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## **Edme Mariotte Manuscript: A Treatise of the motion of water and other fluid bodyes**

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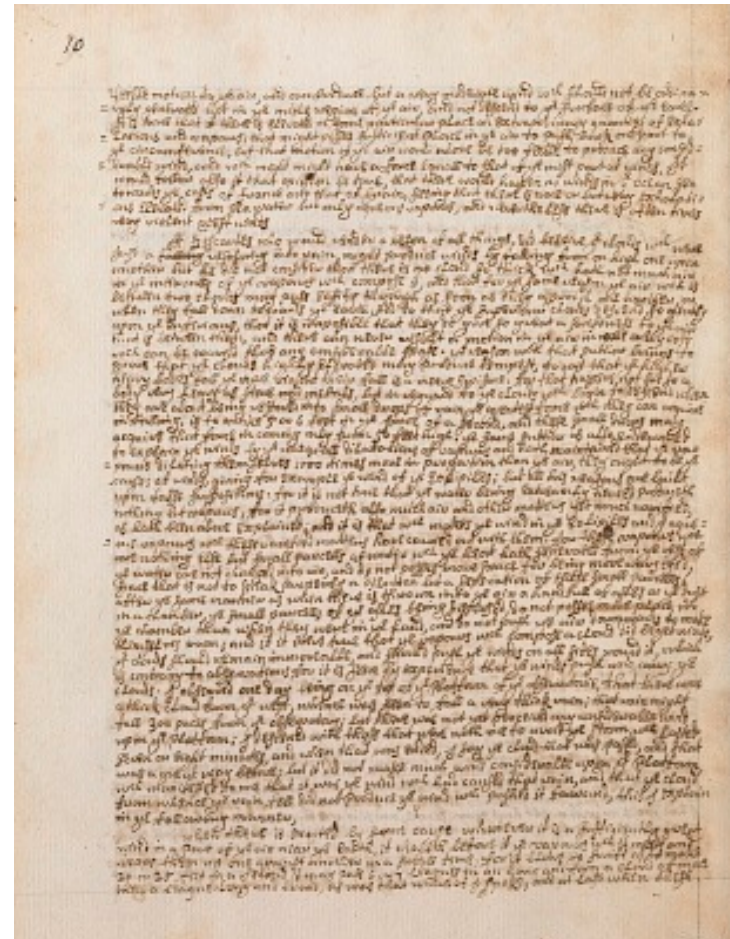
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feeble motion to ye air, and can produce but a very moderate wind which should not be ordinarily generated but in the middle region of ye air, and not descend to ye surface of ye earth. It is true that if there is elevated in some particular place an extraordinary quantity of exhalations and vapours, that might posses sufficient place in ye air to push back one part to ye circumference, but that motion of ye air would alone be too feeble to produce any considerable wind, and wch might might have a force equall to that of ye most part of winds. It would follow also if that opinion be true, that there would happen no winds in ye ocean sea towards ye costs of france and that of Spain, seeing that that there is none but very exhalations elevated from sea water but only aqueous vapours, and nevertheless there is often times very violent west winds.

At Descartes who would render a reson at all things, did beleive of clouds such were just a ~~falling~~ falling ~~into~~ into resolving into rain, might produce winds by falling from on high one upon another but he did not consider that there is no cloud so thick wch hath not much air in ye intervalls of ye vapours wch compose it, and that for ye same reason ye air wch is between two clouds may pass easily through as soon as they approach one another, or when they fall down towards ye Earth. Add to that ye superior clouds descend so gently upon ye inferiors, that it is impossible that they do give so great a swiftness to ye airs that is between them, and there can never result a motion in ye air in one ~~only~~ cost wch can be carried thro any considerable space. Ye reason wch that Author brings to prove that ye clouds highly elevated may produce tempest, to wit that ye higher heavy bodies fall ye more violent their fall is a meere ~~sophisme~~ sophisme: for that happens not but to a body very heavy as stone and mettals, but in regard to ye clouds wch begin to descend when they are about being restored into small drops of rain, ye greatest force wch they can acquire in falling, is to make 5 or 6 feet in ye space of a second, and these small drops may acquire that force in coming only from 50 feet high. Ye same Author as also endeavoured to explain ye winds by ye unequall dilatations of vapours and hath maintained that ye vapours dilating themselves 1000 times more in proportion than ye air, they ought to be ye causes of winds, giving for example ye wind in ye Eolipiles; but all his reasons are built upon false suppositions: for it is not true that ye water being extremely heated produceth nothing but vapours, for it produceth also much air and other matters yet much rarified, as hath been above explained; and it is that wch makes ye wind in ye Eolipiles and ye aqueous vapours wch these rarified matters have carried out with them. For these vapours wch are nothing else but small parcels of water wch ye heat hath seperated from ye rest of ye water are not changed into air, and do not possess more space for being more raryfied, since that is not to speak properly a dilation but a seperation of these small parcells; after ye same manner as when there is thrown into ye air a handful of ashes or ye dust in a chamber, ye small parcells of ye ashes being dispersed, do not posses more place in ye chamber than when they were in ye hand, and do not push ye air downwards to make themselves room; and if it were true that ye vapours wch compose a cloud did beget winds, if clouds should remain immoveable, and should push ye winds on all sides round it, which is contrary to observations for it is seen by experience that ye winds push and carry ye clouds. I observed one day being on ye top of ye platform of ye observatorie, that rain might fall 300 paces from ye observatory, but there was not yet perceived any considerable wind upon ye platform; I descended with those that were with me to avoid ye storm wch lasted seven or eight minutes, and when



that was ended, I say ye cloud that was passed, and that was a great way before; but it did not make much wind considerable upon ye platform, wch manifested to me that it was ye wind wch had caused that rain, and that ye cloud from whence ye rain fell did not produce ye wind wch pushed it forward, this I explain in the following manner,

When there is excited by some cause whatever it is a sufficiently great wind in a part of ye air near ye Earth, it chaseth before it ye vapours wch it meets and heaps them up one against another in a small time, for it blows so swift as to make 20 or 25 feet in a second it may pass 6 or 7 leagues in an hour and form a cloud of more than a league long and broad, as was that whereof I spoke, and at last when these

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