

view, destined to become ultimately merely chapters in dynamics as the doctrine of mechanical motion.

A similar reluctance to look upon the vibrations of the luminiferous ether merely as a convenient symbolism, as a crude method of visualising molecular processes, which in reality we cannot picture to ourselves, does not seem to have troubled the minds of the great propounders of the undulatory theory of light—*i.e.*, of the elastic solid theory, as it is now termed in contradistinction to the electro-magnetic theory propounded by Maxwell. The greatest living exponent of the former view, Lord Kelvin, who in his Baltimore Lectures grappled with the difficulties which still beset that view—falling back on the principle of optical consonance and resonance, suggested by Professor Stokes to explain some of the interactions of the ether and ponderable matter; upon the theory of free and forced vibrations, suggested by Bessel and Sellmeier; and on his own fruitful suggestion of the vortex atom to explain some of the properties of ponderable atoms moving in the continuum which fills all space—expresses himself very definitely on this point. “We must not listen to any suggestion that we may look upon the luminiferous ether as an ideal way of putting the thing. A real matter between us and the remoter stars I believe there is, and that light consists of real motions of that matter, motions just such as are described by Fresnel and Young, motions in the way of transverse vibrations. If I knew what the magnetic theory of light is, I might be able to think of it in relation to the fundamental principles of the wave theory of light. But it seems to me rather a backward step from an absolutely definite

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Lord Kelvin  
on the  
vibrations  
of the ether.