FORTY YEARS OF A SCIENTIFIC FRIENDSHIP.

BY MAYNARD SHIPLEY.

IT has often been remarked how frequently scientific ideas seem to be "in the air" at some particular time, and to strike simultaneously the minds of two or more investigators. The instances of Wallace and Darwin with natural selection, and of Leverrier and Adams with the discovery of the planet Neptune, are but two of the best known. No adequate explanation of this strange phenomenon has been given; and another similar happening, the frequency with which men working in the same line of research possess the same birth-date, has seldom been even noted. Yet any number of such illustrious "mental twins" might be pointed out. 1809, for example, was a remarkable year in this respect, most of its eminent children being distinguished in literature.

One such couple, for whom 1920 marks the centenary, showed in other respects also a curious parallelism. Herbert Spencer and John Tyndall, pioneers both among English evolutionists, were not only both born in 1820, but died on almost the same day of December, Tyndall just ten years before Spencer. Tyndall's death brought an end to a friendship which had endured for exactly forty years—an unusual circumstance in the contentious life of the author of *First Principles*.

Yet no pair could have been more unlike in temperament. The younger man (Tyndall was born in August, Spencer in April) was an active, energetic, emotional, volatile Irishman; the older a cautious, crotchety, and painfully reserved Englishman. Tyndall was distinguishing himself as an Alpine climber while Spencer from sad necessity was designing a patent invalid-chair. Tyndall, in spite of his warm championship of persons and causes, which led him sometimes into intemperate dogmatisms, kept around him a staunch and unchanging circle of devoted friends; Spencer, even as he smilingly condemned his friend's "chivalrous tendency to take up the cause

of any one he thinks ill-used," himself antagonized and quarreled with nearly every other acquaintance he had, even his lifelong friend, Huxley. For several years before the Irish chemist's death, he was forced to experience the ill-health which was largely accountable for the philosopher's uncertain temper; but whereas Spencer dwelt excessively upon the details of his invalidism and its treatment, Tyndall laughed off the very disease which was killing him, and even scouted his friend's well-meant suggestions for rest and care.

Spencer was all his life a bachelor, telling one lady who became insistently personal that, "frankly, no woman could live with me." He denied vehemently the rumors of a love-affair with George Eliot, even attacking her husband after her death because he would not make the refutation strong enough. For many years, Tyndall threatened to follow his example of celibacy to the end, but at the age of fifty-six he finally married. It is indicative of the bitterness of feeling of those early rationalistic days, that Spencer, greatly as he desired to be present at his friend's marriage, could not bring himself to enter the church (Westminster Abbey) in which the ceremony was performed. He broke only once this lifelong rule never to enter a place of worship, and that was when Darwin's funeral was held in that same historic edifice.

From the day when Spencer and Tyndall were introduced by Huxley, in the rooms of the Royal Society, early in 1853, until an accidental overdose of chloral cut short the illustrious career of Faraday's successor, they were in close and constant association, so far as the work of either touched on the province of the other. Spencer especially seems to have published very little that had not already been submitted to Tyndall for his criticism. He was in the habit of consulting Huxley and Darwin as well; but usually the final draft or proof was sent to Tyndall—as witness one proof-page, in which Spencer calls Tyndall's attention to a pictorial comment on the margin by Huxley, in which an inquiring dog, labeled "T. H.," is gingerly examining a porcupine, marked "H. S.," with the caption, "Can't get hold of it anywhere!"

When Spencer undertook to reorganize the magazine *The Reader*, Tyndall was one of the first from whom he solicited contributions. Soon after, they came near to a break because of what Tyndall considered an unjustified attack on men of science in Spencer's *Sociology*. The difficulty was smoothed over, however, as was unfortunately not possible in Spencer's later dispute with Huxley over the land question. It must be understood that, closely connected as Spencer and Tyndall undoubtedly were, they never spent much

time in intimate companionship. Had this been so, it is unlikely that the friendship would have endured; for Spencer remarked more than once that he was easily tired by Tyndall's "infectious vivacity." To a man who had been able to attend but one theatrical performance in ten years, and who, when he hired a musician to play the piano for him, was obliged to dismiss her because of the nervous strain after only two engagements, the constant presence of a lively, ebullient Irishman would have been worse than trying. On the other hand, some of Spencer's peculiar ways struck Tyndall as amusing, and he did not hesitate to show his feelings to his sensitive friend. For example, Spencer relates how while he was writing his *Psychology*, he kept up his health by playing at rackets, indulging in a game after every few pages. Tyndall discovered him engaged in this unusual method of literary production and considered it very funny, as Spencer rather testily observes.

But whatever the natural antipathies between these two great forerunners of modern evolutionary science, they had a deep and abiding respect and admiration for each other. Spencer on one occasion applied to the government for a consulship, and asked his acquaintances to furnish him with letters of recommendation. In reply, Tyndall in part said: "It gives me pleasure to state that in your writings I discern the working of a rarely gifted and a rarely furnished mind. I do not know that I have met anywhere a deeper and truer spirit of research. Your facts are legion, and your power of dealing with them....is to me almost without a parallel."

And Spencer, in his *Autobiography*, says of Tyndall: "Professor Tyndall is chiefly distinguished as a scientific inquirer; but among those who are classed as poets because they write verses, there are probably few who have an equally great love of beauty.... With Professor Tyndall....one of the chief interests in science is ....the light it throws on our own nature and the nature of the universe; and the humility it teaches by everywhere leaving us in the presence of the inscrutable."

For forty of the hard, experimental years of modern science, these two members of England's galaxy of pioneers labored side by side to lessen this ultimate "inscrutability" of the universe, until at last Spencer was left alone, almost the last of the group. Tyndall's sudden death shocked him greatly; he was himself an old man (seventy-three), and the friends of his youth were dying all about him: but he wrote, in a beautiful letter to the great chemist's widow, that he rejoiced in the other's peaceful death, "such a one as he would desire for himself." Ten years later, he, too, went into the

greatest "inscrutability" of all. Both he and Tyndall, in the first impetuous triumph of materialistic science, contemptuously refused even to investigate or discuss the question of the survival of personality after bodily death; but as we contemplate the marvelous achievements of biology and chemistry since even Spencer's demise, we could wish that in some way it might be possible for these two ardent and single-minded students, co-workers still in some other phase of life, to know and contemplate with just pride the present great estate of the study to which they gave their lives, and which owes so much of its supremacy to the labors of two men who came as a gift to British and universal science just one hundred years ago.