Payment of grants is made by the treasurer. Unused portions of grants should be returned on October 1 of each year.

Recipients of grants are expected to send to the permanent secretary's office at least one report during the fiscal year. Where results follow by reason of a grant, any publication on the subject should include due acknowledgment of the aid of the association.

HENRY B. WARD,
Permanent Secretary

QUOTATIONS

CONSIDER THE ANT

IF embryologists and evolutionists find it useful to correlate the structure and functions of man with those of lower animals, is there not reason to believe that something may be learned by comparing the social systems of men and insects? Professor William Morton Wheeler, of Harvard, does so in *The Scientific Monthly,* with results that would have pleased Dean Swift. Some 10,000 species of social insects are doing their best to set an example of loyalty, cooperation and devotion to the highest ideals. Some of these exemplars of correct social behavior began as long as a hundred million years ago to live in model communities. In comparison man is a mere upstart. His age is not more than a million years, so that his community life is but an expression of "social infantilism or immaturity."

If man is socially unstable, it is because of the "problem of the male," in Professor Wheeler's opinion. He is a restless, aggressive criminal. Such insects as the ants, bees and wasps settle the problem he presents by reducing him to futility and elevating the female. Woman reigns supreme among them—several kinds of women, in fact. The termites go even further. Keeping only a single monogamous male, they reduce the queen's offspring to sterility and set them "to work with their equally sterile sisters in the kitchens, dining rooms and nurseries, and at building and defending the termitary instead of permitting them to sit around like a lot of social parasites and annoy the females."

No well-disciplined, self-governing colony of ants or bees would tolerate the conduct of the human male. That worthy, as Professor Wheeler sees him, is forever killing something because he is hungry or because he likes to hunt; fighting with other males for a mate, or struggling for some selfish object. Wasps or bees would not even jail such a creature. They would kill him. From his anthropoid ancestors he has inherited intense egoism, pugnacity and the unsocial instincts that have always kept society in a state of turmoil. Professor Wheeler sees us confronted with a trilemma. We must find some means of socializing the large body of males that threaten to wreck civilization. Or we must return to a more unprogressive society resembling the termite state. Or we must lapse "into something like Spengler's Fellahin society." Professor Ernst Bergmann, of the University of Leipzig, agrees. Crush the male and save society is his formula. Go to the ant, consider her social ways and be wise.—*The New York Times.*

THE BIRTH RATE OF FRANCE

THE bureau of statistics has published a final report on the vital statistics of France in 1933. The general results are frankly unfavorable. There were 40,000 fewer births than in 1932, 200 more deaths and 600 more marriages. The excess of births over deaths was reduced to 21,600, as compared with 61,400 in 1932. The birth rate was reduced from 17.3 to 16.3 per thousand of population; the mortality remained stationary, and the number of marriages showed but slight variation (15.1, as against 15.0). The reduced birth rate is manifest chiefly in the southern departments of France. The central region shows little variation over the previous year. The excess of births over deaths is found chiefly in the departments of the North, West and East and has been so every year for a considerable period. It is surprising that the warmer regions of the South have fewer births, for Italy, under similar conditions, has an excess of births over deaths. In southern France, however, the population is less inclined to work hard. The people live a great deal in the open air and are fond of discussing, to little purpose, questions of politics, while the interest in religious questions is diminished. In place of industrial or agricultural work, they seek positions in the cities as employees or so-called civil servants. In this environment, increases in families appear to be less welcome. On the contrary, in the agricultural regions of Bretagne and Normandy, in which religious sentiments are more manifest and the interest in manual toil is greater, the families are larger. Children work in the fields at an early age. Similar conditions are found in the industrial regions of the North and the East, which are likewise more religious. In these regions school attendance is less rigorously supervised. The mayors of villages who have charge of school matters are inclined to permit peasants to keep their children at home for work in the fields. The conclusion is that the excess of births is in direct relation to the early use of the working power of the child and is in inverse proportion to school attendance, the progress of school instruction and interest in religion. Economic factors appear to be dominant. The number of children is evidently greater in regions where their services are profitable and is diminished in regions where their

presence is a burden on the family budget. The departments that have the most divorces have the smallest number of children per family. Widespread unemployment has caused many foreign workers to return to their own country, particularly the Poles and the Czechoslovakians, who came to France after the war. These foreign peasant families have always been more prolific than the French. The unchanging nature of the birth rate shows no improvement in spite of the development of the prophylactic services, the dispensaries and the hospitals.—*The Journal of the American Medical Association.*

SCIENTIFIC BOOKS

LIFE OF NEWTON

Isaac Newton, a Biography. By LOUIS TRENCHARD MORE. Pp. xii, 675. Charles Scribner's Sons, New York. $4.50.

THIS is an important and valuable book. Most of us get all that we know about Newton from Brewster's Life, and Brewster was so impressed by Newton's intellectual greatness and so desirous to present his character as without a flaw that he suppressed all evidence that had not already been made public which tended to show that Newton also had his human weaknesses and errors. A critical biography, in which all that can now be discovered about Newton is given its place and weight, has long been needed. This book supplies the need.

Dean More is eminently qualified for the task which he has now completed. He is a physicist of distinction, a widely read scholar, an acute critic, and, further, he is thoroughly in sympathy with Newton's philosophical method, which begins with experiments, proceeds by induction and makes no hypotheses.

Apparently all the sources from which information can be gathered about Newton's life and work have been examined. Some new matter has been introduced, such as the account of his first note-book as a schoolboy and some unpublished extracts from letters and private papers. But most of the details have been published elsewhere, either in biographies or in monographs. The peculiar value of the book depends upon the care with which all the available information has been collected and arranged, and the candor and impartiality with which controversial questions have been presented.

The events of Newton's life are not many, and recorded by themselves would be of little interest. Dean More has enriched the simple record by descriptions of the conditions in which Newton's life was spent, by accounts of the men with whom he came in contact and by elaborate dissertations on his work. Thus the fact that Newton was an undergraduate and later a fellow of Trinity College, Cambridge, is made interesting by an account of the customary curriculum pursued by an undergraduate and by a description of Trinity College. Newton's invention of a reflecting telescope introduces an account of the invention and development of the refracting telescope. The account of Newton's first communication to the Royal Society, in which he presents his discovery of the composition of white light, is followed by a chapter on Newton's theory of light and his philosophical method. The account of Newton's chemical work is accompanied by a justification of his having entertained the hopes of the alchemist. The description of the "Principia" is preceded by a chapter on the mechanistic hypothesis as it appeared in the thoughts of Newton's predecessors.

After the "Principia" was published the course of Newton's life changed and he was thrust into the arena of politics by the attack of King James on the freedom of the universities. To explain the course which Newton followed a full account is given of the political situation, so far as it affected the universities. Newton's famous mental disturbance after the intense strain of many years is carefully studied, and the conclusion is reached that it was a simple case of nervous breakdown, which released Newton's naturally suspicious nature and made him doubt the conduct of his best friends, while it did not impair his intellectual powers and passed away completely in the course of a year. For two or three years following Newton was occupied with the lunar theory, with a view to a second edition of the "Principia." He was suddenly called away from his scholarly seclusion by being appointed Warden of the Mint. He removed from Cambridge to London and devoted himself to his new duties, which were exceptionally important because he took office shortly after the great reform in the coinage had been begun by his friend and patron Montague, and when the mint was strained to the utmost to provide the new money. A full account of the monetary situation and of the general political situation as well is given to introduce the story of Newton's work. Not to mention many other instances in which the bare narrative is elucidated with historical or critical additions, reference must be made to the chapters in which Newton's controversies with Flamsteed and with Leibnitz are presented. His earlier controversies with Hooke were given in the chapters on light and on the "Principia." These controversies are examined with scrupulous fairness, and the conclusions that are reached may be accepted as final.

In the difficulties with Hooke, Newton comes off fairly well. Hooke was so irascible and so given to