



'The peculiarity of Mr. Clifford's researches, which in my opinion points him out as the right man for a chair of mathematical science, is that they tend not to the elaboration of abstruse theorems by ingenious calculations, but to the elucidation of scientific ideas by the concentration upon them of clear and steady thought. The pupils of such a teacher not only obtain clearer views of the subjects taught, but are encouraged to cultivate in themselves that power of thought which is so liable to be neglected amidst the appliances of education.'

I shall not attempt to enter in more detail on the amount and character of Clifford's subsequent contributions to mathematical science, having reason to hope that this task will shortly be undertaken by competent hands and in a more appropriate connexion. But in an introduction to his philosophical writings it is fitting to call attention to the manner in which he brought mathematical conceptions to bear upon philosophy. He took much pleasure in the speculative constructions of imaginary or non-Euclidean systems of space-relations which have been achieved by Continental geometers, partly because they afforded a congenial field for the combined exercise of scientific intuition and unbridled fancy. He liked talking about imaginary geometry, as a matter of pure amusement, to anyone interested in it. But at the same time he attached a serious import to it. He was the first in this country, as Helmholtz in Germany, to call attention to the philosophical importance of these new ideas with regard to the question of the nature and origin of geometrical knowledge. His opinion on this point is briefly expressed in the lectures *On the Philosophy of the Pure*

*Sciences.* He intended to recast and expand these, and doubtless would have amplified this particular discussion. It will be seen that he considered Kant's position in the matter of 'transcendental æsthetic' to be wholly unassailable if it was once admitted that geometrical knowledge is really exact and universal. The ordinary arguments for the derivative nature of axioms appeared to him ingenious but hopeless attempts to escape from this fatal admission. And it may be said in general terms that he had a much fuller appreciation of the merit and the necessity of Kant's work than most adherents of the English school of psychology. Of course I do not include Professor Huxley, whose testimony to Kant in his little book on Hume is as unmistakable as it is weighty.

Few words will suffice to set down the remaining facts of Clifford's life, or what we are accustomed to call facts because they can be dated and made equally known to everybody, as if that made them somehow more real than the passages and events which in truth decide the issues of life and fix the courses of a man's work. In 1868 he was elected a Fellow of Trinity College, and after spending rather more than two years at Cambridge, he was in 1871 appointed to the Professorship of Applied Mathematics at University College, London. Meanwhile he had taken part in the English Eclipse expedition of 1870: his letters of that time show keen enjoyment of the new experience of men and cities, and of the natural beauty of the Mediterranean coasts, which he was to visit again, as fate would have it, only on the sad and fruitless errand of attempting to recover strength when it was too late. In June, 1874,





he was elected a Fellow of the Royal Society; he might have been proposed at a much earlier time, but had then declined, turning it off with the remark that he did not want to be respectable yet. And such was the absence in him of anything like vanity or self-assertion, that when his scruples were overcome, and his election took place, he was the last person from whom his friends heard of it. I did not know it myself till several months later. On April 7, 1875, he married Lucy, daughter of Mr. John Lane, and granddaughter of Brandford Lane, of Barbados. This was the occasion of the only voluntary leave of absence he ever took from his lectures at University College, when he characteristically informed his class that he was obliged to be absent on important business which would probably not occur again. Clifford's house was thenceforward (as, indeed, his rooms, both at Cambridge and in London, had already been) the meeting-point of a numerous body of friends, in which almost every possible variety of taste and opinion was represented, and many of whom had nothing else in common. The scientific element had naturally a certain predominance; and with Clifford, as with other men, a close friendship implied, as a rule, some sort of general coincidence in sentiments and aims, personal and intellectual concord being apt to go together. But he cared for sympathy, not for agreement; coincidence in actual results was indifferent to him. He wrote of a very near and dear friend (G. Crotch, of St. John's College, Cambridge), whose death preceded his own by some years: 'We never agreed upon results, but we always used the same method with the same object.' Much more would it be an utter mistake to suppose

that Clifford was a scientific fanatic who reserved his social qualities for such persons as happened to accept his theories, or that he could not be at his ease and make the charm of his presence felt among those who did not care for theories at all. It was possible to take offence at certain passages in his writings, but impossible not to like the man; and some of those to whom Clifford's published opinions were naturally most repugnant, but who had the opportunity of personal intercourse with him, were by no means the last to express their sympathy and anxiety when the threatenings of the disease which carried him off became apparent. This charm remained with him to his very last days; even when he was in an enfeebled and almost prostrate condition there were those who conceived for him and his, upon sudden and casual acquaintance, an affection and goodwill which bore such fruit of kindly deeds as men usually look for only from the devotion ripened by long familiarity. Something of this was due to the extreme openness and candour of his conversation; something to the quickness with which he read the feelings of others, and the delicacy and gentleness with which he adapted himself to them; something, perhaps most, to a certain undefinable simplicity in which the whole man seemed to be revealed, and the whole moral beauty of his character to be grounded. It was by this simplicity, one may suppose, that he was endeared from his early days to children. He always took delight in being with them, and appeared to have a special gift of holding their attention. That he did not live to teach his own children is deeply to be regretted not only for their sake, but in the interest of education as a science and an art.





What he could do for the amusement of children (and of all persons healthy enough not to be ashamed of childishness) was shown to the world in his contributions to a collection of fairy tales called 'The Little People.' One of these ('The Giant's Shoes,' reprinted in the second part of this Introduction) is one of the choicest pieces of pure nonsense ever put together; and he doubtless enjoyed writing it as much as any child could enjoy hearing it. A children's party was one of Clifford's greatest pleasures. At one such party he kept a wax-work show, children doing duty for the figures; but he reproached himself for several days afterwards because he had forgotten to wind up the Siamese twins. He seemed to have an inexhaustible store of merriment at all times: not merely a keen perception of the ludicrous, but an ever fresh gaiety and gladness in the common pleasures of life. His laughter was free and clear like a child's, and as little restrained by any consideration of conventional gravity. And he carried his mirth and humour into all departments of life, by no means excepting philosophy. When he came home from the meetings of the Metaphysical Society (attending which was one of his greatest pleasures, and most reluctantly given up when going abroad after sunset was forbidden him), he would repeat the discussion almost at length, giving not only the matter but the manner of what had been said by every speaker, and now and then making his report extremely comic by a touch of plausible fiction. There was an irresistible affectation of innocence in his manner of telling an absurd story, as if the drollery of it were an accident with which he had nothing to do. It was hardly possible to be depressed in his company:

and this was so not only in his best days, but as long as he had strength to sustain conversation at all. The charm of his countenance and talk banished for the time the anxiety we felt for him (only too justly) whenever we were not with him.

On the intellectual side this character of simplicity manifested itself in the absolute straightforwardness of everything he said and did; and this, being joined to subtlety and a wide range of vision, became in speculation and discussion a very formidable power. If there was anything for which he had no toleration, and with which he would enter into no compromise, it was insincerity in thought, word, or deed. He expressed his own opinions plainly and strongly because he held it the duty of every man so to do; he could not discuss great subjects in a half-hearted fashion under a system of mutual conventions. As for considerations of policy or expediency that seemed to interfere in any way with the downright speaking of truth for the truth's sake, he was simply incapable of entertaining them. 'A question of right and wrong,' he once wrote to me, 'knows neither time, place, nor expediency.' Being always frank, he was at times indiscreet; but consummate discretion has never yet been recognized as a necessary or even a very appropriate element of moral heroism. This must be borne in mind in estimating such passages of his writings as, judged by the ordinary rules of literary etiquette, may seem harsh and violent.

Personal enmity was a thing impossible to Clifford. Once he wrote: 'A great misfortune has fallen upon me; I shook hands with ——. I believe if all the murderers and all the priests and all the liars in the





world were united into one man, and he came suddenly upon me round a corner and said, "*How do you do?*" in a smiling way, I could not be rude to him upon the instant.' And it was the bare truth. Neither did he ever make an enemy that I know of; I do not count one or two blundering attacks which, however far they might go beyond the fair bounds of controversy or satire, were made by people who only guessed at the man from a superficial inspection of his writings, and were incapable of understanding either. Yet he carried about with him as deadly a foe as could have been wished him by any of those who fear and hate the light he strove so manfully to spread abroad. This was the perilous excess in his own frame of nervous energy over constitutional strength and endurance. He was able to call upon himself, with a facility which in the result was fatal, for the expenditure of power in ways and to an extent which only a strong constitution could have permanently supported; and here the constitution was feeble. He tried experiments on himself when he ought to have been taking precautions. He thought, I believe, that he was really training his body to versatility and disregard of circumstances, and fancied himself to be making investments when he was in fact living on his capital. At Cambridge he would constantly sit up most of the night working or talking. In London it was not very different, and once or twice he wrote the whole night through; and this without any proportionate reduction of his occupations in more usual hours. The paper on 'The Unseen Universe' was composed in this way, except a page or two at the beginning, at a single sitting which lasted from a quarter to ten in the evening

till nine o'clock the following morning. So, too, was the article on Virchow's address. But Clifford's rashness extended much farther than this one particular. He could not be induced, or only with the utmost difficulty, to pay even moderate attention to the cautions and observances which are commonly and aptly described as taking care of one's self. Had he been asked if it was wrong to neglect the conditions of health in one's own person, as well as to approve or tolerate their neglect on a larger scale, he would certainly have answered yes. But to be careful about himself was a thing that never occurred to him. Even when, in the spring of 1876, distinct and grave indications of pulmonary disease were noted, his advisers and friends could hardly persuade him that there was anything more serious than could be set right by two or three weeks' rest in the country. Here, however, there came into play something more than incredulity or indifference; the spirit of the worker and inventor rebelled against thus being baffled. His repugnance was like that of a wounded soldier who thinks himself dishonoured if he quits the field while his limbs can bear him. Reluctantly and almost indignantly he accepted six months' leave of absence, and spent the summer of that year in a journey to Algiers and the south of Spain. He came back recruited for the time, and was allowed to winter in England on pledges of special care and avoidance of exposure. These were in the main observed, and so matters went on for a year and a half more, as it seemed with fair prospects of ultimate recovery and tolerably secure enjoyment of life. What mischief was already done could not be undone; but the spread of





it seemed in a way to be permanently arrested. But in the early months of last year there came a sudden change for the worse. His father's death, which happened at this time, was a grievous blow, and the conjunction of this with exciting literary work, done under pressure of time, threw upon him a strain which he was wholly unable to resist. The essay on Virchow's address, which closes the present collection, is both in my opinion and in that of other and more competent judges one of Clifford's best and most mature performances. But it was produced at a fearful cost, we have already seen in what manner. A few days after the MS. had left his hands he received a peremptory warning that he was in a state of such imminent danger that he must give up all work and leave England forthwith. This time the warning was too stern to admit of doubt or even delay. Yet, while the necessary preparations were in hand, he would not leave his official duties until he actually broke down in the attempt to complete a lecture. He was now suffering, not from any inroad of specific local disease, but from a rapid and alarming collapse of general strength which made it seem doubtful if he could live many weeks. But his constitutional frailty was accompanied withal by a wonderful power of rallying from prostration; and one could not help entertaining a dim hope, even to the last, that this vitality was somehow the deepest thing in his nature, and would in the long run win the day. In April, 1878, Clifford and his wife left England for the Mediterranean; the accounts they sent home were various and often anxious; but after voyages and short halts which embraced Gibraltar, Venice, and

Malta, they rested for some weeks at Monte Generoso, and there for the first time there was the appearance of steady improvement setting in. From this place Clifford wrote long letters with his own hand, full of his usual spirit and manifold interest in everything about him. I may mention here that his letters were the more valuable because they were always spontaneous and could very seldom be counted on beforehand. He wrote quickly and easily; and yet for some obscure reason letter-writing, especially as a matter of business, was beyond measure irksome and difficult to him. He would rather take almost any trouble than answer a letter, and the painfulness of answering was at its height when (as pretty often happened) old acquaintances applied to him for testimonials. For in this case it was aggravated by the utter impossibility of lending himself to the petty exaggerations and dissimulations which custom allows to pass current for such purposes, and which are almost thought to be required by civility. One such application, from a man he had known before but had lost sight of, vexed him extremely; he did not know what to do with it, for he could honestly have certified only as to the past, and he carried the letter about with him till it was ragged, being newly vexed every time he saw it. There were many letters of friends which he regretted to the last not having answered. Several received in the last months or weeks of his life he intended to answer if he had ever become strong enough. Yet now and then he would write unsought to some one he was intimate with, and throw himself completely into his letter; and then his descriptions were so full of life and colour that they might





well be taken as models by anyone minded to study the art of correspondence, not uncommonly alleged to be lost since the introduction of cheap and rapid communications. Such letters he sent to England from Spain and Sicily in 1870, and from Algiers in 1876. Some of them are printed farther on.

In August, 1878, there being signs of improvement, and a warm climate not being judged necessary or very desirable at that season, leave was given for a short return to England. Clifford came home looking very ill and feeble to ordinary observation, but much better to those who had seen him before he started. He was incapable of continuous exertion of any kind, but much of the old animation had come back, and his conversation had lost nothing of its vigour and brilliancy. The object of the summer journey had been rest and freedom from care above all things: now it was planned that with the first days of autumn he should again go in search of conditions which might be not only rest-giving but curative. But all plans were cut short by a relapse which took place late in September, induced by fatigue. From that day the fight was a losing one, though fought with such tenacity of life that sometimes the inevitable end seemed as if it might yet be put far off. Clifford's patience, cheerfulness, unselfishness, and continued interest in his friends and in what was going on in the world, were unbroken and unabated through all that heavy time. Far be it from me, as it was far from him, to grudge to any man or woman the hope or comfort that may be found in sincere expectation of a better life to come. But let this be set down and remembered, plainly and openly, for the instruction and

rebuke of those who fancy that their dogmas have a monopoly of happiness, and will not face the fact that there are true men, ay and women, to whom the dignity of manhood and the fellowship of this life, undazzled by the magic of any revelation, unholpen of any promises holding out aught as higher or more enduring than the fruition of human love and the fulfilment of human duties, are sufficient to bear the weight of both life and death. Here was a man who utterly dismissed from his thoughts, as being unprofitable or worse, all speculations on a future or unseen world; a man to whom life was holy and precious, a thing not to be despised, but to be used with joyfulness; a soul full of life and light, ever longing for activity, ever counting what was achieved as not worthy to be reckoned in comparison of what was left to do. And this is the witness of his ending, that as never man loved life more, so never man feared death less. He fulfilled well and truly that great saying of Spinoza, often in his mind and on his lips: *Homo liber de nulla re minus quam de morte cogitat.*

One last stand was made, too late to be permanently successful (if ever it could have so far availed), but yet not wholly in vain. At the opening of the present year Clifford's remnant of strength was visibly diminishing. The peril of attempting a journey was great, but no peril could be greater than that which he already lay in. Medicine had no new thing to recommend, and almost nothing to forbid: a last experiment could only be tried. Clifford sailed for Madeira, his friends hardly expecting him to live out the voyage. Of the friendship and devotion that accompanied and tended him there it is not fitting that I should speak. So it was, however,





that he arrived safely in the island, and some weeks were added to his life. The change from the bitterest of recent English winters to the fair and temperate air of Madeira had no power to restore the waning forces; but it enabled him to spend his last days in ease and comparative enjoyment. He could once more look on the glories of a bountiful world, and breathe under a free sky. Something of spirit and even of strength revived; his powers of conversation, which had been restrained by mere physical weakness in his last days in England, returned to some extent, and in that short time, with all the disadvantages of a stranger and an invalid, he made new friends: one such (though in spirit not a stranger before) of whose friendship even he might have been proud. There was a glimmer of hope, faint, uncertain, but perceptible; there was a possibility that if amendment once began, it might go farther than we had dared to speculate upon. But it was not to be. In the last days of February we learnt that his condition was hopeless; on the 3rd of March the end came. For a week he had known that it might come at any moment, and looked to it steadfastly. So calmly had he received the warning which conveyed this knowledge that it seemed at the instant as if he did not understand it. He gave careful and exact directions as to the disposal of his works, which are partly carried out in these volumes, and, it is hoped, will be substantially fulfilled as to his mathematical remains also. His work was, indeed, the only thing personal to himself that he took much thought for; and that not because it was his own possession, but because he felt that it was his own to do and to make a possession for others.

He loved it for the work's and the truth's sake, not for his own. More than this, his interest in the outer world, his affection for his friends and his pleasure in their pleasures, did not desert him to the very last. He still followed the course of events, and asked for public news on the morning of his death: so strongly did he hold fast his part in the common weal and in active social life.

It has been mentioned how unwilling Clifford was to throw up, even under necessity, his work at University College. His friends and colleagues there were equally unwilling to lose him; and when it became evident that he could never permanently resume his lectures, they still cast about for means to retain him as one of their number. In the present year the Senate, in reviewing the whole question of the teaching of mathematics and physics, recommended that Clifford should 'remain in possession of his chair, and that if, against the expectation, but in accordance with the most earnest desire of his colleagues, he should so far recover health as to be able to lecture, he should be invited to lecture upon special subjects in mathematics, to which he could bring his own rare qualities of mind without being subjected to any strain of constant necessary work.' This recommendation only awaited the assent of the Council to take effect, and that assent would almost certainly have been given; but before the matter could be submitted to the Council it was known that the time of expectation was over, and desire quelled by the final certainty of loss.

The essays here brought together represent, with few if any exceptions, the general view of the world and human knowledge which Clifford had definitely





arrived at in his later years. I do not mean that he had got a fixed set of results and meant to rest in them; he admitted no finality of that sort. But he did believe very decidedly that the difference between right and wrong method is everywhere important, and that there is only one right method for all departments of knowledge. He held that metaphysical and theological problems ought to be discussed with exactly the same freedom from preconceived conclusions and fearlessness of consequences as any other problems. And he further held that, as the frank application of the right method of search to the physical sciences has put them on a footing of steady progress, though they differ in the amount and certainty of the knowledge already won in their respective fields, so the like effects might be expected when philosophical speculation was taken in hand by the light of science and with scientific impartiality and earnestness. For the popular or unscientific rhetoric which frequently assumes the name of philosophy Clifford had as much contempt as he permitted himself to feel for anything. Once he said of an acquaintance who was believed to be undertaking something in this kind: 'He is writing a book on metaphysics, and is really cut out for it; the clearness with which he thinks he understands things and his total inability to express what little he knows will make his fortune as a philosopher.' But he never accepted, and I do not think he was ever tempted to accept, the doctrine that all metaphysical inquiries ought to be put aside as unprofitable. Indeed he went beyond most English psychologists, though in a general way he must be classed with the English school, in his estimate of the

possibility of constructing a definite metaphysical system on scientific principles. With regard to the application of his philosophical ideas to theological conceptions, it may perhaps be said that he aimed at doing for dogmatic and natural theology something like what the Tübingen school in Germany have done for historical theology, namely bringing them to the light of unbiassed common sense, including therein as an important element the healthy moral sense of civilized men. Whether Clifford had any feeling that his line of work was complementary to the historical criticism of dogmas I cannot say: but so it was that he paid no special attention to the historical side of these questions, either because it did not particularly interest him, or because he thought it outside his competence. In ethics, on the other hand, he attached the utmost importance to the historical facts of moral culture as affording the key of the speculative position and indicating the profitable directions of inquiry. And it may be noted as an instance of the freshness and openness of his mind that the importance of this point of view, set forth in *The Scientific Basis of Morals* and the papers following it, was perceived by him only after he left Cambridge. The main points of the last-named essay were stated by Clifford himself in a letter written when he had nearly finished it. He described it as 'showing that moral maxims are ultimately of the same nature as the maxims of any other craft: if you want to live together successfully, you must do so-and-so. . . . That conscience is developed out of experience by healthy natural processes. . . . That responsibility is founded on such order as we can observe, and not upon such disorder as





we can conjecture.' This is quite a different line from that which his speculations on the nature of duty were wont to take at Cambridge, both in the conversations I remember, and in various MS. fragments of that period which are now before me.

A letter of the autumn of 1874, written by Clifford to his wife during their engagement, bears upon his practical conception of ethics and is otherwise interesting. 'At the Savile I found C., who had just done dinner, but sat down while I ate mine, and we solved the universe with great delight until A. came in and wanted to take him off to explain coins to somebody. Of course I would not let him go. . . . We walked about in the New Road solving more universe. He says the people in the middle ages had a closer connexion between theory and practice; a fellow would get a practical idea into his head, be cock-sure it was right, and then get up and snort and just have it carried through. Nowadays we don't have prophets with the same fire and fervour and insight. To which it may be said that our problems are infinitely more complex, and that we can't be so cock-sure of the right thing to do. He quoted the statesmanship of the great emperors, *e.g.*, Frederic II.; and some of the saints, as St. Francis and St. Catherine of Siena. Still there is room for some earnest person to go and preach around in a simple way the main straightforward rules that society has unconsciously worked out and that are floating in the air; to do as well as possible what one can do best; to work for the improvement of the social organization; to seek earnestly after truth and only to accept provisionally opinions one has not inquired into; to regard men as

comrades in work and their freedom as a sacred thing; in fact, to recognize the enormous and fearful difference between truth and falsehood, right and wrong, and how truth and right are to be got at by free inquiry and the love of our comrades for their own sakes and nobody else's. Mazzini has done a great deal in this direction, and formed the conception of the world as a great workshop where we all have to do our best to make something good and beautiful with the help of the others. Such a preaching to the people of the ideas taught by the great Rabbis was (as near as we can make out) the sort of work that Christ did; but he differed from the Rabbis and resembled all other Jew prophets in not being able to stand priests.'

It will not be amiss to go back to the time when we left Clifford celebrating the late Master of Trinity in parables, and to take up more continuously than we have yet done the growth of his philosophic ideas. Before he took his degree, and I think for some little time after, he was (as before mentioned) a High Churchman; but there was an intellectual and speculative activity about his belief which made it impossible that it should remain permanently at that stage. On the one hand he acquired a far more accurate knowledge of Catholic theology than is often met with in England even among those who discuss theological questions; he was pretty well read in S. Thomas Aquinas, and would maintain the Catholic position on most points with extreme ingenuity, not unfrequently adding scientific arguments and analogies of his own. On the other hand, believing from the first in the unity or at least the harmony of all truth, he never slackened in the





pursuit of scientific knowledge and ideas. For a while he experimented in schemes for the juxtaposition of science and dogma. Religious beliefs he regarded as outside the region of scientific proof, even when they can be made highly probable by reasoning; for, as he observes in a MS. fragment of this time, they are received and held not as probable but as certain. And he actually defined superstition as 'a belief held on religious or theological grounds, but capable of scientific proof or disproof.' He also held that there was a special theological faculty or insight, analogous to the scientific, poetic, and artistic faculty; and that the persons in whom this genius is exceptionally developed are the founders of new religions and religious orders. He seems to have been always and equally dissatisfied with attempts at proving theological propositions, especially in the usual manner of Protestant divinity, and with the theological version of natural history commonly called Natural Theology. When or how Clifford first came to a clear perception that this position of quasi-scientific Catholicism was untenable I do not exactly know; but I know that the discovery cost him an intellectual and moral struggle, of which traces may be found here and there in his essays. It is not the case, however, that there was any violent reaction or rushing to an opposite extreme. Some time elapsed before his philosophical opinions assumed their final consistency; and in truth what took place was not a reaction, but the fuller development of principles which had been part of his thoughts ever since he began to think for himself.

Meanwhile he was eagerly assimilating the ideas

which had been established as an assured possession of biological science by Mr. Darwin, and the kindred ones already at an earlier time applied and still being applied to the framing of a constructive science of psychology, and to the systematic grouping and gathering together of human knowledge, by Mr. Herbert Spencer; who had, in Clifford's own words, 'formed the conception of evolution as the subject of general propositions applicable to all natural processes.' Clifford was not content with merely giving his assent to the doctrine of evolution: he seized on it as a living spring of action, a principle to be worked out, practised upon, used to win victories over nature, and to put new vigour into speculation. For two or three years the knot of Cambridge friends of whom Clifford was the leading spirit were carried away by a wave of Darwinian enthusiasm: we seemed to ride triumphant on an ocean of new life and boundless possibilities. Natural Selection was to be the master-key of the universe; we expected it to solve all riddles and reconcile all contradictions. Among other things it was to give us a new system of ethics, combining the exactness of the utilitarian with the poetical ideals of the transcendentalist. We were not only to believe joyfully in the survival of the fittest, but to take an active and conscious part in making ourselves fitter. At one time Clifford held that it was worth our while to practise variation of set purpose; not only to avoid being the slaves of custom, but to eschew fixed habits of every kind, and to try the greatest possible number of experiments in living to increase the chances of a really valuable one occurring and being selected for preservation. So much of this theory as he ever gave to the world





will be found in the discourse *On Some Conditions of Mental Development*; and I do not know that he would ever have deliberately committed himself to anything more than is there propounded. One practical deduction was that education ought to be directed not to mere instruction, but to making people think and act for themselves; and this Clifford held to be of special importance in the case of women, where the cultivation of independent power is too commonly neglected or even purposely discouraged. 'It seems to me,' he once wrote, 'that the thing that is wanting in the education of women is not the acquaintance with any facts, but accurate and scientific habits of thought, and the courage to think that true which appears to be unlikely. And for supplying this want there is a special advantage in geometry, namely that it does not require study of a physically laborious kind, but rather that rapid intuition which women certainly possess; so that it is fit to become a scientific pursuit for them.'

The duty of independence and spontaneous activity conceived by Clifford as being revealed by the philosophy of evolution was reinforced from another side by the reading of Mazzini; and the result was a conception of freedom as the one aim and ideal of man. This freedom was a sort of transfigured blending of all powers of activity and progress; it included republicanism as opposed to the compulsory aspect of government and traditional authority in general, but was otherwise not bound to any particular theory in politics. Indeed it forbade binding oneself irrevocably to any theory whatever; and the one commandment of freedom was thus expressed, *Thou shalt live and not formulize*. That alone

was right which was done of one's own inner conviction and mere motion; that was lifeless and evil which was done out of obedience to any external authority. 'There is one thing in the world,' Clifford wrote about this time, 'more wicked than the desire to command, and that is the will to obey.' Now this doctrine of individual and independent morality may look on the face of it anarchical, and therefore it may be worth while to observe that the Catholic doctrine of the duty of following conscience is essentially at one with it. The conscience may or may not be rightly informed. It may be wrongly informed without one's own fault, as in the case of invincible ignorance, or with it, as in the case of culpable ignorance or perversity. But even in this last case we are told that the sin of doing an absolutely wrong thing in obedience to the voice of conscience, however misguided, is infinitely less than the sin of doing the absolutely right thing against one's conscience. The conscience must be rightly informed before a completely right action is possible.<sup>1</sup> Again, Fichte treats the sense of will and duty (from which he deduces not only morality but the existence of other men and of the world, in fact all knowledge and reality whatever) as absolutely personal and individual. Clifford's early doctrine of freedom was ardent and immature; but whoever should call it immoral would find himself committed to applying the same language to some of the

<sup>1</sup> See the authorities collected in Dr. Newman's *Letter to the Duke of Norfolk*, pp. 65, 66:—'Secundum sententiam, et certam, asserentem esse peccatum discordare a conscientia erronea, invincibili aut vincibili, tenet D. Thomas, quem sequuntur omnes Scholastici.' 'In no manner is it lawful to act against conscience, even though a law or a superior commands it.' Some writers even say that this opinion is *de fide*.







greatest moralists of the world. The social theory of morality stated and partly worked out in the ethical portion of Clifford's essays is quite independent of this earlier phase. At the same time it is not necessarily inconsistent with it; for the determination of social morality is apart from the assignment of motives for individual morality, and leaves untouched the cultivation of individual perfection. Clifford, however, does in his later writings freely and distinctly recognize the validity of the social, or, as he sometimes calls it, the tribal judgment, on the moral character of individual acts regarded as an external quality; and there was a time when he would probably have hesitated to allow this.

In a note-book of Clifford's later Cambridge time there are some speculations on the compensating intellectual pleasures that help to break the shock of parting with old beliefs. I make an extract from one of these pages. 'Whosoever has learnt either a language or the bicycle can testify to the wonderful sudden step from troublesome acquirement to the mastery of new powers, whose mere exercise is delightful, while it multiplies at once the intensity and the objects of our pleasures. This, I say, is especially and exceptionally true of the pleasures of perception. Every time that analysis strips from nature the gilding that we prized, she is forging thereout a new picture more glorious than before, to be suddenly revealed by the advent of a new sense whereby we see it—a new creation, at sight of which the sons of God shall have cause to shout for joy.

'What now shall I say of this new-grown percep-

tion of Law, which finds the infinite in a speck of dust, and the acts of eternity in every second of time? Why, that it kills our sense of the beautiful, and takes all the romance out of nature. And moreover that it is nothing more than a combining and re-organizing of our old experiences, never can give us anything really new, must progress in the same monotonous way for ever. But wait a moment. What if this combining and organizing is to become first habitual, then organic and unconscious, so that the sense of law becomes a direct perception? Shall we not then be really seeing something new? Shall there not be a new revelation of a great and more perfect cosmos, a universe fresh-born, a new heaven and a new earth? *Mors janua vitæ*; by death to this world we enter upon a new life in the next. A new Elysium opens to our eager feet, through whose wide fields we shall run with glee, stopping only to stare with delight and to cry, "See there, how beautiful!" for the question, "Why?" shall be very far off, and for a time shall lose its meaning.

'For a time? It may well be that the new world also shall die. Doubtless there shall by and by be laws as far transcending those we know as they do the simplest observation. The new incarnation may need a second passion; but evermore beyond it is the Easter glory.'

Even at the time of these half-poetical meditations I think Clifford must have felt them to be too poetical for scientific use. Later in life, as we have seen above and may see in the Essays, he chose to make sure of a solid foundation in experience at the cost of sacrificing ornament and rhetoric, and his admiration of Mazzini





became compatible with practical empiricism in politics. 'On the whole I feel confirmed,' he wrote in a letter, 'that the English distrust of general principles in a very complex affair like politics is a sound scientific instinct, and that for some time we must go blundering on, finding out by experience what things are to be let alone and what not.'

The command, 'thou shalt not formulize,' was expressed in an amusing shape in a review of 'Problems of Life and Mind,' published in 1874. 'Rules of philosophizing are admirable things if two conditions are satisfied: first, you must philosophize before you make your rules; secondly, you should publish them with a fond and fervent hope that no philosophizer will attend to them.'

As to Clifford's ideas on metaphysics proper I have not much to say beyond what is disclosed in the Essays themselves. His interest in philosophy grew up rapidly after he took his degree, as is generally the case with men who have any bent that way. I remember many long talks with him on metaphysical questions, but not much of the substance of them. One evening in the Long Vacation of 1868, when we were up for the Fellowship examination, we discussed the Absolute for some couple of hours, and at last defined it to our own exceeding content as that which is in necessary relation to itself. Probably we laughed at our definition the next morning, or soon after; but I am still of opinion that, as definitions of the Absolute go, this will do quite as well as any other. Clifford's philosophical reading was rather select than wide. He had a high admiration for Berkeley, next only to Hume, and even more, perhaps,

for the 'Ethics' of Spinoza. The interpretation of Spinoza's philosophy which I have put forward on one or two occasions was common to Clifford and myself, and on that subject (as, indeed, on everything we discussed together) I owe very much to him. He was to have lectured on Spinoza at the London Institution in 1877, but his health would not allow it. There is little doubt that this would have been one of his most brilliant and original discourses. Students of Spinoza will easily trace the connexion between his theory of mind and matter and the doctrine set forth in Clifford's Essays on 'Body and Mind,' and 'The Nature of Things-in-themselves.' This was arrived at, to the best of my recollection, in 1871 or 1872; certainly before 1874, in which year the last-mentioned paper was read at a meeting of the Metaphysical Society. Briefly put, the conception is that mind is the one ultimate reality; not mind as we know it in the complex forms of conscious feeling and thought, but the simpler elements out of which thought and feeling are built up. The hypothetical ultimate element of mind, or atom of *mind-stuff*, precisely corresponds to the hypothetical atom of matter, being the ultimate fact of which the material atom is the phenomenon. Matter and the sensible universe are the relations between particular organisms, that is, mind organized into consciousness, and the rest of the world. This leads to results which would in a loose and popular sense be called materialist. But the theory must, as a metaphysical theory, be reckoned on the idealist side. To speak technically, it is an idealist monism. Indeed it is a very subtle form of idealism, and by no means easy of apprehension at first sight.





Nevertheless there are distinct signs of a convergence towards it on the part of recent inquirers who have handled philosophical problems in a scientific spirit, and particularly those who have studied psychology on the physiological side. Perhaps we shall be told that this proves the doctrine to be materialism in disguise; but it is hardly worth while to dispute about names while more serious things remain for discussion. And the idea does require much more working out; involving, as it does, extensive restatement and rearrangement of metaphysical problems. It raises not only several questions, but preliminary (and really fundamental) problems as to what questions are reasonable. For instance, it may be asked why, on this hypothesis, mind should become conscious at a particular degree of complexity, or be conscious at all. I should myself say that I do not know and do not expect ever to know, and I believe Clifford would have said the same. But I can conceive some one taking up the theory and trying to make it carry further refinements and explanations. Again, a more subtle objection, but in my opinion a fallacious one, would be that it is not really a monism but a dualism, putting mind (as the undetermined *mind-stuff*) and consciousness in place of the old-fashioned matter and mind. This, however, is not the place to pursue the subject; and I do not think the outline of the hypothesis can be made clearer by any explanation of mine than Clifford has already made it.

After all I have wished to speak of the man rather than his opinions; but the speculative interests I shared with him, being in a manner part of himself, have claimed their due, and perhaps obtained rather more.

Let us now gather up a few matters of personal habit and character which have not yet been noticed. The predominance of light as a figure and a symbol in Clifford's writing will be remarked: he associates it with the right and all things good so constantly and naturally that it is one of the marks of his style. He had physically a great love of light, and chose to write, when he could, in a clear and spacious room, with the windows quite free of curtains. Though he was not for most ordinary purposes a business-like man, and was careless of his own attire, he was neat and exact in his literary work. He would not allow books to be misused or carelessly cut, and his own MS. was very fair, regular, and free from erasures. He was careful about punctuation, and insisted on having his own way in it, and he especially disliked superfluous commas. At the same time he was fond of handicraft, and his thoughts often ran upon mechanical invention. He speculated much on the practicability of constructing a flying machine, and began experiments at sundry times, which, however, never led to anything definite. Indeed it is pretty obvious that if a successful flying machine is ever made (and there is no impossibility in it), the inventor will be some one who combines theoretical knowledge of mechanics with familiar knowledge of machinery and the strength of materials and ready command of the various resources of engineering. At one time the notion of the flying machine turned Clifford's attention to kites, and this led to a ludicrous accident. It was in the Long Vacation of 1877, when Clifford and his wife were Mrs. Crawshay's guests in Wales. A kite of unusual dimensions, with tail in pro-





portion, had been made ready for a flight which was to exceed everything achieved by kites before. It was to be flown with a great length of string, and it cost a morning's work to lay out the string in a field so that the kite might rise easily when started. Having accomplished this, the party went in to luncheon, and were presently called out by the announcement that a flock of sheep had been turned into the field. Clifford rushed out to prevent the disaster, but it was too late. Shepherd and sheep were caught as in a snare, and when they were extricated the string was left hopelessly entangled. Another piece of engineering undertaken at the same time and place was the construction of a duck-pond for the benefit of a family of ducklings who frequented a narrow ditch by the roadside. The little stream that trickled in the ditch was dammed according to the rules of art, and in course of time a complete pond was formed, and the ducks were happy for a season: till one day some over-zealous minister of local authority, conceiving the pond, as it was supposed, to be an encroachment on the highway, restored the ancient state of things with a few strokes of the spade. Clifford regretted the duck-pond even more than the kite. Other amusing and characteristic anecdotes might be added; but I forbear.

No enumeration of tastes and occupations can adequately represent the variety and flexibility of Clifford's intellect, and still less the tender, imaginative, poetical side of his mind. Now and then he wrote verses in which this partly found expression. They were mostly of a private or occasional nature, or else too fragmentary for publication. One very graceful song is to be found

in the volume of fairy tales already spoken of, and is reprinted below. But the real expression of Clifford's varied and fascinating qualities was in his whole daily life and conversation, perceived and felt at every moment in his words and looks, and for that very reason impossible to describe. Nor can portraits go very far to supply that part of it which fell to the sight; for the attractive animation and brightness of his countenance depended on very slight, subtle, and rapidly succeeding changes. His complexion was fair; his figure slight, but well-knit and agile; the hands small, and, for a man, singularly slender and finely formed. The features were of a massive and irregular type which may be called Socratic; in a bust they might have looked stern, in the living face they had an aspect not only of intellectual beauty but of goodwill and gentle playfulness. But I began with declaring my task impossible, and at the end I feel still more keenly that all words fall short of what I would convey. The part has fallen to me of doing to a loved and honoured friend such honour as I could: the will at least will be accepted.

*Purpureos spargam flores . . . et fungar inani  
munere.*