

and had with characteristic energy and administrative ability constructed, in the midst of warfare and from the very beginnings, a fleet which had already seriously rivalled and was destined ultimately to overwhelm the fleet of Carthage. The army of Rome had just reduced Hannibal to impotence. A strong detachment of the Roman fleet and an army under the command of Marcellus were dispatched to overwhelm the small and impudent neighbouring republic.

It must have appeared a trivial undertaking. A republic consisting of one small city and a patch of adjacent country, without a fleet and without allies, was a small mouthful for the strong jaws of Rome. But Rome had reckoned without Archimedes.

In the household or "court" of Hiero had dwelt for many years, as tutor to his son, and as trusted adviser and counsellor, the greatest investigator of antiquity. The name and fame of Archimedes were known to every educated man in Europe. A geometrician of the foremost ranks, he was also the founder of the science of mechanics, an astronomer of extraordinary ability and the most important contributor to the science of optics of his age. As a mathematician and a philosopher, as an expounder of profound speculations concerning the structure of the universe, Archimedes was already well known to the Romans, and he was now in the declining years of his life to appear before them in a new role, that of a well-nigh fatal military obstacle.

The Roman fleet duly appeared and anchored before the walls of Syracuse, and thereupon fell, as it were from the skies, stones of unparalleled weight hurled from seemingly impossible distances, which crashed through decks and hulls like so much paper, engulfing ships and soldiers without a moment's warning.

The remnants of the shattered fleet were hurriedly removed beyond the range of these infernal engines and reinforcements were summoned to

begin the siege anew, but from a more respectful distance.

The reinforcements had been collected and stood in formidable array blockading the sea approach to Syracuse, when, of a sudden, flashes of light and burning tongues of fire issued from the walls, igniting the sails of the great fleet, and for a second time the majestic power of Rome stood humiliated before the knowledge and resourcefulness of a trained investigator of nature.

Luckily for Rome the loss of so many ships was not so serious a matter as it might have been in the previous war. Carthage had been hit a shrewd blow and was in no condition to assist the Syracusans. So Rome was able to concentrate her energies upon the task and by sheer weight of numbers and resources to crush the infant republic and to lay the city in ruins—among which Archimedes fell to the sword of a Roman soldier.

And so Rome conquered in a material sense and was in the same moment spiritually defeated, for she most gravely misinterpreted, as we are but too apt to-day to misinterpret, the part played by the investigator in the conflict. To this day in a popular moving-picture, Archimedes, who figures as an eccentric pantaloon apparently far advanced in his second childhood, is represented in the act of evolving, in one flash of inventive eccentricity (one could not apply the word genius to the figure depicted on the screen) the engines which proved so nearly fatal to Roman supremacy. If that were indeed the case then and now, if great inventions came to the favoured few in flashes of inimitable inspiration, then, indeed, the progress of science and invention would be impossible to influence for good or yet for evil, and we could but wait for the revelations to unfold themselves in the brains of the chosen.

So, doubtless, the Romans regarded the matter. The defence of Syracuse was to them an isolated pheno-