

Rats, Lice, and History, How Zimmer.

a glance at the programme makes me realize that I owe our Committee an apology for spiling their pages with a title so unimposing, and apparently so far afield from the subject of our winter's work. It needs an explanation, and I can do this by giving the subtitle of the book we are reviewing. This reads: "A study in Biography, which after twelve preliminary chapters indispensable for the preparation of the lay-reader, deals with the life history of typhus-fever".

The day we decided upon our subject for the winter I chanced to pick up the book into the ugly title, and after reading the first chapter, felt that my having done so, to have been a coincidence. May I read you parts of it in illustration? (Read parts of Chapter I.)

Gibbon, the historian, writing in the last part of the 18th century, ¹⁷⁹⁶⁻¹⁷⁸⁰ fixes the period of the world's history when the condition of the human race was "most happy and prosperous" as the time between the years 96-180 A.D. He called it the Golden Age. Let us see if, today, we can agree with Gibbon. This "most happy and prosperous time" began with a plague, which at its height, killed thousands of people in a day at Rome. Tacitus says:

2. "houses were filled with dead bodies, and the streets with funerals." The period closed with a plague so severe that it threatened to exterminate the Roman army. It was at this time that malaria spread through Italy — a nation can recover from the demoralization caused by an epidemic, but it is slowly enervated by malaria. The attacks of plague are occasional, and in the pauses, reconstruction can take place, but malaria is continuous, and gradually saps the ^{and every} strength of its victims until deterioration is the result. It is prevalent in country districts and farmers with malaria neglect their farms. ^{The country people flee into the cities & crowd its places.} When the farms are deserted, famine results.

After a century or so of malaria, with many returns of the plague, Rome was pillaged by the barbarians from the forests of Germany. Plague and malaria were as much the conquerors of Rome as the Goths and Vandals.

In an early chapter, Hans ^{declares} ~~Rumors~~ that his chief purpose in writing a biography of one of the infectious diseases is to impress the fact that he is dealing "with a phase of man's history on earth which has received too little attention from poets, artists and historians. Swords and lances, arrows, machine-guns, and even high ^{explosives} ~~explosives~~ have had far less power with the fate of the nations, than the typhus-couse, the plague-flea, and the yellow-fever mosquito.

3.
At the time Gibbon wrote, he may have been justified in his statement. A hundred years before England had emerged from nearly three centuries of the plague, fifty years before Marseilles had been devastated by it. Diphtheria, typhoid-fever, typhus and consumption were prevalent. Communications with other countries had added cholera and small pox to the list of pestilences. Jenner had not found the effectiveness of vaccination — Antiseptics and asepsis did not come into use for a century after Gibbon's time, and he could not see how the work of scientists, and the advance of civilization would result in the control of pestilences. He looked at his own time, and he looked back across the darkness of the Middle Ages into the mist of ignorance^{ways} and disease which hung over them. Beyond them, the days of Rome plague-stricken though they were, seemed clear and bright in the sunlight. When Gibbon wrote, he could say that the Roman epoch he had chosen from the centuries was "most happy and prosperous".

Now that the pestilences are held in check by the discoveries science has made, it is difficult for us to picture their ravages ~~as~~ in former^{times}, and their influence upon history. Military engineers and medical men have made researches into history upon the decisive influence of disease

4 upon wars among nations. Our difficulty is to select instances from "the dreadful abundance". The list begins 500 years before Christ with the campaign of the Persians against the Greeks, - goes on thro' the Punic Wars, the civil struggles of Rome, & the advance of the Huns upon Constantinople. The story of the Crusades reads like a history of famine, with its resulting diseases, the centuries of struggle between France & Spain were again and again decided by plague, - during the thirty years war typhus & fever became an incessant scourge of the armies, and was scattered far and wide among wretched population under the ideal conditions for it, - abject poverty, famine, homeless wanderings and constant warfare. Later on, even Napoleon was helpless when faced with epidemics. All the records show that typhus, with its Crochets and vertebrae - plague, cholera, typhoid fever, dysentery was more common than all the great generals of history.

The next phase of our biography we will introduce in Mr. Quinsee's own words, (great parts marked in Chapter 9, pages 166 parts of 167-168)

Two chapters of the book are given to the Cause, - ~~they are~~ interesting, ~~even if revolting~~. Evidences of them have been found in the most ancient mummies from many parts of the world, - they were described by early travellers in all savage races encountered by them. But it is not necessary to illustrate the intimate part played by these creatures confined ourselves to ancient and primitive people to illustrate the intimate part played by these creatures in the social life of the human race. The barbarism of shaving the head and wearing a wig was

5¹ due, in part, at least, to the effort to keep down vermin
Even in the highest circles, as literature shows us, the
question of lice and of scratching were serious problems, and
the education of children included training in this matter.
Even far into the 18th century, they were regarded as inevitable.
(Rest story of Geo W page 189 to end of chapter)

Scientists have now quite well established the fact that the
subject of our biography is closely associated with rats, altho'
they ~~whole problem~~ have, by no means, solved the whole problem.
It is a curious fact, that long before there could have been
any definite knowledge about rats as the carriers of disease
mankind dreaded these animals, and pursued them. There are
references to this subject in ancient literature, in folk-lore also,
which point to a vague recognition of some connection between
plague and rats. The magistrates of Zoroaster believed
that in killing them, they rendered service to God.
In Elizabeth's time, days of prayer were set aside for protection
against ravages by rats, and we must not forget the importance
of the official rat-catcher (see Romeo & Juliet, act 5.
From the point of view of other living creatures, the rat is an
unmitigated nuisance and pest. It will live anywhere, and eat
anything. It climbs - it swims - its destructiveness is almost un-
bounded, - amounting in some places to an economic problem.
Man and the rat will always be pitted against each other as
implacable enemies, - and the rat's most potent weapon against man
has been its perpetual maintenance of the infection of plague and of
a great mass of information about infectious diseases typhus fever.
has accumulated ~~down~~ in the laboratories and clinics within the

6. Last thirty years, Louis Pasteur was the discoverer made
by Charles Nicolle in 1909, and furnished the first pamphlet
weapon for fighting typhus fever. It explained the manner
in which epidemics spread, it justified their historic association
with wars, ~~and the famine & pestilence which followed in their train.~~
But Nicolle's discovery left unanswered an important question
- how and where did the virus of typhus live between epidemics?
For the cause is even more susceptible than man, - it sickens and
dies in a few days. A search for other sources of infection
was begun, and the discovery was made of the virus in the
rat flea, and finally in the brains of the rats themselves.
This discovery was made during a small epidemic in Mexico City
during which one of the investigators lost his life, - not an uncommon
occurrence! Thus the cycle was complete - "Sanctus rats,
carry the infection. In them it is perpetuated by transmission
from rat to rat by rat fleas, which will feed upon man
when driven to seek a new host, by death of the old one.
The recent ^{1928 + 29} ~~discovery~~ ^{concerning insect-aided transmission} represents only a beginning, and the field
is being worked by investigators all over the world. Mr. Zinsser
says: It is a curious - page 283
What shall we say about the scientists who devote themselves to
this field, who spend their lives cultivating bacteria, inoculating
guinea-pigs, rabbits, mice and monkeys, who part about the dirty
corners of the world to study epidemics, toiling with the accurate
observation and infinite patience indispensable for the success of their
work. What is their incentive? The author of our book says:
(Can we quite believe him?) "men go into this branch of

4. science from a number of motives, the last of which is a self-conscious desire to do good. The point is, that it remains one of the few sporting propositions left for individuals who feel the need of a certain amount of excitement.

The study of infectious disease is one of the few genuine adventures left in the world, "The dragons are all dead, and the cause grows rusty in the chimney-corner." next page 13

We cannot finish our paper without alluding to the exploits of the hero of our biography in the World War. That every-one realized that typhus had at least as ^{great} a reason to claim that it "won the war" as any of the contending armies. — He raised his ugly head first in Serbia in November 1914, and found a devastated country after the first Austrian attack. — villages were in ruins and the non-combatant populations were short of shelter. There were scarcely any hospitals and few doctors, practically no nurses, — no beds — no linen — no medicines. The epidemic travelled with the wandering people, and the moving troops. In less than six months, more than 150,000 people died of typhus. Serbia was helpless, during all this time, but Austria did not attack. ^{any} The Ruman better. The Central Powers lost six months during the most critical part of the war. Typhus held the borders, and ^{while it} may not have won the war, but it certainly helped. Revolution, famine, epidemics of cholera, typhoid and dysentery helped the spread of the disease in Russia. There are no words to express the sufferings of the Russian people from 1917-1921 and it is stated that during these years there were no less and probably more than 25,000,000 cases in the territories controlled by the Soviet Republic. There were epidemics also in Poland, Rumania and the near East.

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But we are weary with horrors, - "moreover, figures, when they begin to approximate share of President Roosevelt's expenditures, ^{begin} to enfeeble the mind, and lose effect."

The records of the World's War are reassuring as far as the Western front is concerned, - and show what efficient sanitary and medical organization ^{can} do. Read market place, Page 305

What better argument against war could we have than ^{the facts} is contained in this book?