

“Little more than thirty years ago”, he says, “we knew practically nothing of the life-history of a fungus, nothing of parasitism, of infectious diseases, or even of fermentation, and many botanical ideas now familiar to most educated persons were as yet unborn. Our knowledge of the physiology of nutrition was in its infancy, even the significance of starches and sugars in the green plant being as yet not understood; root-hairs and their importance were hardly spoken of; words like *heterœcism*, *symbiosis*, *mycorhiza*, &c., did not exist, or the complex ideas they now connote were not evolved. When we reflect on these facts, and remember that bacteria were as yet merely curious ‘animalculæ’, that rusts and smuts were generally supposed to be emanations of diseased states, and that ‘spontaneous generation’ was a hydra not yet destroyed, we obtain some notion of the condition of this subject about 1860.”

As Marshall Ward points out there were early workers of great merit, such as Fries—the Linnæus of the Fungi; the Tulasnes, who began the elucidation of intricate life-histories, such as that of ergot; and Berkeley, who “linked the period previous to 1860 with the present epoch”—but it was to the genius of De Bary that we owe the first great steps towards an *understanding* of the Fungi:—

“If I may compare a branch of science to an arm of the sea, we may look upon De Bary’s influence as that of a Triton rising to a surface but little disturbed by currents and eddies. The sudden upheaval of his genius set that sea rolling in huge waves, the play of which is not yet exhausted. . . . His development of the meaning of sexuality in Fungi, his startling discovery of heterœcism, his clear exposition of symbiosis, and even his cautious and almost wondering whisper of chemotaxis were all fruitful.”

With De Bary’s name is also associated one of the most remarkable botanical discoveries of the second half of the nineteenth century, namely, that “Lichens are not a class co-ordinating with the Algæ and Fungi, but a division of Ascomycete Fungi which have this peculiarity, that they spin their threads round the plants on which they feed and take them up into their tissue.” In other words, lichens are dual plants, illustrating symbiosis between fungoid and algoid partners. De Bary’s sug-