Havre, we landed him for a few weeks and our Siamese Poupette was mated to him. On July 5, she had seven kittens, some of which were raised using Nestlé condensed milk. One of them, at the age of four months, had brought his mistress forty-four mice as we have said in a previous chapter. When Sam returned to the ship after a three-week absence, the rats had returned to the galley. The rodents disappeared a few days after his arrival, and since then this ship has been absolutely free from rats, something that has never happened in more than ten years that we have been dealing with rodent control by all the usual methods. There is a vessel which we have cruised on for sea air treatment, and which we have dealt with regarding rats without much result. We stopped seeing rats at the time of the de-ratting activities, but they returned immediately after. We proposed to ask the captain of the "City of Metz" for this cat.

Sam was now back from the Far East. The excellent Indo-Chinese cook on board had disembarked for a few days during Christmas and New Years Day, 1930. When he learned that there was talk of leaving Sam on land, he begged that this was not done. This cat is part of the crew, he adores his boat, is loved by everyone and does not tolerate a rat boarding. As soon as Sam hears his name, he arrives from wherever he is on the ship. He is greedy and the cook reserves the good pieces for him.

Two of the seven kittens born to Poupette and Sam are aboard a boat, and are currently on their first world tour.

So this is a purebred cat that has a useful role and this fact is not uncommon. We can cite other examples.



YEDDA, fille de Poupette
Chatte Siamoise à Madame GLIKSMAN.

THE RATting CAT

We will not dwell on the arsenal of deadly weapons which are used against rats. It is now recognized that one of the means to defend oneself against rodents is to employ cats. However, it is necessary to have at your disposal specimens capable of fighting against rats.

It is not important to have small cats when hunting mice, but they must be nervous, agile and robust. Mice are numerous in the places where they have taken up residence. The cat must have good stamina and not get tired out by chasing them. It must be strong and well nourished.

To persecute rats, selective breeding and large subjects are needed. Black rats and Norway rats are sometimes as large as two month old kittens. The rat defends itself energetically and is always in a good position to do so. It is strong and finds abundant food everywhere, everything is good to satisfy his gluttony. Therefore, it is essential that your opponent of rats is robust and well armed.

Certain measures are essential for the creation and development of a breed of ratting cat. It is of the utmost importance to obtain and assemble in one area some good stud cats, large, thickly furred and well-armed with strong claws, and vigorous.

The period the she-cat is on heat is unpleasant for her owners. The females utter lamentable cries, sometimes also during the night. Continuous monitoring is necessary to prevent them from going out. Often they escape and go to mate at random, or are lured away. If they are not stolen or lost, they can return with scabies or some other disease.

If sent for 48 hours to a facility where suitable tomcats are kept these concerns would disappear.

In Paris, there are animal clinics where you can board females who have already had one or two litters during the year and whom the owners do not want to be bred. Such a day-care centre could also be organized.

The facility intended for the breeding and training of rat-catching cats would include an area with three rooms, a bathroom-infirmary, a toilet intended to receive their excrement, and a garden or terrace.

One of the rooms would receive the tomcats, the second the families, and the third would be occupied by the kittens.

In the first, we would put cages with compartments, each would contain two bowls; one for water, the other for food. The tomcats would take their food from these cages, so we could see how much food each of them was consuming. Feeding would take place at the same times; in the morning, milk with a little soaked bread, rice or semolina; at noon, minced meat or liver cut into slightly salted pieces; in the evening, fish mixed with rice, noodles or bread and, if the subject accepts them, some vegetables, with the exception of potatoes and cabbage. Bread should only be offered in small quantities because it swells in the stomach and causes vomiting.

The water will be changed every day. If it does not cause diarrhoea, mothers will be given unlimited milk. Meat, like any other food, should be cooked.

At the time of mating, the couple's ration will be increased by the value of a meal. The evening one will be the most generous, even in ordinary times, as it predisposes the animals to sleep, as we have mentioned before. After mating, the male will have to remain at rest for a period of time before being put back in the presence of another she-cat.

The cages for households will also contain two bowls and a container with sawdust for droppings.

The she-cats never accept the male right away; at first you must leave one of the two partners outside the cage to get them used to seeing each other. This avoids them fighting from the first moment.

Two or three days of contact with the male are generally enough to ensure the impregnation of the she-cat which will then return to her owner. They will keep the kittens which will be born for approximately six weeks, which is always amusing and does not cost anything. After that time we would bring the kittens back to the cattery where the breeding centre was set up. They would remain there until the day we give them to those who ask us for ratters to hunt rodents in docks, shops, ships or private homes.

The breeding centre would be located in the third bedroom.

Milk will be the staple food for kittens up to three months old; we will add a little meat with well-soaked bread crumbs, rice and especially fish. The milk ration will be reduced for those prone to diarrhoea.

The bathroom-infirmary will be the place to examine the cats brought in. Those with skin diseases or whose state of health leaves something to be desired will have to wait for their

complete recovery before being received into the cattery. There will be a bathtub, in case bathing is necessary, and the ingredients to destroy parasites before putting the cat in contact with the stud cats.

Cushions stuffed with straw or oat husk will be available to residents of the cattery. During the winter we will maintain an even heat to avoid the cold and humidity which depresses cats and often causes them to perish. Meticulous cleanliness will be required in the room.

The animals must feel at home, free and able to walk from time to time in the garden or on the terrace where we will take care to sow in vases or in the ground some grass that they like to graze and will not be prisoners in cages except at the time of mating.

You must get the subjects used to sociability. If a fighting individual arrives, it will gradually accept the presence of other cats if left around them but locked in a cage for several days. It is rare that three cats living together do not accept the presence of a fourth.

There is a recently built cat house in Berlin, including central heating, electricity, water for bathing and a walking area. The building has fifty relatively large compartments. The price of for lodging is 90 pfennigs per day per cat. The Society for the Protection of Animals in that city, which presided over the construction of this shelter, has already built a hostel for dogs.

Let this serve as an example! In Paris, we only have private boarding facilities for dogs, cats and other animals at veterinary clinics. Often, we also use helpful concierges.

At present, the feline race has become degraded due to undesirable crosses made at random.

Not all cats are good ratters, however, it is an intrinsic quality of their race. When it is lacking it constitutes an abnormality due to the precarious conditions of existence, to poor physiology and to unsupervised procreation. Thanks to what we offer, it will be easy to arrive at a good ratting breed in a short time.

We are already sure that people who want to protect themselves from rodents will not hesitate to use this organization.

We were put in contact with the André shoe factory, by Doctor Parisot, director of the Nancy Hygiene Office, who asked us if he could have a rat cat to combat the rats which were doing

great damage in spoiling raw leathers in one of the company's factories in Nancy where shoes are made, and from which they are then shipped to branches scattered throughout France. We sent a cat to Nancy and a few weeks later we were told that this cat, a good ratter, had cleared the plant of all its rats.

With the methods that we recommend, those who have she-cats should not let them run around when they are in season. The disappearance of a danger that worries hygienists would thus follow; that is to say to see the problem of she-cats bringing home scabies, tuberculosis and many other diseases, even rabies.

With existing tomcats, it would then be possible to methodically castrate all the other males that we want to keep. So no more wandering animals, no more cruelty and no more danger of disease.

SOME HYGIENE PRECAUTIONS

The cat can carry infectious germs in its fur. It does not have any more than we ourselves have on our body, on our clothes, on our hair, or on our mucous membranes. The germs which they thus transport are deposited on them by a patient, a convalescent. Conclusion: cats should be kept away from dangerous subjects and, above all, they should not be allowed in the rooms of patients suffering from communicable diseases.

The cat can transmit to humans some parasites which can cause skin diseases. These cases are so exceptional that one can be content with giving the owners of sick animals the advice to have them treated or killed according to the degree of severity of the disease.

In Le Havre, at the request of the Society for the Protection of Animals, the Mayor arranged for a service at the Hygiene Office to pick up sick cats which have been reported to him and they are killed by chloroform.

For tuberculosis, the cat becomes infected if it is in contact with a tuberculous person. In this case, relative but well thought out isolation of the patient will give excellent results. However, when an animal appears sick, it must be killed immediately.

In addition, to avoid infection it is necessary to not live too closely with animals and remember that in ancient times there were regulations on this subject. In Mosaic law it is forbidden to feed animals from a dish that is used for people.

Regarding the worms expelled with faeces, the danger has been greatly exaggerated. Most of the intestinal parasites in cats do not pass to humans. The cat greatly likes cooked meat, you must give this to him as it is bad to give raw meat. In this way we can eliminate a main cause of contamination as worms often come from meat.

Finally, it is good to give a dewormer to our cats from time to time, I do this for my cats every two months. I give preventive pyrethrin which is found commercially as a specialty and which give good results in the treatment of intestinal parasitic diseases in cats.

To destroy fleas, which sometimes live in catteries, I take an Acanthiol solution which we spray on things. We can see the parasites falling down if they are present.

THE CUP FOR THE BEST RATTING CAT

A cup was given in 1930 by Mrs. Loir, to reward the best rattling cat. It was awarded on behalf of the Normandy Rattling Cat Club for the first time in 1930 by a Commission chaired by Mr. Léon Meyer, Deputy Mayor of Le Havre.

The winner was Lico, born in 1927, the son of Coco, a good rattling cat from the docks, and a good rattling she-cat, Lilith. Lico has had several zootechnical [scientific breeding] awards at several cat shows. He is strong and well built. So by taking good ratters, we refine a strong breed. This cat was the subject of the following certificate, given by the captain of an English ship decommissioned in the port of Le Havre.

We had destroyed rats several times with gases, but they always returned, attracted by the oily seeds which we could not get rid of the nooks.

English Steamer *Clémenceau*
Le Havre, May 30, 1930,

To all those who may be interested: this is to certify that Doctor Loir's cat, Lico, was on board the *Clémenceau*, from April 29 to May 12, 1930, and that during this period, he almost cleared the ship of the many rats there, despite the fact that they had many shelters in which to hide.

(Signed): C.-S. SILLS,
Captain of the Steamer *Clémenceau*.

The cat's file contained, in addition to this certificate, a certificate from the President of the Normandy Rattling Cat Club and another from the chief custodian of the Museum of Natural History in Le Havre, the establishment in which Lico had destroyed all the rats.

In 1931, the cup has just been given to a cat from the docks of the Paris General Warehouse and Stores Company, 17, rue Lavallée, Le Havre. In these docks, in October 1930, 145 rats had been trapped in eight days, but despite this the rats were numerous. When the Rattling Cat Club Commission visited the docks, it was able to recognise the truth of the certificate given by the Director, noting the disappearance of the rats under the influence of five cats, one of which, La Moutte, is the holder of the cup. After her is another dock cat, a son of Lico, who also contributed to the extermination of rats.

APPENDIX AND CONCLUSION

Here, in the appendix, is a communication which is intended to be read at the International Rat Conference from October 7 to 12. It picks up, summarizes and completes the arguments and facts contained in this book. It will serve us as conclusions.

WHAT TO DO TO DESTROY RATS?

[Communication made to the Rat Congress in 1931)

The proliferation of rats is becoming more worrying every day. However, everyone defends himself, or tries to defend himself as best he can.

Means of destruction used to make them disappear are viruses, gases, poisons, etc ... But it is easy to realize that, by using these processes, we work against our intended goal and we are actually helping to spread these enemies of mankind.

An owner will chase rats out of his house, garden, stables or barn and will think he is rid of them forever. When rodents have forgotten the persecution they have been subjected to, they will return to re-infest the place, not to mention that they will also have founded other successful colonies in the meantime. It is not enough to put them to flight, which is equivalent to doing nothing at all to destroy them.

We must, therefore, use all of our weapons at the same time to accomplish this. It is not an individual struggle that must be undertaken, on the contrary, we must abandon the individual system and organize a collective defence for everyone's benefit.

In several countries there is a Days or a Week of the Rat; during this time everyone chases them and is obliged to destroy them. This method is excellent. However, we must carefully study the conditions required to avoid seeing them settle in elsewhere in the neighborhood and in the panic of their flight scatter on several sides. This is how this misunderstood struggle would have a result opposite to that hoped for.

What attracts rats and makes them settle in a place are the conditions necessary for it to prosper: shelter where it can reproduce, food to nourish it and water to drink. It is not difficult to readily find a roof and sufficient subsistence. So what should we do?

Do not allow him to settle in, deprive him of food (rat proofing, monitoring of trash cans, sewers, etc.) But isolation due to rat proofing is not permanent because cement

crumbles and a breach is quickly opened to the enemy.

Those of you who will come to Le Havre in a few days will see a large dock in which, in October 1930, last year, we caught, in eight days, by means of traps, 145 rats of which there were only nine females. Doctor F. Schwangart, of Dresden, in Saxony, to whom I spoke of this fact, asked me to publish it, he found figures of the same order by counting the sex of insects which are trapped when trying to destroy them.

It is, in fact, the males that get caught in our traps, they explore and browse everywhere, or seek a liaison, while the more sedentary females stay with the young. In Australia, South America, and the countries of mass breeding, when one wants to obtain a large herd of sheep or cattle one castrates 97 percent of the males. Females are no longer bothered by the persistent attentions of males and have better pregnancies. The breed thrives.

The fact that we still have birds of paradise, despite hunting them, is because we only take the males which, alone, have beautiful plumage. There are still a few males left, but they are not numerous enough to prevent the females from playing their role of mother and the breed still exists.

Therefore, with the rat, by killing only the males, we do what is necessary to put these animals in the best condition for proliferation. By using our current methods which encourage the rat to colonize neighbouring areas and reproduce, we are doing the very opposite of what we are seeking.

At some time, for a week or three days, the rats must be killed as completely as possible. But then you have to have a vigilant sentry to prevent rodents from coming back.

A few weeks ago, Mr. Edouard Herriot, Deputy-Mayor of Lyon, visited the Museum of Natural History of Le Havre and said to me: "I tried everything to destroy the rats, nothing is effective against them and they always come back, but when there is an imbalance in nature there is also a remedy. What is the antidote to rats?"

I replied, "the cat."

"Why not the dog?" he asked me. I explained the disadvantages of the dog which, in addition, does not have the tenacity of the cat. But not all cats are good ratters and I explained my ideas to him. He then told me to go to Lyon, to do what I did in Le Havre, that he wanted to see the value of the selected cat. "The Mayor," he told me, "who can find a way to stop the invasion of rats in his city, will have done a useful thing."

I have been dealing with the destruction of rats for thirty years, and for six years I knew nothing of the cat. I didn't know that for a cat to hunt rats it must be strong and well fed, that it shouldn't be starving as people generally believe. Hunting the rat is sport for a cat, he does not hunt them for food. In general, even the cat appears disgusted by rats, and it is these cats, I believe, that will hopefully be propagated. As soon as it has killed his hereditary enemy, it abandons the corpse which he leaves intact, or else he places it on a table, like a trophy, intended to demonstrate his value as a distinguished hunter.

But to do this it must feel strong and able to control the enemy, or we will not see the rat fraternize with the cat and even eat from the same bowl.

What can we do in practice to obtain good ratting cats?

When a female is in season she escapes from her master and goes in search of the male who is attracted to her calls. She often meets a tomcat in a state of poor physiology, who has not eaten for several days and the young born from this encounter are runts.

The female meows in such a way that the neighbours complain. You can't sleep in the same house as her, so her owner would like to get rid of her for at least a few days. The Anti-Noise Leagues, which are being formed all over the place, are dealing with this issue. We pursue the cats in this state and strike them, then the Animal Protection Societies are moved to act.

We must take advantage of this state of mind to restore vigour to the race while providing a means to isolate the she-cat during the time when it is chased everywhere because of its calls.

When a female begins to call, she generally does not accept a male during the first twenty-four hours. This gives us time to act. We would carry the cats to the police stations where there would be baskets to receive them and facilitate transport. From there they would be sent, using a scooter, to the stud farm where they would stay with the male, a known good ratter, for twenty-four to forty-eight hours, then they would be returned to their master. At the end of fifty-seven days they would have a litter of kittens of good breeding. We would raise the little ones with families, because it is always fun to see the young cats grow up and it does not cost anything, the mother feeding her children.

After four to five weeks, the breeding centre would buy the kittens. They would be put in a well chosen house where good ratting females would be responsible for their education because, as demonstrated by Professor Zing Pank Kuo from the University of Ché-Kiang in China, the kitten needs to be trained as a hunter by a good ratting cat. This she-cat easily adopts the young that are put in contact with it. In these training houses there must be a cat-loving person who is interested in these matters.

The Ratting Cat Club has several of these houses in Le Havre. This is social work where a boy scout can be useful by seeking out the owners of good female ratters.

After two to three months the young cats are ready to be given away or sold. I saw a two and a half month old cat take 44 mice in eight days. He took rats at the age of seven months.

We do not doubt there will be a number of requests made to us from all parts of France and neighbouring countries wanting ratting cats.

In short, there is a whole organization to be set up, it is not very complicated and the goal to be achieved is important enough for the Public Authorities to try to put it into practice.

In 1649, the Pompadour stud farm was organized for horses, it was the starting point for all stallion depots. We could make stud farms to restore vigour to the feline race, our best defence against the rat.

In Le Havre you will visit, thanks to our Mayor, Mr. Léon Meyer, a stud cat depot and several houses where young cats are trained, members of the Ratting Cat Club and boy scouts have found cat-loving people for setting up these centres.

You will visit a dock where last year we trapped 145 rats in eight days. These rats were then destroyed with the means usually used by the Municipal Service of the City of Le Havre with powdered squill (1). At the same time cats were put in these docks.

((1) We use a mixture of equal parts of freshly powdered red squill powder (available from any medical druggist) and cooked, slightly fatty meat. Once made, this mixture must be used within a maximum of twenty-four hours. It is flavoured with a few drops of anise essence. Never touch it with your hand, and use a piece of wood or a spoon to position this bait. Replace meat with flour in places where rats can easily find alternative meaty foods. Do not put the bait in the

holes, but at a distance of ten to fifteen centimetres from the opening, because the rat knows very well to distrust any victuals placed right at its hole.)

At the present time five cats are permanently located there, from time to time they kill a rat which happens to stray there, but the damage is nil, one no longer finds any droppings on the ground, the grain which one see there remains intact, the bags are no longer perforated. In short, the staff at these docks have not found any rats for almost a year, thanks to the presence of five good ratting cats.

In Lyon, thanks to President Edouard Herriot, Deputy-Mayor of Lyon, there will soon be a stud farm for ratting cats and we will be able to see the services that these selectively bred animals can provide.

My goal today is to draw your attention: 1, To the need to create a new policy for the destruction of rats collectively on any given day; 2, to the role that the cat must play in the fight against the rat, which we are finally undertaking, by grouping together, thanks to the initiative of Professor Gabriel Petit.