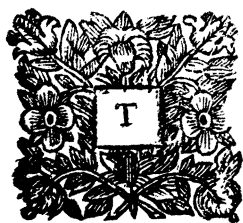




TO THE
RIGHT HONOURABLE
RICHARD
Lord Vice-Count
RANALAUGH,

One of the Lords of his Majesties Most
Honourable Privy Council for the Kingdom of
I R E L A N D, &c.

My Lord,



THE small Volume, which herewith I humbly present to your Lordship, is my Eighth, and the last of the first Century of the Monthly Tracts, which some years since I was content to be engaged in. Some of my friends and the friends to the Progress of knowledge would encourage me to continue these beginnings, by taking notice, that these yearly Volumes are Testimonies and Records of some of the Annual Advancements of the Arts and

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and Sciences: To justify which expression, they say, I may with confidence offer this present Volume to the Test, and thence intimate to the Reader, That, though this year last past (to which this Collection belongs,) have been a year of much other business, rough and stormy, Martial and contentious in many parts of Europe, yet we have in these Tracts two secondary Planets, circulating about Saturn never, that we know, thought on before, newly discover'd, and their Motions diligently observed by an excellent Italian Astronomer: That another famous Astronomer of Germany gives a learned account of all the foregoing Celestial apparatus of Instruments, and a recent examination of the Distances of the Fixt Stars from each other: That one of England, by special diligence shews a sure way to restore the Fixed Stars to their due places; and endeavours to ascertain the Appulses of the Moon and other Planets to the Fixed that are of chief note, for the time then present, and prepares others to be themselves Eye-witnesses the next following year: That here are some Microscopical additionals to evince the late improvement of that Instrument in Holland: That one of Scotland hath taught a new way of delineating human figures with good certainty: That the difficult Optic Problem of Alhazen is much illustrated and solidly demonstrated by two of the best Mathematicians in Europe: That a Demonstration of the Vibrations made in the Cycloid is given by a considerable Nobleman of England: That that powerful part of Mathematiques, called Algebra, is deduced from its Elements into a full Body, and that in English, for the first advantage of our Natives, and all that understand English: That other not common doctrines about Light and Colors are with emulation advanced: That Instruments are devised and explicated for facilitating Arithmetick, and Fortifications skilfully directed.

Then for MEDICINE, and PHYSIOLOGY; that a very Learned person gives us extraordinary Accidents and Successes: That an excellent Physitian of London gives, and by Mechanical principles explains the Motions and Operations of Medicines: That an acute Italian examines by good Experiments the varieties of Nature of greatest fame, and fetcht from remote parts, and finds most of them disappoint expectation, and affront all reports:

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reports: That Anatomy in several particulars is augmented; and Phytology adorned for a deeper aid towards the discovery of Physiology: That the Anatomy and Vegetation of Roots is carefully inquired into: That the Inspection of Urine, how much soever despised, is rectified, and applied to true and substantial Indications: That some very uncommon Mineral Substances have been discovered in deep English Coal and Iron-mines: That Coral by notable circumstances indicates its own nature; and Ambergreese is found to be a Vegetable excretion, &c.

My Lord, I cannot here pass by your Honourable Uncle, but must add something of what he now offers before our Eyes. He first by many evidences, which himself extorted from his Pneumatic Engin, shew'd us the wonderful importance of the Weight and Compression of Air, to bind, as 'twere, all natural Bodies firmly in their most agreeable bulk: Now he teaches us the Innoxiousness of the huge weight of the vast Atmosphere to all Terrestrial inhabitants; together with the immense weight of waters to the Whales and other Fishes gliding at the bottom of the deepest Seas: He shews the grounds, and explicates the reasons and many circumstances, how we enjoy the pleasures of life without any sense of cumber under this weight of Air: He teaches, that Luminous bodies cannot shine without the help of Air, and shews the unaptness of Gun-powder and Aurum fulminans to flame, or to assist Explosions, without the commerce with Air: He examines the Flame (as 'tis call'd) of Animal Life, as in relation to Air, and as compar'd with other flames for duration: He extracts Ponderable parts out of Fire and Flame, and inforceth them to pass through solid Glass, and to add weight and substance to masses of Metal and of other Minerals: He makes out the stupendious force of a Freezing coldness: He weighs the moisture of the Air in sure and constant scales; detects the power and sometimes the perniciousness of the same; distinguishes accurately the Natural and Preternatural state of Bodies; and reduces to our apprehensions and discernments the Subtlety, Efficacy, and Determinat nature of Effluvioms.

I should be too prolix, if I should name all particulars, many of which are as considerable as those I have mention'd. Now, if
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any Antiquary shall produce the Antients performing the same things, I shall willingly submit to the conviction; for, whether Novel, or Antient, 'tis the weight and importance or usefulness of a business, which bears the true value. And, My Lord, I have obtain'd my main intention, if your Lordship shall please to accept this as a pledge of the honor, which I have always ow'd and profess'd, and shall ever with entirest respect and sincerity bear you, as becomes

My Lord

Your Lordships

London,
Febr. 7. 1673.

Very humble and Faithful Servant

HENRY OLDENBURG.

PHILO-