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nstie ar-The a in a velowing , and essel. d be is air narks ag in nable ed, if t, our weins would swell, our breath would leave us, and we should literally expire." It is, however, to a statement of Clausius in connection with this theory, that I call your special attention. In an article entitled " Motion, which we call heat, the states in description of the resulting collisions of the molecules, (the term molecule in molecular physics may be substituted for our term compound atom,) that when 2 molecules in their motion collide, they fly apart with in general the same velocity, which they had before impact Now from this it follows that the molecules must be elastic, and perfectly so, if no motion is to be lost in the collision. But we cannot think of elasticity as a property of continuous bodies. When 2 glass balls in motion meet we explain the fact of their flying apart by appealing to their molecular structure The 2 balls in meeting approach with their centres of gravity, the balls flattening at the point of contact, the molecules, which are there situated, have been pressed inwards in regaining their original position the balls are propelled in directions opposite to the original direction of motion, We need exactly the same explanation for the collision of any 2 molecules, say of Uxygen gas, and we shall have to seek the explanation of the elasticity of molecules in the construction of their atoms .- their compound nature, for only then will they be capable of exhibiting a resilience so necessary for the application of the kinetic theory to gases,

Thus from both chemical and physical considerations, we have been led to assume a compound nature for the atoms. / Matter conceived of as molecul r aggregations of groups of such atoms, is, on account of the marvellous complexity of structure it permits, admirably adapted for an almost unlimited variety of motions In the variety f the motions of these ultimates and their groups lies the explanation of the variety of the phenomena of this beauteous universe. The diamond sparkling on the bride's finger owes its splendour to its molecular structure. Each maple leaf, ere it is chilled by the winters frost, changes the rate of vibration of its chlorophyll, which wraps it in a winding sheet of gorgeous red The deep blue sky above the golden tinted clouds on a western horizon, owe their beauty but to the vib ating periods of molecules; and even were we able by mathematical analysis to follow all these motions, and accurately formulate them, rudely as this might tear away the glory and beauty which like a veil cover this creation, we would. I doubt not, find behind it that which would anew inspire us with awe, aye with reverence, as we gaze out upon the boundless fields of beauty and knowledge beyond! Our soul is thirsty for this knowledge, and the intellects of our best men are strained to their utmost in unravelling this wondrous complexity of structure and motion. Those who have seen deepest into it, and have gone farthest in their investigations, have worked their way through Materialism, and attained with President Wurtz to the conclusion that things have not in themselves their own raison d'etre, their support and origin, but are subject to a First Cause-unique, universal, God.