find some other similar episode in human history. One such is to be found among the ancient Greeks, and, as in the present episode, science was held blameworthy. Perhaps the antiquity of the episode is sufficient to enable us to view it impersonally and objectively in the present.

Burnet[2] remarks: "My aim has been to show that a new thing came into the world with the early Ionian teachers—the thing we call science—and that they first pointed the way which Europe has followed ever since, so that, as I have said elsewhere, it is an adequate description of science to say that it is 'thinking about the world in the Greek way.'"

A student, in talking with me recently, remarked that he had never seen any real definition of the scientific method, although he had heard much about it. My reply was that perhaps an idea of the scientific method was to be gained only by a study of the way in which men of science had gone about the solution of their problems. And a knowledge of how the Greeks thought about the world is to be gained only by a study of their work. But let us grant Burnet's contention, as I am more than willing to do without reservation. And passing over the controversy between him and Stace (p. vi) as to whether Parmenides was "the father of Materialism" let us look briefly at some of the consequences of "thinking about the world in the Greek way."

One great change which occurred in the period from Thales to Plato was the substitution of a world, perhaps even a universe, of law for the older world of caprice. The older, traditional view of the world broke down, and with the passing of the traditional view of nature, "the ancestral maxims of conduct" were more seriously questioned. Aristotle faced the problem of developing a system of ethics, as one result of the work of the earlier Greeks. Whether the results of Aristotle's attempts are to be regarded as wholly satisfactory or not is a question which I shall not attempt to answer. But there is evidence, drawn from his Greek and Roman successors, that his attempt was not wholly satisfactory to them.

It has been said that the aim of the Stoics was to develop a "philosophy for the practical man." Cleanthes, leading political philosopher of his day in Athens, and probably the most influential of all in the selection of candidates for university professorships, tried to stabilize the view of the world which had been attained by his time, and accused Aristarchus of Samos of impiety for suggesting a new view of the nature of the sun. There is little doubt that the Roman poet Horace, from whose ode I have taken my text, lived in an even worse time than that of Cleanthes. For some reason, the philosophy for the practical man had not worked out as the Stoics thought it might, and the older view of nature had never been fully restored. But would the substitution of Jove and his thunderbolts for the view of nature current in the time of Horace really have improved conditions very much? Or was there some other phase of the problem, some other unknown quantity in the equation? And were the men of science of previous centuries the ones most blameworthy for the development of the conditions which Horace lamented?

[2] "Early Greek Philosophy," 4th ed., 1930, p. v.

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A SIMPLE METHOD OF CONTROLLING TERMITES

ACCORDING to various reports termites cause damage to frame buildings in this country that amounts to millions of dollars annually. This damage could be reduced considerably if precautions were taken to prevent the termites from entering a building while it is being constructed. The author has found a very simple and inexpensive method of keeping them out of his own home, and it should be applicable to almost any building regardless of the kind of material used in its construction. At every place where the building touches the ground discarded lubricating oil drained from the crankcase of an automobile was poured into little ditches around the supporting foundation. The house used for the experiment has 56 concrete piers in the foundation. Around each of these about a quart of discarded oil was poured. A proportionate amount was poured around the base of the chimney. One place around some concrete steps was inadvertently overlooked. At this place termites entered the house, but at no other place. These were killed with fumes of chloroform, and oil was applied to the place of entry. Although the soil around the house is badly infested with termites, the building has been free from them, with the one exception mentioned, since it was built early in 1938.

The oil stays in the ground for a long time and does not diffuse more than a few inches from the little ditches. Apparently it does not affect the growth of shrubs six inches away. No doubt crude oil would give as good results as oil drained from motors.

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HUMBOLDT CURRENT IN 1941

ALONG the west coast of South America and in the Galapagos, there is a generally accepted tradition of a seven-year cycle associated with the Humboldt (Peru) Current. This belief has been shared by many

leading scientists. The terribly destructive rains of 1925, followed by conspicuous, yet less marked phenomena in 1932 and 1939, have lent further support to this theory. But the unexpectedly heavy precipitation of January, February and March of last year, with its direct and indirect effect upon sea and animal life which I observed at the time of the Lima Assembly of the Pan American Institute of Geography and History, apparently has not been noted in scientific literature.

A subsequent search into the scattered and scanty records of known periodic changes in the Humboldt Current has not yielded satisfactory results. The most illuminating record of Peruvian rains, which I have seen, appears in an article entitled "Las Lluvias en Piura,"[1] which summarizes the rains over a hundred-year period. There were six dry intervals of three years each, two of four years each, one eleven-year interval, one nine-year interval, one six-year interval, six two-year intervals, at least twelve one-year intervals and five periods of two or more successive wet years. The most thorough investigation of this region in the 'twenties and 'thirties has been made by Dr. Robert Cushman Murphy.[2]

The earlier records relating to the wet and dry cycles off the Humboldt Current area are probably not so carefully made as the data of the past fifteen years. A lamentable absence of adequate reporting stations is obvious. Yet surely, the rains of 1941 have disproved the existence of the reputed seven-year cycle.

ELIOT G. MEARS

QUOTATIONS

SCIENCE AND WAR

IN the magazine SCIENCE Dr. Peter L. Kapitza, a physicist whose name is identified with brilliant efforts to reach absolute zero, reviews the work done by Russian scientists to improve weapons and to find substitutes for much needed importations. His story parallels that which has been told by American and British scientists. If it departs from the familiar pattern it is because of its insistence on the highly practical character of Russian scientific research. Since science must serve the state in Russia, it has concerned itself with discoveries that can be applied in the factory, on the farm and in the hospital. Though this policy has made it difficult for the theorist to thrive, it is now bearing fruit in the form of highly efficient airplanes, improvements on old surgical procedures and the better utilization of raw materials. Here and in Great Britain it was necessary to mobilize science for the war effort. Russian science was mobilized by the state from the very beginning, so that the change from peace to war research was easy.

Scientists deplore war not only because it diverts attention from the urgency of problems which, if solved, would conquer baffling diseases and shed much needed light on the structure of the universe, the nature of matter, the mystery of life, but also because it exploits science. Dr. Kapitza strikes a different note. As he sees it, science derives much inspiration from war. He makes much of the Haber process for synthesizing ammonia—a process which not only enabled Germany to stave off defeat during the last war but which gave her fertilizers. He might have gone farther. The laws of gravitation were derived from ballistics as much as from swinging pendulums. Studies of the gases liberated when guns are fired gave both chemistry and physics an enormous impetus. Blood banks and the control of typhus came out of war, and so did some of the new techniques for operating on the brain and for repairing head injuries.

It is worth noting that the only institutions where science was systematically taught during the eighteenth century were the artillery schools of France; that the heavy chemical industry was created when Leblanc met an urgent wartime need for soda; that the earliest sewing machine, that of Thimmonier, was first used in making uniforms; that synthetic rubber, synthetic gasoline and the whole coal-tar chemical industry were developed by Germany with an eye on the inevitable British blockade. What gains science may make as the result of the present war no one can predict with certainty. Already it is clear that new plastics of startling properties will be developed, that a healthy synthetic rubber industry will be established, and that new synthetic drugs will take the place of those which we have hitherto extracted from imported plants.—*The New York Times* for April 19.

SCIENTIFIC BOOKS

ORGANIC CHEMISTRY

The Chemistry and Manufacture of Cosmetics. By MAISON G. DE NAVARRE. xix + 745 pp., with numerous illustrations and tables. New York: D. Van Nostrand Co., Inc. 1941. 8.00.

THE book opens with a Foreword by Dean Roland

[1] *Boletin de la Sociedad Geografica de Lima,* Tomo IV, 1894.

[2] *Geog. Rev.,* 16: 26–54, 1926, and 29: 1–33, 1939.