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ON THE RELATIVE EDUCATIONAL WORTH OF THE CLASSICS AND THE MATHEMATICO-PHYSICAL SCIENCES IN COLLEGES AND HIGH SCHOOLS¹

BY PROF. ERNST MACH.

PERHAPS the most fantastic proposition that Maupertuis,² the renowned president of the Berlin Academy, ever recommended for the approval of his contemporaries was that of founding a city in which, to instruct and discipline young students, only Latin should be spoken. Maupertuis's Latin city remained an idle wish. But for centuries Latin and Greek *institutions* exist in which our children spend a goodly portion of their days, and whose atmosphere constantly envelops them, even when without their walls.

For centuries instuction in the ancient languages has been zealously cultivated. For centuries its necessity has been alternately championed and contested. More strongly than ever are authoritative voices now raised against the preponderance of instruction in the classics and in favor of an education more suited to the needs of the time, especially for a more generous treatment of mathematics and the natural sciences.

In accepting your invitation to speak here on the relative educational worth of the classical and the mathematico-physical sciences in colleges and high schools, I found my justification in the duty and the necessity laid upon every teacher of forming from his own experiences an opinion upon this important question, as partly also in the special circumstance that I was personally under the influence of school-life for only a short time in my youth, just previous to my entering the university, and had, therefore, ample opportunity to observe the effects of widely different methods upon my own person.

Passing, now, to a review of the arguments which the advocates of instruction in the classics advance, and of what the adherents of instruction in the physical sciences in their turn adduce, we find ourselves in rather a perplexing position with respect to the arguments of the first named. For these have been different at different times, and they are even now of a very multifarious character, as must be where men advance,

¹An address delivered before the Congress of Delegates of the German Realschulmännervereins, at Dortmund, April 16, 1886.

² Maupertuis, Œuvres, Dresdea, 1752, p. 339.

in favor of an institution that exists and which they are determined to retain at any cost, everything they can possibly think of. We shall find here much that has evidently been brought forward only to impress the minds of the ignorant; much, too, that was advanced in good faith and which is not wholly without foundation. We shall get a fair idea of the reasoning employed by considering, first, the arguments that have grown out of the historical circumstances connected with the original introduction of the classics, and, lastly, those which were subsequently adduced as accidental afterthoughts.

Instruction in Latin, as Paulsen¹ has minutely shown, was introduced by the Roman Church along with Christianity. With the Latin language were also transmitted the scant and meagre remnants of ancient science. Whoever wished to acquire this ancient education, then the only one worthy of the name, for him the Latin language was' the only and indispensable means; such a person had to learn Latin to rank among educated people.

The wide-spread influence of the Roman Church wrought many and various results. Among those for which all are glad, we may safely count the establishment of a sort of *uniformity* among the nations and of a regular international intercourse by means of the Latin language, which did much to unite the nations in the common work of civilisation, carried on from the fifteenth to the eighteenth century. The Latin language was thus long the language of scholars, and instruction in Latin the road to a liberal education—a shibboleth still employed, though long inappropriate.

For scholars as a class, it is to be regretted, perhaps, that Latin has ceased to be the medium of international communication. But the attributing of the loss of this function by the Latin language to its incapacity to accommodate itself to the numerous new ideas and conceptions which have arisen in the course of the development of science is, in my opinion, wholly erroneous. It would be difficult to find a modern scientist who had enriched science with as many new ideas as Newton has, yet Newton knew how to express those ideas very correctly and precisely in the

1 F. Paulsen, Geschichte des gelehrten Unterrichts, Leipsic, 1885.

Latin language. If this view were correct, it would also hold true of every living language. Originally every language has to adapt itself to new ideas.

It is far more likely that Latin was displaced as the literary vehicle of science by the influence of the nobility. By their desire to enjoy the fruits of literature and science, through a less irksome medium than Latin, the nobility performed for the people at large an undeniable service. For the days were now past when acquaintance with the language and literature of science was restricted to a caste, and in this step, perhaps, was made the most important advance of modern times. To-day, when international intercourse is firmly established in spite of the many languages employed, no one would think of reintroducing Latin.¹

The facility with which the ancient languages lend themselves to the expression of new ideas is evidenced by the fact that the great majority of our scientific ideas, as survivals of this period of Latin intercourse, bear Latin and Greek designations, while in great measure scientific ideas are even now invested with names from these sources. But to deduce from the existence and use of such terms the necessity of still learning Latin and Greek on the part of all who employ them is carrying the conclusion too far. All terms. appropriate and inappropriate,-and there are a large number of inappropriate and monstrous combinations in science,-rest on convention. The essential thing is, that people should associate with the sign the precise idea that is designated by it. It matters little whether a person can correctly derive the words telegraph, tangent, ellipse, evolute, etc., if the correct idea is present in his mind when he uses them. On the other hand, no matter how well he may know their etymology, his knowledge will be of little use to him if the correct idea is absent. Ask the average and fairly educated classical scholar to translate a few lines for you from Newton's Principia, or from Huygens's Horologium, and you will discover at once what an extremely subordinate rôle the mere knowledge of language plays in such things. Without its associated thought a word remains a mere sound. The fashion of employing Greek and Latin designations-for it can be termed nothing else-has a natural root in history; it is impossible for the practice to disappear suddenly, but it has fallen of late considerably into disuse. The terms gas, ohm, Ampère, volt, etc., are in international use, but they are not Latin or Greek. Only the person who rates the unessential and accidental husk higher than its contents, can speak of the necessity of learning Latin or Greek for such reasons, to say nothing of spending eight or ten years on the task. Will not a dictionary supply in a few seconds all the information we wish on such subjects?¹

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It is indisputable that our modern civilisation took up the threads of the ancient civilisation, that at many points it begins where the latter left off, and that centuries ago the remains of the ancient culture were the only culture existing in Europe. Then, of course, a classical education really was the liberal education, the higher education, the ideal education, for it was the sole education. But when the same claim is now raised in behalf of a classical education, it must be uncompromisingly contested as bereft of all foundation. For our civilisation has gradually attained its independence; it has lifted itself far above the ancient civilisation, and has entered generally new directions of progress. Its note, its characteristic feature, is the enlightenment that has come from the great mathematical and physical researches of the last centuries, and which has permeated not only the practical arts and industries but is also gradually finding its way into all fields of thought, including philosophy and history, sociology and linguistics. Those traces of ancient views that are still discoverable in philosophy, law, art, and science, operate more as hindrances than helps, and will not long stand before the development of independent and more natural views.

It ill becomes classical scholars, therefore, to regard themselves, at this day, as the educated class *par excellence*, to condemn as uneducated all persons who do not understand Latin and Greek, to complain that with such people profitable conversations are not to be carried on, etc. The most delectable stories have got into circulation, illustrative of the defective education of scientists and engineers. A renowned inquirer, for example, is said to have once announced his intention of holding a free course of university lectures, with the word "frustra"; an engineer who spent his leisure hours in collecting insects is said to have declared that he was studying "etymology." It is true, incidents of this character make us shudder or

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There is a peculiar irony of fate in the fact that while Leibnitz was casting about for a new means of universal linguistic intercourse, the Latin lan guage which still subserved this purpose the best of all, was dropping more and more out of use, and that Leibnitz himself contributed not the least to this result.

¹As a rule, the human brain is too much, and wrongly, burdened with things which might be more conveniently and accurately preserved in books where they could be found at a moment's notice. In a recent letter to me from Düsseldorf, Judge Hartwich writes:

[&]quot;A host of words exist which are out and out Latin or Greek, yet are em "ployed with perfect correctness by people of good education who never had "the good lock to be taught the ancient languages. For example, words like "'dynasty.'.. The child learns such words as parts of the common stock of "speech, or even as parts of his mother-tongue, just as he does the words "father,' mother,' 'inread,' milk.' Does the ordinary mortal know the ety-"mology of these Anglo-Saxon words? Did it not require the most incredible "industry of the Grimm's and other Teutonic philologists to throw the emper-"glimmerings of light upon the origin and growth of our own mother-tongue? "every moment hosts of words of foreign origin whose derivation they do not "know? Very few of them think it worth while to look up such words in the "ancient languages for the sake of etymology alone."

smile, according to our mood or temperament. But we must admit, the next moment, that, in giving way to such feelings we have merely succumbed to a childish prejudice. A lack of tact but certainly no lack of education is displayed in the use of such half-understood expressions. Every candid person will confess that there are many branches of knowledge about which he had better be silent. We shall not be so uncharitable as to turn the tables and discuss the impression that classical scholars might make on a scientist or engineer, in speaking of science. Possibly many ludicrous stories might be told of them, and of far more serious import, which should fully compensate for the blunders of the other party.

The mutual severity of judgment which we have here come upon, may also forcibly bring home to us how really scarce a true liberal culture is. We may detect in this mutual attitude, too, something of that narrow, mediæval arrogance of caste, where a man began, according to the special point of view of the speaker, with the scholar, the soldier, or the nobleman. Little sense or appreciation is to be found in it for the common task of humanity, little feeling for the need of mutual assistance in the great work of civilisation, little breadth of mind, little truly liberal culture.

A knowledge of Latin, and partly, also, a knowledge of Greek, is still a necessity for the members of a few professions by nature more or less directly concerned with the civilisations of antiquity, as for lawyers, theologians, philologists, historians, and generally for a small number of persons, among whom from time to time I count myself, who are compelled to seek for information in the Latin literature of the centuries just past.1 But that all young persons in search of a higher education should pursue for this reason Latin and Greek to such excess; that persons intending to become physicians and scientists should come to the universities defectively educated, or even miseducated; and that they should be compelled to come only from schools that do not supply them with the proper preparatory knowledge is going a little bit too far.

After the conditions which had given to the study of Latin and Greek their high import had ceased to exist, the traditional curriculum, naturally, was retained. Then, the different effects of this method of education, good and bad, which no one had thought of at its introduction, were realised and noted. As natural, too, was it that those who had strong interests in the preservation of these studies, from knowing no others or from living by them, or for still other reasons, should emphasise the good results of such instruction. They pointed to the good effects as if they had been consciously aimed at by the method and could be attained only through its agency.

One real benefit that students might derive from a rightly conducted course in the classics would be the opening up of the rich literary treasures of antiquity, and intimacy with the conceptions and views of the world held by two advanced nations. A person who has read and understood the Greek and Roman authors has felt and experienced more than one who is restricted to the impressions of the present. He sees how men placed in different circumstances judge quite differently of the same things from what we do to-day. His own judgments will be rendered thus more independent. Again, the Greek and Latin authors are indisputably a rich fountain of recreation, of enlightenment. and of intellectual pleasure after the day's toil, and the individual, not less than civilised humanity generally, will remain grateful to them for all time. Who does not recall with pleasure the wanderings of Ulysses, who does not listen joyfully to the simple narratives of Herodotus, who would ever repent of having made the acquaintance of Plato's Dialogues, or of having tasted Lucian's divine humor? Who would give up the glances he has obtained into the private life of antiquity from Cicero's letters, from Plautus or Terence? To whom are not the portraits of Suetonius undying reminiscences? Who, in fact, would throw away any knowledge he had once gained?

Yet people who draw from these sources only, who know only this culture, have surely no right to dogmatise about the value of some other culture. As objects of research for individuals, this literature is extremely valuable, but it is a different question whether it is equally valuable as the almost exclusive means of education of our youth.

Do not other nations and other literatures exist from which we ought to learn? Is not nature herself our first school-mistress? Are our highest models always to be the Greeks, with their narrow provinciality of mind, that divided the world into "Greeks and barbarians," with their superstitions, with their eternal questionings of oracles? Aristotle with his incapacity to learn from facts, with his word-science; Plato with his heavy, sesquipedalian dialogues, with his barren, at times childish, dialectics—are they unsurpassable?

I Standing remote from the legal profession I should not have ventured to declare that the study of Greek was not necessary for the jurists; yet this view was taken in the debate that followed this lecture by professional jurists of high standing. According to this opinion, the preparatory education obtained in the German Realgymmasium would also be sufficient for the future jurists and insufficient only for theologians and philologists. [In England and America not only is Greek not necessary, but the law-Latin is so peculiar that even persons of good Classical education cannot understand it. $-Tr_{7}$.]

In emphasising here the weak sides of the writings of Plato and Aristotle, brought to my attection while reading them in German translations, 1, of course, have no intention of underrating the great merits and the high historical importance of these two men. Their importance must not be measured by the fact that our speculative philosophy still moves to a great extent in their paths of thought. The more probable conclusion is that this branch has made very little progress in the last two thousand years. Natural science

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The Romans with their apathy, their pompous externality, set off by fulsome and bombastic phrases, with their narrow-minded, philistine philosophy, with their insane sensuality, with their cruel and bestial indulgence in animal and man baiting, with their outrageous maltreatment and plundering of their subjects—are they patterns worthy of imitation? Or shall, perhaps, our science edify itself with the works of Pliny who cites midwives as authorities and himself stands on their point of view?

Besides, if an acquaintance with the ancient world really were attained, we might come to some settlement with the advocates of classical education. But it is words and forms, and forms and words only, that are supplied to our youth; and even collateral subjects are forced into the strait-jacket of the same rigid method and made a science of words, sheer feats of mechanical memory. Really, we feel ourselves set back a thousand years into the dull cloister-cells of the Middle Ages.

[TO BE CONTINUED.]

THE PHILOSOPHY OF A HUMORIST. [concluded.]

III. THE DOMAIN OF MORAL ASPIRATIONS.

Having escaped from the philosopher's study, Edward entered in his dream another world. He found himself in a pleasant valley, the roads fringed with fruit-trees, and saw at a distance mountains rising higher and higher, finally to disappear in the clouds. The broad highroad was crowded with many merry people, all travelling in the same direction. One only ran back. He looked wretched, was covered with bruises, and ill at ease. He jumped over the fences and ditches without looking behind him. "Tommy has gone crazy," said the people, laughing, and went on.

Edward soon noticed whither the people went. Where the highroad approached the rocks, near a dark tunnel, there stood an inn called "The Cloven Hoof," an old spacious mansion newly furnished, and for ages very popular as a pleasure-resort. The host, a jovial fellow, limped slightly. People say that in his youth he had been in a brawl in which he got the worst of it. His seven daughters, who were jokingly called the "Seven Deadly Sins," contributed greatly to increase their father's business. From the porch they threw kisses to the arriving guests. In the basement he saw the cook standing in the kitchen,-an old, wrinkled hag, the grandmother of mine host, the landlord. All the guests at the inn were extremely merry. There was music and dancing, and no one thought of going home. Among the guests Edward found many old acquaintances. As is usual in dreams, he was not at all astonished; but there was one thing he could not make

also was implicated for centuries in the meshes of the Aristotelian thought, and owes its rise mainly to having thrown off those fetters, out; he saw the really good man who had contributed his share to the collection for foreign and home missions sitting in a corner, together with one of the daughters of the host, drinking champagne. At midnight the hotel 'bus came to the rear door. Its color was black, and it had silver trimmings. It was not arranged for sitting, but for lying; and was not opened behind, but above. It did not bring newcomers, but took them away. The driver, with his black coat, looked much pleased, but he was pale and thin, like Hunger personified. Shouting to the horses ''get up," he drove into the tunnel. But the dance went on as before.

As the morning dawned our pilgrim in dreamland approached the mountains and came into the company of four travellers. They were called "The Four Good Intentions." The name of the first was "I Had Better," of the second "Shouldn't I," of the third "However," and of the fourth "Never Mind." Mr. I-Had-Better had a red nose; Mr. Shouldn't-I had a round belly; Mr. However had big black spectacles; and Mr. Never-Mind was a sleek little fellow, who knew best himself how pleasant he was. They inquired about Edward's affairs and his name, whereupon he said:

> " I come from naught, I am full of thought, I'm not easily caught; But my name I won't tell you."

"Then we'll call you Spirlifix," pleasantly shouted Mr. Never-Mind. The three others laughed so heartily that Mr. I-Had-Better's nose became blue, three buttons of Mr. Shouldn't-I's vest sprang off, and Mr. However's spectacles became hazy with tears of laughter. Edward was not very much pleased with the joke and flew about three yards above the company. In humorous chats they walked on, and the sun rose higher. Mr. Shouldn't-I took off his coat and hanging it on his stick carried it over his shoulder. Mr. Never-Mind began to whistle, Mr. I-Had-Better said "Move slowly, for I 've got a blister on my heel," and Mr. However observed "It is sultry. We may have a thunder storm."

When the sun rose still higher Mr. I-Had-Better stood still, took out a bottle and said, "What do you think of this?" Mr. Shouldn't-I took out a big sausage, saying : "What do you think of that?" Mr. However stopped also, beginning slowly, "If we are only not—" but before he could finish, Mr. Never-Mind took out his knife, and shouting : "Come old blade," proposed to cut the sausage. Then they looked for a cool place, sat down and took lunch. Edward seated himself upon a withered branch and looked at them. "Spirlifix, come down," shouted the goodnatured Shouldn't-I, showing his sausage, and I-Had-Better offered the bottle. "Thank you," said Edward,

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for he felt above these trivialities. After a while the four travellers continued their march, and the sun shone down almost perpendicularly. Their steps became slow and their talk discontinued. First, Mr. I-Had-Better remained behind. He sat down under a big tree, took off his shoe and rubbed his foot with tallow ; then Mr. Shouldn't-I stopped too and sat down to rest behind another tree. But their comrades did not notice the absence of the two. They came to a place where they could look down into the valley, and they saw at the foot of the mountain the jovial establishment from which they had started in the morning. The sound of pleasant music came up to them and Mr. Never-Mind stood still, took out his opera-glass, and when he became aware of the many pretty girls sitting in the garden he went to the slope and slid down. Mr. I-Had-Better saw where Mr. Never-Mind had started for and also began to slide down. Mr. Shouldn't-I was at once inclined to do the same and followed him. Thus Mr. However, who was deep in thought and did not notice the absence of his colleagues, continued his march alone. "Boys," he began, "the more I consider it, the more I find that our project is a very doubtful enterprise, what do you think?" Turning round he saw no one and said, "My spectacles are hazy, I have perspired." And having wiped his glasses he at last discovered his colleagues sliding down hill. Mr. However was always given to reflexion, but as soon as he had made up his mind his decision was firm. So it was now ; he went down hill too and arrived at the end quicker than his comrades.

Our dreamer in the meantime continued on his way. Before him walked a pedlar carrying a wickerbasket full of glassware. He was very careful, and passing the stump of a tree placed the basket on it. Relieved of his burden, he sat down in the grass to rest. "Alas," he sighed, "how troublesome is life." Suddenly a gust of wind came and blew the basket to the ground, so that all the glass broke. "Woe upon me !" said the pedlar, "I have scarcely uttered a word of complaint and this accident happens !" He was very much crestfallen and went to the sandy slope, placed himself in the empty basket, used his stick as a rudder and slid down hill. There he met the four Good Intentions and was merrily welcomed by them. He must have been an old acquaintance of theirs. The music just played a splendid pot-pourri and the fun was great.

Continuing his upward journey the migratory dreamer came among the rocks and found in a cave, tied to his seat, with his back turned towards the light and his face towards the wall that unfortunate man of whom Plato tells us; he has by this time been reborn ten thousand times and yet knows nothing of the things which pass by at the entrance of his cave, recognising only the shadows which they throw at the wall. Edward stood still a few seconds at the opening of the cave. The Platonist thought it was a black fly-speck at the wall and greeted his visitor as such, who left him with a smile.

As our hero approached the next corner of the rocks he heard a noise similar to that which the cook makes when pounding meat. Coming near he saw a man who was whipping his naked back mercilessly. "What do you do, good friend?" Edward asked. "Life is a blunder," the man said, busily continuing his work, "I scourge it."

Edward went higher and arrived in a desert place where he saw a bald-headed man looking fixedly at one and the same spot. "What do you do, old boy?" Edward asked him. "Life is an error," the bald-headed man said, "I think it away." He had thought away all his hair and continued to think.

Again our dreaming wanderer went higher and reached a hermitage where, on a mossy stone a hoary hermit sat motionless, without stirring a limb. "What do you do, my friend?" Edward asked. "Life is a sin," said the hermit, "I do penance for it;" and he continued to sit quietly.

Rising higher and higher Edward came to a green, flowery meadow in the middle of which rose a mighty castle. It had neither windows nor embrasures nor chimneys, but only one firmly locked gate with a drawbridge. It appeared to be built of smooth steel, so that no one, not even the hero of this story, although he was a mere point, and a dreaming point, too, could enter. Edward made several attempts to penetrate through the walls of the castle, but in vain. It was a painful sensation to him, for either the liberty of unimpeded motion which he had always imagined he possessed had noticeably disappeared, or there must be things which were too strong for him.

Edward addressed himself to an old forester who stood at the edge of the woods, but he seemed deaf for he placed his hand behind his ear and began to draw the smoke from his pipe with greater vigor than before. "Old graybeard," said Edward, "can you not tell me what that castle is good for?" "Little imp," he replied, "I also belong to those who do not know, but my grandfather told me often that he didn't know either, and as to his grandfather he had told my grandfather that its existence was beyond recollection, and people supposed a secret tunnel to exist between the castle on the mountain and the inn down in the valley." "What," thought our dreamer, "little imp he calls me?" Edward turned his back upon the old chap and looked at the castle. In the moat a number of little pitch-black devils were sporting. They were trying to catch butterflies with nets, and when they had caught one they fastened him with pins. Now the gate of the castle opened and a long procession of rosy babies thronged out over the bridge to the meadow. They began to play merrily, and the little devils mixed themselves up with the children, teasing them and wrangling with them. But the color of the little devils rubbed off, and the children looked as if they had been playing Old Maid. Upon the trees which stood round the meadow there were numerous stork-nests, and in every nest stood a stork upon one leg thoughtfully observing the children's games. Suddenly all of them flew down upon the meadow, every one took a little boy or little girl in his bill, and away they went high above the modes. The children screamed, but the little devils made somersaults and shouted merrily:

> " Stork, thou red-legged twister, Bring us a little sister. Stork, fly to my mother, Bring us a little brother."

The narrow pathway which led up to this place turned to the left into the forest, and our wanderer came to a torrent which roared down the hill. Thick thorns obstructed Edward's view and when he had worked through the thistles he saw before him another country and a path leading still higher and higher. The path was very narrow, and a few quiet pilgrims, every one patiently carrying his burden, were walking thereon. "Move slowly, my friend, and take me along," said Edward to one of them. He viewed the speaker with a compassionate look and said : "Poor stranger, thou hast no heart."

Edward was amazed even in his dream, and he paused. He followed the pilgrims with his eyes as they modestly continued their journey. They passed over the torrent on a plank serving as a bridge. On the other bank there was a wall with a narrow door. The pilgrims entered, and the door shut upon them. Our little adventurer tried to get in, but the door had no key-hole, and the wall to the right and to the left appeared impenetrable. He rose up and looked above the wall, and there he saw a glorious temple city built of precious stones and illumined by a transcendent light, much more beautiful than sunshine. He tried to fly over the wall, but a strong shock repelled him. Beyond the first wall there was a second wall-one which he had not noticed-infinitely higher and of the purest transparent crystal. He buzzed for a while up and down, like a fly at a window-pane, until he fell down exhausted. Suddenly a shadow passed over him and when he looked back, one of the little black devils whom he had seen on the meadow stood before him. "What are you doing here, you rascal?" the ugly creature shouted, and opened his grinning mouth so far that Edward began to perspire with fright, and he stammered, "I am not so bad." "What do you say?" replied the black fellow. "I will catch you," and he put out his long, red tongue, raised his butterfly net,

and tried to catch poor Edward, who speedily hastened away. He went up high into the air; the devil followed. He flew in zigzag lines; the devil always after him. He ran round a tree several hundred times; the devil was close at his heels, and would certainly have caught him, had he not happened to see a big giant with his eyes shut and his mouth open, a stately fellow, who lay asleep, and Edward thought, "I must know this big man." Dead with fright and in the last moment of emergency, our dreamer's pursued soul jumped into the giant's open mouth and escaped into a kind of attic with two windows.

We let Edward finish the story of his dream in his own words: "The morning was dawning. There were pictures on the walls which were not very faithful portravals of what they represented. The hand of the clock pointed to half-past six. The room was not vet put in order. An odor of coffee came to me. I went down stairs and opened the door-there was a dimly lighted reception-room with red curtains. Upon a little golden throne sat the most beautiful of women. a portrait of my wife, Elise. She smiled, opened her lips, and said : 'Edward, get up ; coffee is ready.' I awoke. My good Elise, with our little Emil in her arms, stood before my bed. I had recovered my heart and that of Elise, and that of our little Emil, too. All jesting aside, my friends, if one only has a heart he will feel and confess from the bottom of his heart that 'he is no good.' All else will take care of itself."

P. C.

THE PILGRIMAGE OF ANTHONY FROUDE. BY MONCURE D. CONWAY.

111.

"MANKIND triumph of a sudden?" asks Robert Browning: and answers: "The work should be one of ages, if performed equally and thoroughly; and a man can but do a man's portion. The last of each series of workmen sums up in himself all predecessors. We just see Charlemagne, Hildebrand, in composite work they end and name."

In estimating the tremendous spiritual revolution which the European and American mind has undergone during the two generations ending with the graves of its leaders, we are now able to recognise the composite work of the greatest of those leaders. In England three armies are discoverable behind the commanders in a triangular war,—Coleridge, Carlyle, and (Cardinal) Newman. The fiery battle was between Carlyle and Newman. Both compelled the cultured youth to flee the comfortable Church as a City of Destruction, but one urged them to seek the Celestial City at Rome, the other drawing them to a Pantheistic Universe. Meanwhile Coleridge endeavored to persuade the young men that they could remain in the

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Church and translate its creeds and formulas into Carlyle's transcendental ideas, or into any visions that attracted them. Coleridge's "Moonshine," as Carlyle called it, had a charm of its own. Those who have not been trained to the clerical profession may fancy that the only thing which holds clergymen in a church after their faith is shaken is the loaves and fishes; but they are mistaken ; there must be considered the longing of the cultured spirit to bear its fruit, and the fearful desert into which that soul passes which has given all its seed-time, its years of preparation, only to learn that all have been wasted on clouds, where no harvest can be reaped. Carlyle has said, in his Life of Sterling, hard things about the Coleridgeans, but I once heard him describe their last apostle, Frederic D. Maurice, as "the most devout-minded man in England." However, the most intellectual youths could not undergo the new baptism of sprinkled moonshine, and for a time it looked as if Newman would conquer. Froude was one of his charmed captives, and his first literary work was assistance to Newman in The Lives of the English Saints. But one day, as I have heard, the Doctor's keen eye discovered at the close of a biography by Froude, "This is all that is known of this eminent Saint, and considerably more."

In a preface to the second edition of *The Nemesis* of *Faith* (1849) Froude found it necessary to deny a report that the book was autobiographical. His friends knew, of course, that there had been nothing in his career, always quiet and unadventurous, like the incidents related of the hero; but they also knew that in its episode, "Confessions of a Sceptic," the author had traced his own pilgrimage from Newman to Carlyle. I quote a striking passage:

"I believe no young man ever heard him [New man] preach without fancying that some one had been betraying his own history, and the sermon was aimed especially at him. It was likely that, while he had possession so complete of what we did know of ourselves, we should take his word for what we did not; and while he could explain us, let him explain the rest for us. But it is a problem heavier than has been yet laid on theologians, to make what the world has now grown into square with the theory of Catholicism. And presently, as we began to leave the nest, and, though under his eye, to fly out and look about for ourselves, some of us began to find it so. . . . He was not the only greatly gifted man in England. I think he was one of two. Another eye, deep-piercing as his, and with a no less wide horizon, was looking out across the same perplexed scene, and asking his heart, too, what God would tell him of it. Newman grew up in Oxford, in lectures, and college chapels, and school divinity; Mr. Carlyle, in the Scotch Highlands, and the poetry of Goethe. . . . It was brought home to me that two men may be as sincere, as earnest, as faithful, as uncompromising, and yet hold opinions as far asunder as the poles. . . This conviction is the most perilous crisis of our lives; for myself it threw me at once on my own responsibility, and obliged me to look for myself at what men said, instead of simply accepting all because they said it."

In the story, the Nemesis—or Vengeance—of Faith is tragically illustrated in the career of Rev. Markham Sutherland. He had temporarily silenced his doubts in order to go on with his ministry, but the doubts afterwards flamed out, and he left his charge to travel in Italy. Wandering there, homeless and aimless, he meets and falls in love with his ideal woman, who falls in love with him. Unfortunately, she is married. The moral recoil and grief bring him to the verge of suicide; the poison is dashed from his hand by an old Oxford friend, who suddenly appears. This friend, who has become a Catholic, hears the sorrowful story and points the miserable youth to another kind of suicide : he enters a monastery.

In one of the first conversations I ever had with Froude, he said : "Carlyle is incomparably the greatest genius I have ever seen." I have a note of his words, and of conversation with Carlyle the same evening. It became evident to me that Froude's career as a historian had been mainly determined by Carlyle. Froude's genius was that of an imaginative writer ; and such men are but too easily captured by the bow and spear of a great and striking personality. As Father Newman had set young Froude to writing lives of the saints, Carlyle set him on History. Carlyle could never quite forgive Shakespeare for writing plays instead of history, and he now and then upbraided Tennyson to his face for writing in rhyme instead of prose. I am certain that if it had not been for Carlyle, Froude would have continued his philosophical romances, and I believe he would have enriched English literature with imaginative works of unique character. But a genius of such force could not be entirely altered even by so strong a spirit as Carlyle. It would not be just to say that Froude went on writing romance and calling it history and biography; but it appears to me true that the chief charm of his History of England is the imaginative fire playing through it. His Henry VIII., Mary Stuart, Queen Elizabeth, and other personages, are largely his own creations, and live before us because transfused with the life-blood of Froude's brain. And if my belief in Carlyle's perverting influence be true, it may be regarded as a kind of posthumous "Nemesis" that he himself (Carlyle) should have fallen into the hands of a biographer so imaginative. In his Life of Carlyle, Froude certainly meant to tell the whole truth, but he could not resist a picturesque situation, or a dramatic surprise; he was overpowered by his imagi-

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native art; and the result is that most of those who knew Carlyle and his wife intimately feel that the world generally does not yet know the real man and woman. A true, critical, and impartial Life of Carlyle remains still the desideratum of modern English biography. And I will venture to add my conviction that a true critical History of England also remains a desideratum, although Froude's work is the most important contribution to it, and presents a mass of painstaking research, as well as bold criticisms, whose value has not been diminished by the microscopic cavils of his conventional prosecutors.

The original and individual genius of Froude, though, from the cause above indicated, it never, as I think, reached full fruitage, gains its fullest expression in his volumes entitled *Short Studies on Great Subjects*. Several of these, as he told me, were begun in his youth and revised and amplified in mature life. They display every variety of ability, and the subtle play of his fine imagination pervades every page.

Froude had a great deal of humor and extraordinary powers of conversation. In the course of his vast reading in ecclesiastical history he had made personal acquaintance, as it were, with striking figures unknown to general history, and portrayed them vividly in quaint anecdotes. I have heard him repeat the very exhortations of monks going about England, hawking, so to say, St. Thomas à Becket, to induce the people to patronise him in preference to other saints. "A poor Christian had his eyes torn out, and he called on all the saints, on the Holy Virgin, in vain ; but when he called on the blessed St. Thomas there came into his sockets two things like green peas: one grew to a good eye, the other remained like a pea, but he saw fairly well." Froude impressed me as Renan and Strauss did, in conversation, as a thorough sceptic. Sometimes agnostic, sometimes theistic, positive only in his negations. He repeatedly declared that Spinoza seemed to him to have said the last word in his Ethics concerning unknowable things. He believed that "otherworldliness" was arresting civilisation, and that the belief in personal immortality must more and more become dim. "Perhaps instead of all individuals being immortal, it may be that each family is ultimately developed and summed up in some immortal being." (So he would talk half seriously.) "May we not be deluded by mechanical progress? The old problems return. We appear to be on a spiral stair, and come round and round again to the same notions and superstitions, though we give them a finer expression, being a little higher in externals." "In reading Lucian, I often feel as if he were dealing with essentially the same religious conditions as those which surround us. He was not so much troubled about old superstitions as about the new and growing ones." "Can you tell me

a single precept of Christ which could be strictly, without any qualification, followed practically in society today?" "We are very tolerant just now, but it is doubtful if certain dogmas will long be tolerated. Fancy a preacher getting six months for frightening little children with the Devil and hell-fire !" In illustration, if I remember rightly, of the inability of the flocks to understand their shepherds, he related a story of the late Bishop Bloomfield, preaching in a rural district on "The fool hath said in his heart, there is no God." After the sermon the bishop, riding away, joined a farmer, and asked him what he thought of the sermon. "It were a very able sermon, Mr. Bishop," said the farmer; "but I couldn't agree with your lordship, because I believe there be a God." He much loved Emerson, and by his desire I wrote many articles in Fraser about Emerson. He thought there were "ten readers of Emerson in England for one reader of Carlyle." "As compared with other eminent men whom I have known, there is this peculiarity about Carlyle : he does not merely impress me as saying what he believes true, but what is true."

Every week I had a walk with Froude, often it was to Kew Gardens, for he had a great love for distant developments of nature. One day we observed the just perishing blossom of a century plant (*Agave Americana*), and Froude humorously philosophised on it a little. "That American plant, shooting up so many feet into the air, thought it was making great progress, but it was only coming to nothing. It will have to begin again after a hundred years, and, untaught by this forgotten bit of its history, shoot aloft again, perhaps again to wither. How much so-called progress is like that!"

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