

england as seen by foreigners

by william brenchley rye

Publication date [1865](#)

Page 61

Tuesday, May 1st, 1610. His Excellency went to Eltham Park to see the **perpetual motion**; the inventor's name was Cornelius Trebel [**Drebbel**],* a native of Alkmaar, a very fair and handsome man, and of very gentle manners, altogether different from such-like characters; we also saw there **virginals which played of themselves**.

Notes. p 232

84. Page 61. The accounts we have of that "deservedly famous mechanician and chymist," as the Hon. Robert Boyle calls Cornelius **Drebbel**, are confused and inexact. As **Drebbel** passed many years of his life in England, was patronized by James I. and Charles I, and astonished our countrymen with his wonderful inventions and instruments, it becomes more necessary to collect as many particulars as possible regarding his history and doings here, and in elucidation of these discoveries, especially as his name is only once to be seen in that vast storehouse of historical

Notes. p 233

lore, Nichols' Progresses of the former monarch. With this view, therefore, we shall endeavour to supply the defect by availing ourselves of original sources of information, including the investigations of **Drebbel**'s own countrymen. The earliest, perhaps, of these writers is Paquot, who has admitted **Drebbel** at some length into his « Hist, litt. des Pays Bas," 1765, i. 317,318. Adelung, a learned German author, followed with a notice considerably more extended, in his ' History of Human Folly" (Geschichte der menschlichen Narrheit, 1786, ii. 125-150)—a very comprehensive theme by-the-bye—but the opinion which he entertained of the subject of his biography may be ascertained by the heading he adopted, "Cornelius van **Drebbel**, ein Charlatan." More circumstantial still, as well as more exact, was the Dutch writer, J. P. van Cappelle, who has introduced **Drebbel** in his " * Bijdragen tot de Geschiedenis der Wetenschappen en Letteren in Nederland," 8vo. Amst. 1821; pp. 65-126. To this notice is prefixed a portrofa Driebtbe I very neatly engraved. The last account is by A. J. van der Aa (Biog. Wordenb. der Nederlanden, iv. pp. 322-327), who has availed himself of some particulars from the Dutch Notes and Queries, the " * Navorscher." Other epithets have been bestowed upon **Drebbel**, as alchemist, empiric, magician, and professor of the black art. But, however extravagant and improbable some of the following descriptions may appear, yet, allowing, as we ought to do, for the crude state of

physical science and the credulity of the times in which he lived, as well as the then prevailing tendency to clothe scientific investigations and experiments with an air of mystery, Cornelius **Drebbel** is entitled, we think, to hold a respectable position among the ingenious inventors and mechanics of the early part of the seventeenth century.

Nearly all **Drebbel's** biographers fall into the mistake of not making him arrive in England until after the battle of Prague, in 1620; the notice in the text is therefore of value, as showing that as early as 1610 Cornelius was settled at Eltham Park, exhibiting his **Perpetual Motion**, which seems to have been a sight worthy even of the visit of a foreign prince. At this point, then, we are able to answer Adelung who remarks: “* What **Drebbel** did or invented in London is not known.” In all probability he was allowed apartments in Eltham Palace by the king; a similar privilege having been granted to Vandyke in the next reign, and it was at Eltham that this celebrated artist in summer painted some of his magnificent pictures. (Carpenter's Life, p. 28.) At the time above mentioned (1610), in addition to the famous Hall yet remaining, there was standing a goodly pile of buildings of various styles and dates, which, under the name of “the King's House,” formed the Palace at Eltham. **Drebbel's Perpetual Motion** is alluded to by Peacham (see “Sights and Exhibitions,” azte, p. 139), and by a greater poet, rare Ben Jonson; and as some curious mistakes have been made by Gifford, his editor, and others, as to what this “Motion” could have been, we have been desirous of giving a full description of it, and have accompanied this by an etching, both derived from a scarce work in the British Museum, written by one Thomas Tymme, “Professour of Divinitie,” and published in 1612, under the

Notes. p 234

title of «A Dialogue philosophicall, wherein Natures secret closet is opened... Together with the wittie invention of an Artificiall **Perpetuall Motion**, presented to the Kings most excellent Maiestie. Discoursed betweene two speakers, Philadelph and Theophrast.” Before quoting this passage, however, it may be as well to make the reader acquainted with a statement of what wonderful things **Drebbel** could and did accomplish, translated from Paquot, and derived from a writer in “© Notes and Queries” (1st Series, ii. 7), both of whom have taken their information from a Dutch Chronicle of Alkmaer (by C. van der Woude), printed there in 1645. From this it appears that **Drebbel** presented King James with << A glass or crystal globe, wherein he blew or made a **perpetual Motion** by the power of the four elements. For every thing which (by the force of the elements) passes in a year on the surface of the earth, could be seen to pass in this cylindrical wonder in the shorter lapse of 24 hours. Thus were marked by it all years, months, days, hours; the course of the sun, moon, planets, and stars, &c. It made you understand what cold is, what the cause of the primum mobile, what the first principle of the sun, how it moves; the firmament, the stars, the moon, the sea, the earth; what occasions the ebb, flood, thunder, lightning, rain, wind; and how all things wax and multiply, &c., as every one can be informed by **Drebbel's** own works; we refer the curious to his book, entitled Eeuwige Beweginghe (Perpetual Motion). He built a **ship, in which one could row and navigate under water**, from Westminster to Greenwich, the distance of two Dutch miles ; even five or six miles, or as far as one pleased. In this boat a person could see under the surface of the water and without candlelight, as much as he needed

to read in the Bible or any other book. Not long ago this remarkable ship was yet to be seen lying in the Thames or London river. Aided by some instruments of his own manufacture, **Drebbel could make it rain, lighten, and thunder, at every time of the year**, so that you would have sworn it came in a natural way from heaven. By means of other instruments he could, in the midst of summer, so much refrigerate the atmosphere of certain places, that you would have thought yourself in the very midst of winter. This experiment he did once at his Majesty's request, in the great Hall of Westminster; and although a hot summer day had been chosen by the King, it became so cold in the Hall that James and his followers took to their heels in hasty flight. With a certain instrument he could **draw an incredible quantity of water out of a well** or river. By his peculiar ingenuity he could at all times of the year, even in the midst of winter, **hatch chickens and ducklings** without the aid of hens or ducks. He made **instruments by means of which were seen pictures** and portraits; for instance, he could show you kings, princes, nobles, although residing at that moment in foreign countries; and there was no paint or painter's work to be seen, so that you saw a picture in appearance, but not in reality. He could make **a glass** that, placed in the dark near him or another, **drew the light of a candle**, standing at the other end of a long room, with such force, that the glass near him reflected so much light as to make him see to read perfectly. He could make **a plane glass** without grinding

Notes. p 235

it on either side, **in which people saw themselves reflected seven times**. He invented all these and many other curiosities, too various to relate, without the aid of the black art; but by natural philosophy alone, if we may believe the tongues of those whose eyes saw it. By these experiments he so gained the King's favour, that his Majesty granted him a pension of 2000 guilders. He died in London, 1634, in the 60th [62nd] year of his age."

The extract from Tymme, in reference to the first-mentioned wonder—the—is as follows. In his Preface to the Reader he says: «* And for that rare things move much, I have thought it pertinent to this Treatise to set before thee a most strange and wittie invention of another Archimedes, which concerneth **Artificiall Perpetuall Motion**, immitating Nature by a lively patterne of the Instrument itselfe, as it was presented to the Kings most royall hands by Cornelius Drebbel of Alchmar in Holland," &c. At page 60: " And to make plaine the demonstration unto you that the heavens move and not the earth, I will set before you a memorable Modell and Patterne, representing the motion of the Heavens about the fixed earth, made by Art in the imitation of Nature, by a Gentleman of Holland, named Cornelius Drebbel, which instrument is perpetually in motion, without the means of steele, springs and waights.—Philadelph. I much desire to see this strange invention. Therefore I pray thee, good Theophrast, set it here before me, and the use thereof. Theophrast. It is not in my hands to shew, but in the custody of King James, to whom it was presented. But yet behold the description thereof hereafter fixed. Phil. What use hath the Globe, marked with the letter A? Theo. It representeth the Earth; and it containeth in the hollow body thereof divers wheeles of brasse, carried about with moving, two pointers on each side of the Globe doe proportion and shew forth the times of dayes, moneths, and yeeres, like a perpetuall Almanacke. Phil. But doth it also represent and set forth the motions of the Heavens?

Theo. It setteth forth these particulars of Celestiall motion. First, the houres of the rising and setting of the Sunne, from day to day continually. Secondly, hereby is to be seene, what signe the Moone is in every 24 houres. Thirdly, in what degree the Sunne is distant from the Moone. Fourthly, how many degrees the Sunne and Moone are distant from us every houre of the day and night. Fiftly, in what signe of the Zodiacke, the Sunne is every moneth. Phil. What doth the circumference represent, which compasseth the Globe about, marked with this letter C? Theo. That circumference is a ring of Cristall Glasse, which being hollow, hath in it water, representing the Sea, which water riseth and falleth, as doth the floud and ebbe, twice in 24 houres, according to the course of the tides in those parts, where this Instrument shall be placed. Whereby is to be seene how the Tides keepe their course by day or by night. Phil. What meaneth the little Globe about the Ring of the Glasse, signed with this letter B? Theo. That little Globe, as it carrieth the forme of a Moone cressent, so it turneth about once in a-moneth, setting forth the encrease and decrease of the Moones brightnesse, from the wane to the full, by turning round every moneth

Notes. p 236

in the yeere. Phil. Can you yeeld me any reason to perswade me concerning the possibility of the perpetuity of this motion? Theo. You have heard before that fire is the most active and powerfull element, and the cause of all motion in nature. This was well knowne to Cornelius, by his practise in the untwining of the Elements, and therefore to the effecting of this great worke, he extracted a fierie spirit out of the minerall matter, joyning the same with his proper Aire, which included in the Axeltree, being hollow, carrieth the wheeles, making a continuall rotation or revolution, except issue or vent be given to the Axeltree, whereby that imprisoned Spirit may get forth. I am bolde thus to conjecture, because I did at sundry times pry into the practise of this Gentleman, with whom I was very familiar. Moreover, when as the King our Sovereigne, could hardly beleewe that this motion should be perpetuall, except the misterie were revealed unto him: this cunning Bezaleel, in secret manner disclosed to his Maiestie the secret, whereupon he applauded the rare invention. The fame hereof caused the Emperour [Rudolph II.] to entreate his most Excellent Maiestie to licence [allow] Cornelius Bezaleel to come to his Court, there to effect the like Instrument for him, sending unto Cornelius a rich chaine of gold. Phil. It becommeth not me to make question concerning the certaintie of that, which so mighty Potentates out of the sublimity of their wisdomes have approved, yet me thinketh that time and rust, which corrupteth and weareth out all earthly things, may bring an end to this motion in few yeeres. Theo. To the end time may not weare these wheeles by their motion, you must know that they move in such slow measure, that they cannot weare, and the lesse, for that they are not forced by any poyse of waight. It is reported in the Preface of Euclides Elements by John Dee, that he and Hieronimus Cardanus saw an instrument of perpetuall motion, which was solde for 20 talents of gold, and after presented to Charles the fift Emperour; wherein was one wheele of such invisible motion, that in 70 yeeres only his owne period should be finished. Such slow motion cannot weare the wheeles. And to the end rust may not cause decay, every engine belonging to this instrument is double gilded with fine gold, which preserveth from rust and corruption. Phil. This wonderfull demonstration of Artificiall motion, immitating

the motion celestiall, about the fixed earth, doth more prevaile with me to approve your reasons before aleadged concerning the moving of the Heavens, and the stability of the Earth, than can Copernicus assertions, which concerne the motion of the Earth, I have heard and read of manie strange motions artificiall, as were the inventions of Boetius, in whose commendation Cassiodorus writeth thus: You know profound things and shew mervailles, by the disposition of your Art, mettals doe lowe in sundrie formes: Diomedes picture of brasse, doth sound a Trumpet loude: a brasen Serpent hisseth: birds artificiall, sing sweetly. Very strange also was the moving of the Images of Mercurie: The brasen head which seemed to speake, made by Albertus Magnus: The Dove of wood, which the Mathematician Architas, did make to flie, as Agellius reporteth. Dedalus strange Images, which Plato speaketh of Vulcans selfe-movers, whereof Homer hath

Notes. p 237

written: the Iron Fly, made at Noremberge [by Regiomontanus], which being let out of the Artificers hands, did as it were flie about by the guests that were at the table, and at the last, as though it were weary, returned to his Maisters hand againe. In which Citie also an artificiall Eagle [made by Regiomontanus] was so ordered to flie aloft in the ayre toward the Emperour comming thither, that it did accompany him a mighty way. These were ingenious inventions, but none of them are comparable to this **perpetuall motion** here described, which time by triall in ages to come, will much commend. Theo. These great misteries were attained by spending more oyle then wine; by taking more paines then following pleasure.”

Having disposed ofth is curious and certainly marvellous description of **Drebbel's** instrument of **Perpetual Motion**, we will now quote Ben Jonson's allusion to it. This occurs in his “ Silent Woman” (played in 1609), act 5, sc. 3. Morose exclaims, « My very house turnes round with the tumult! I dwell in a Windmill! 'The **Perpetuall Motion** is here, and not at Eltham.” On this passage Gifford offers the following note: “ Here [at Eltham] was a puppet-show of great celebrity in our author's time. It is called in Peacham's verses to Coryat, & that divine [* heavenly,' not ' divine,' see p. 139] motion at [of] Eltham,' so that it was probably some piece of Scripture history. Jonson introduces it again in his Epigrams

{[' On the New Motion'] :—

*« See you yond' Motion? not the old Fa-ding,
Nor Captayne Pod, nor yet the Eltham-thing,
[But one more rare”—].

The mistake is certainly a curious one, inasmuch as the word Motion was at that period understood to signify a puppet-show as well, and sometimes even a single puppet, and it is used by Ben Jonson in his ‘ Bartholomew Fair,’ and also by Shakespeare in this sense. The mistake is a suitable companion to that made by Mr. Payne Collier, who converted a piece of pastry or confectionery into a play (see his Hist. of Dram. Poetry, i. 20; and the New Retrospective Review, 1854, p. 244). Mr. Henry Dircks, C.E., the inventor of the Ghost illusion, published in 1861 a goodly volume of 558 pages on the subject of **Perpetual Motion**.

The author states that he was unable to see a copy of Tymme's work; he therefore quotes an extract from Bishop Wilkins, who, in his ** Mathematicall Magick” (1648, p. 229, cap. ix., treating of a **Perpetuall Motion**) writes: ««A mongst the chymicall experiments to this purpose may be reckoned up that

famous motion invented by Cornelius **Dreble**, and made for King James ; wherein was represented the constant revolutions of the sun and moone, and that without the help either of spring or weights. Marcellus Vranckhein, speaking of the means whereby it was performed, he calls it, Scintillula anima magnetice mundi, seu Astralis et insensibilis spiritus being that grand secret, for the discovery of which, those Dictators of Philosophie, Democritus, Pythagoras, Plato, did travelf unto the Gymnosophists and Indian Priests. The Authour himself, in his discourse upon it (Epist. ad Facobum Regem), does not

Notes. p 238

at all reveal the way how it was performed. But there is one Thomas Tymme, who was a familiar acquaintance of his, and did often pry into his works (as he professes himself), who affirms it to be done thus: ' By **extracting a fiery spirit,**' &c. (See this, ate, p. 236.) What strange things may be done by such extractions I know not, and therefore dare not condemn this relation as impossible ; but methinks it sounds rather like a chymicall dream, than a Philosophicall truth. It seems this imprisoned spirit is now set at liberty or else is grown weary, for the instrument (as I have heard) hath stood still for many years. It is here considerable that any force is weakest near the center of a wheel, and therefore though such a spirit might of itself have an agitation, yet 'tis not easily conceivable how it should have strength enough to carry the wheels about with it.

And then the absurdity of the authours citing this, would make one mistrust his mistake ; he urges it as a strong argument against Copernicus, as if because **Dreble** did thus contrive in an engine the revolution of the heavens, and the immoveableness of the earth, therefore it must needs follow that 'tis the heavens which are moved and not the earth. If his relation were no truer than his consequence, it had not been worth the citing."

Bishop Wilkins, referring to the **submarine vessel**, says (p. 178): '* That such a contrivance is feasible and may be effected, is beyond all question, because it hath been already experimented here in England by Cornelius **Dreble**; but how to improve it unto publike use and advantage so as to be serviceable for remote voyages, the carrying of any considerable number of men, with provisions and commodities, would be of such excellent use as may deserve some further inquiry."

Boyle also, in his " New Experiments physico-mechanicall," &c. (8vo. Oxf. 1660; pp. 363-365), mentions a "conceit of **Drebell**, who is affirmed by more than a few credible persons, to have contriv'd for the late learned King James, a Vessel to go under water, of which tryal was made in the Thames with admired success, the vessel carrying twelve rowers besides passengers, one of which is yet alive, and related it to an excellent Mathematician that inform'd me of it. Now that for which I mention this story is, that having had the curiosity and opportunity to make particular enquiries among the relations of **Drebell**, and especially of an ingenious Physitian [Dr. Kuffler] that marry'd his daughter, concerning the grounds upon which he conceived it feasible to make men unaccustom'd to continue so long under water without suffocation, or (as the lastly mention'd person that went in the vessell affirms) without inconvenience, I was answer'd that **Drebell** conceiv'd, that 't is **not the whole body of the Air**, but a certain **Quintessence** (as Chymists speake) or spirituous part of it , that makes it fit for respiration, which being spent, the remaining grosser body or carcase (if I may so call it) of

the Air, is unable to cherish the vitall flame residing in the heart: so that (for ought I could gather) besides the mechanicall contrivance of his vessell, he had a chymicall liquor which he accounted the chiefe secret of his submarine navigation. For when from time to time he perceiv'd that the finer and purer part of the Air

Notes. p 239

was consum'd or over-clogg'd by the respiration and steames of those that went in his ship, he would, by unstopping a vessell full of this liquor, speedily restore to the troubled air such a proportion of vitall parts as would make it againe for a good while fit for respiration, whether by dissipating or precipitating the grosser exhalations or by some other intelligible way, I must not now stay to examine. Contenting mysele to add, that having had the opportunity to do some service to those of his Relations, that were most intimate with him, and having made it my business to learne what this strange liquor might be, they constantly affirm'd that **Drebell** would never disclose the liquor unto any, nor so much as tell the matter whereof he made it, to above one person, who himsele assur'd me that it was. This account of **Drebell's** performance I mention, not that I any further assent to his opinion then I have already intimated, but because the man and the invention being extraordinary, I suppose your Lordship will not be displeas'd to know the utmost I could learne about it, especially not having found it mention'd by any writer." Boyle, elsewhere (Works, ed. Birch, vy. 128), speaks of **Drebell's** discoveries. Writing on the subject of the **Thermometer**, he says: 'It is certain that **Drebble**, that great, singular, learned mechanick, did by the help of this instrument, make a dial continually to move of itself, regularly shewing both the time of the day and other motions of the heavens; did also make an **automatous instrument of musick**, and found out a **furnace** which he could govern to any degree of heat; but whether these have died with him, or how far the meditations of others have wrought upon them, I shall humbly refer to a more leisable enquiry." At p. 139, vol. iii. of his Works, ed. Birch, Boyle says: 'I may safely affirm that a great deal of money hath been gained by tradesmen both in England and elsewhere upon the account of the **Scarlet Dye** invented in our time by Cornelius **Drebble**, who was not bred a dyer, nor other tradesman." See further on the subject of this **scarlet dye** in Beckmann's Hist. of Inventions, art. 'Cochineal.' Beckmann says **Drebell** communicated his discovery to Kuffelar, who was afterwards his son-in-law, and that the name by which this dye was known was Kuffelar's colour. When he mentions a little farther on a Fleming named Kepler, who established the first dye-house for scarlet in England, at the village of Bow, not far from London, we should recognize in this form the same Dr. Kuffler. The colour was also known as the "Bow-dye." It appears from the "* Calendar of State Papers," of James I, that some short time previous to May 1612, **Drebell** addressed a letter in Latin to Prince Henry, informing him that the Lord Mayor had refused him' permission to hold a Lottery, and that he had no other means of subsistence; he begs in consequence the Prince's influence with Lord Treasurer Salisbury for leave to have one beyond the jurisdiction of the city. Here we behold the cunning Dutchman suffering from the same unfortunate, but alas! too common, malady of atrophy of the purse, as the " Clerk of Oxenforde, of whom it is said :'?—

«« But al though he were a philosophre,
Yet hadde he but litel gold in cofre."

The Prince had, in December, 1609, given the sum of £20 to ‘ Cornelius the Dutchman,’—undoubtedly **Drebbel**—as appears from his book of Privy Purse Expenses, in the Public Record Office (Dom. Ivii). A further sum of £20 was paid to Cornelius the Dutchman, on March 2gth in the following year. Willem Boreel, the Dutch Ambassador in London in 1619, states that **Drebbel**, a very “cunning man in Nature’s secrets,” showed him a Microscope, manufactured by John [Lippershey, the spectacle-maker] of Middelburg, which had been presented to **Drebbel** himself by the Archduke Albert. (Borellus, *De vero inventore Telescopii*, 1655, p. 35-) We are again reminded of **Drebbel**’s fame in London by two letters, written on December 21, 1622, by the celebrated French philosopher Peiresc, who had shortly before been in England, anxiously enquiring of his friends and correspondents, Camden and Selden, respecting the truth of the astonishing inventions of ** Cornelius **Drubelsius** (as he calls him), who is in the service of the King of Great Britain, and residing in a house near London.” Peiresc refers to the **Perpetual Motion**, the **submarine boat**, and to **telescopes (lunettes)** by means of which you can read writing at the distance of more than a league. He also mentions his having seen at Paris **Drebbel**’s small glasses [**microscopes**], through which you can see mites as large as flies. (Epist. Camdeni, 4to. Lond. 1691, pp. 333, 387-) The Dutch philosopher had acquired at Middelburg, about 1620, both a **Telescope** and a **Microscope** from the spectacle-maker, the supposed inventor, and it is likely that **Drebbel** was now attempting to pass off these optical instruments as his own invention, or had made others in imitation. Farley’s verse, ridiculing the seeing, among other things, “a foolish Ingin move alone” (see Note 16), in all probability applies to one of **Drebbel**’s specimens of handiwork. In 1625, * Cornelius **Dreble** the Engineer” walked in the funeral procession of his late royal master, in the immediate company of “ Baston le Peer the dauncer, under-officers of the Mynte, Actors and Comedians.” (Nichols’ Progr. of Fames I. iii. 1042.) The Calendar of State Papers of Charles I, p. 367, discloses that on July 4, 1626, the Earl of Totness sent a Warrant to Sir W. Heydon, Lieutenant of the Ordnance, to provide lodgings and workshops in the ‘ Minorites,” for Cornelius **Drebbel** and Arnold Rotispen, who were to apply their skill for His Majesty’s service. Having performed their work, we next find (June 5, 1627) another Warrant signed by the King, to pay **Drebbel** and Rotispen £100, as a reward for forging divers **water-engines** (p. 206). From the same source we learn that, in January, 1630, ‘Cornelius **Drible**, engineer,” in concert with other ‘ undertakers” named, made propositions for **draining** the level within the counties of Norfolk, _ Suffolk, Cambridge, Isle of Ely, Huntingdon, Northampton, and Lincoln. From other documents of the date of March, 1630, it appears that **Drebbel** and Abraham Kuffler had been employed in the late expedition to Rochelle, by authority of an Order of the Council, issued on July 13, 1628, for the preparation of three extraordinary **fireships**, under the direction of Colonel Peblis, and six **engines for fireworks**, according to the directions of the Lord Admiral, with

allowance of pay to the chief officers of the same fireships and engines; among whom are Abraham Kuffler, 20s. per diem, and Cornelius **Drebbel**, £150 per month. Kuffler and **Drebbel** petitioned for further payment, but this was refused. **Drebbel** had a daughter who married Dr. Kuffler, a physician. Monconys, in his *** Voyage d'Angleterre,* 1663, p. 40, informs us that he went four miles out of London, to a village called Stratford-bou, to see Dr. Keiffer (the same person), with whom he held much learned discourse on the subject of **Drebbel's** and the Doctor's own inventions and experiments. Kuffler, indeed, gave out that he was possessed of many of his father-in-law's secrets; and one of these, it appears, was brought to the notice of the Duke of York, through Mr. Secretary Pepys. In the Calendar of State Papers of Charles II, March, 1662, is a Request of Johannes Sibertus Kuffeler and Jacob **Drebble**, for a trial of their father Cornelius **Drebble's** secret of **sinking or destroying ships** in a moment, and they ask for a reward of £10,000 if it should succeed. The secret was left them by will, to preserve for the English Crown before any other power. Pepys (Diary, March 14th, 1662) writes: "Home to dinner. In the afternoon come the German, Dr. Knuffier, to discourse with us about **his engine to blow up ships**. We doubted not the matter of fact, it being tried in Cromwell's time, but the safety of carrying them in ships; but he do tell us, that when he comes to tell the King his secret—for none but the kings successively and their heirs must know it—it will appear to be of no danger at all. We concluded nothing, but shall discourse with the Duke of York to-morrow about it." And on October 11th, 1663, is another entry: "At noon to the Coffee-house, where, with Dr. Allen, some good discourse about physick and chymistry. And among other things, I telling him what **Dribble**, the German Doctor, do offer of an **instrument to sink ships**; he tells me that which is more strange, that something made of gold, which they call in chymistry **Avrum Fulminans**, a grain, I think he said, of it, put into a silver spoon and fired, will give a blow like a musquett, and strike a hole through the silver spoon downward without the least force upwards; and this he can make a cheaper experiment of, he says, with iron prepared." Evelyn also visited the wonderful Doctor, on August 1st, 1666. He says: "I went to Dr. Keffer, who married the daughter of the famous Chymist **Drebbell**, inventor of the bodied **scarlet**. I went to see **his iron ovens**, made portable (formerly) for the Prince of Orange's army."

Drebbel's writings, many of which are in the British Museum, relate chiefly to his own discoveries; it must be confessed, however, that they contain but little of scientific value, yet they are curious and rare, and have not hitherto been accurately described. It would seem that **Drebbel**, immediately on his arrival in England, addressed a letter to King James I, descriptive of his Perpetual Motion. The exact year is not known, but from an Epistle by G. P. Schaghen, dated from Alcmaer (**Drebbel's** native place), December, 1607 (printed at p. 45 of the Dutch edition, ** On the Nature of the Elements,* 1621, presently to be mentioned), the writer refers to the **Perpetual Motion** as having been already presented to his

Notes. p 242

Majesty ; he moreover extols **Drebbel** and his surprising discoveries, and alludes to the great gifts with which the King had honoured him. **Drebbel**, in his description, says that he was not sufficiently master of the English and Latin languages

to express perfectly his meaning; that, therefore, he had written his treatise in Dutch (# Duyts), and had caused it to be literally translated. In the absence of any original Dutch printed edition in the Museum, there is good reason for stating that the work "On the Elements," including **Drebbel's** Letter to the King, appeared at Leyden in 1608 ; in that year likewise, and at the same place, came out a German translation of the former treatise, having an engraved portrait of the author on the back of the title; it was reprinted at Erfurt in 1624. The Dutch edition of both works re-appeared at Haerlem in 1621, sm. 8vo. with a woodcut portrait of the author. A Latin translation by Peter Lauremberg, with an additional treatise by **Drebbel**, "De quinta Essentia," was published at Hamburg in 1621, by Joach. Morsius, who had travelled in England. Another edition, but without the work on the Elements, appeared in the same year, but no place of printing is given. The complete version was republished at Geneva, in 1628, 1zmo. In this year also a distinct Latin translation of the ** Nature of the Elements," by Johann Ernst Burggrave, was published at Frankfort, in 8vo. This edition contains on the reverse of the title a very neatly engraved portrait of **Drebbel**, which may have been done by the author himself, as there is evidence of his having, when a young man, worked under the celebrated Goltzius, whose sister he afterwards married. While in his service, he executed a few engravings, one being a plan of his native place, dated 1597. In 1747, Boomkamp, the Dutch historian, was permitted the use of this plate for his work, "Alkmaer en deszelfs Geschiedenissen," by the Burgomasters of the town, in whose Chamber it had been deposited. The engraving is very accurately and carefully executed.

Page 288

Cornelius the Dutchman, see **Drebbel**.

Drebbel (C.) 61, n. 84.

Page 291

Hatehing process of **Drebbel**, n. 84.

Page 292

James I. at Dartford, lxxix; sends the Garter to the Duke of Wirtemberg, lxxvi, &c; presents of horses to, lxxxiv; "Apology for the Oath of Allegiance," cxiv, cxv, n. 98 ; entertains the Prince of Wirtemberg, 58, &c; at Thetford, 63, n. 913 admirable discourses, 64; hunting propensities, 117, N. 94, 953 entertains Spanish Ambassadors, 117 3 entertains Prince Otto, 143-145 ; at Theobalds, 149-155, n. 543 genealogy, 165; bust, 1663 visit to St. Paul's, 178, n. 16; on Witches, n. 643 proclaimed at Flushing, n. 68; treatment of the Dutch Ambassadors, n. 75 ; jealous of Prince Henry, n. 763 character of, by Correr, n. 77, 1053 patronises **Drebbel**, n. 84; at Royston, n. 87; at Newmarket, n. 89; Gowry Conspiracy, n. 933 received news of

Page 295

Perpetual Motion of **Drebbel**, 61, n. 84.