

**SCIENTIFIC DIALOGUES, INTENDED FOR  
THE INSTRUCTION AND ENTERTAINMENT  
OF YOUNG PEOPLE: IN WHICH THE  
FIRST PRINCIPLES OF NATURAL AND  
EXPERIMENTAL PHILOSOPHY ARE FULLY  
EXPLAINED, VOL.IV, OF PNEUMATICS**

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**J. JOYCE**

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VOL. IV. OF PNEUMATICS.

*“ Conversation, with the habit of explaining the meaning of words,  
“ and the structure of common domestic implements to children, is the  
“ sure and effectual method of preparing the mind for the acquirement of  
“ science.”* EDGEWORTH'S PRACTICAL EDUCATION.

BY THE REV. J. JOYCE.

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## CONVERSATION I.

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### OF THE NATURE OF AIR.

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FATHER — CHARLES — EMMA.

*FATHER.* That branch of natural philosophy, which is called Pneumatics, treats of the nature, weight, pressure, and spring of the air which we breathe, and of the several effects dependent upon these properties.

*Charles.* You told us, a few days ago, that the air, though to us invisible, is a fluid; but it surely differs very much from those fluids which

you conversed upon when treating of hydrostatics.

*Father.* It does so : but recollect the terms by which we defined a fluid.

*Charles.* You distinguished a fluid as a body, the parts of which yield to the least pressure.

*Father.* The air, in which we live and move, will answer to this definition. Since we are continually immersed in it, as fish are in the water, if the parts did not yield to the least force, we should be constantly reminded of its presence by the resistance made to our bodies ; whereas persons unaccustomed to think on these subjects are not even aware that they are surrounded with a fluid, the weight and pressure of which, if not counterbalanced by some other

power, would instantly crush the human frame.

*Emma.* In a still, calm day, such as the present is, when one can scarcely discern a single leaf in motion, it is difficult to conceive of the existence of such a fluid; but when

————— down at once  
 Precipitant, descends a mingled mass  
 Of roaring winds, and flames, and rushing  
 floods, THOMSON'S SUMMER.

no doubt can remain as to the existence of some mighty unseen power.

*Charles.* By this quotation, Emma, you take it for granted that the air and the winds are the same.

*Father.* This is really the fact, as we shall prove on a future day.

*Charles.* But I am not quite satisfied that the air is such a body as you have described.