

"Quam multa sunt opera tua, Domine! Omnia cum sapientia fecisti."

MANILA OBSERVATORY

Man occupies a most unique place in the universe; he stands between the almost infinitesimally small and the almost infinitely great, and yet, by means of his intellect he can embrace them all. Even though he cannot use a ruler for the infinitesimal and for the almost infinite, yet, by means of legitimate deduction, step by step, our intellect probes them both, ever increasing its knowledge. Many books have been written on the wonders of nature, with its arguments for design, and what I give you is but the minutest fragment, but I hope it will prove interesting, since I have tried to give ^{many} recent instances, mixing the new and the old.

We shall start with the infinitesimal. It has long been known that the atom is only about one one hundred millionth of a centimeter in diameter. The then known 92 kinds of atoms joined themselves together into innumerable compounds. The great physicist, Clerk Maxwell, wrote beautifully about the molecule as far back as 1875.

"The molecules continue this day as they were created, perfect in number and measure and weight, and from the ineffable characters impressed upon them we may learn that those aspirations after accuracy of measurement, truth in statement and justice in action which we reckon as ~~maxims~~ our most noble attributes as men are ours because they are essential constituents of the image of Him ~~which in the~~ who in the beginning created not only heaven and earth, but the materials of which heaven and earth consist." (Nature, vol. 8)

But since Maxwell, we have learned that the atom itself is complex, and that this complexity, in the case of the heavier atoms, is startling. All atoms seem to consist of a central sun, as it were, whose dimensions are much less than that of the atom. Expressed in figures, it would take about ^{ten million million} 10,666,000,000,000 of these nuclei in line to make a centimeter. Whirling around the nucleus are from one to ^{another type of particle,} over 92 electrons, like planets. So the atom, meaning the indivisible in Greek, was not indivisible after all! Who knows if even the electron, the proton, and the other supposed ultimate/s of matter are not themselves further divisible? Physics at present is in rather a confused state, and we do not know whether the electron is a corpuscle or ^{matter} a wave, or whether light is a wave in the ether or a corpuscle as Newton thought? In any case we can safely say of the ultimate ultimates of matter what Maxwell said of the atom: they all show forth marvellous design in an infinite creating Mind, God.