

PORTRAITS of WILLIAM GILBERT—1544-1603

By E. C. WATSON¹

THE 400th anniversary of the birth of William Gilbert of Colchester, who—as Priestley so quaintly wrote in 1767—“may justly be called the father of modern electricity, though it be true that he left his child in its very infancy,” occurs this year.² It is therefore fitting to reproduce his likeness at this time in commemoration of this anniversary.

The only contemporary portrait of Gilbert known to exist at the present time is a small panel painting discovered by the late Silvanus P. Thompson. It was used by Charles Singer to illustrate an article entitled “Dr. William Gilbert (1544-1603)” which was published in the *Journal of the Royal Naval Medical Service* for October, 1916. *Fig. 1* is a very poor reproduction made from a reprint of the article.

An original portrait, probably painted by Cornelius Jansen and bearing the date “1591, aetatis 48” is mentioned by Hearn in his *Letter Containing an Account of*

¹Reprinted with some revisions and additions from the *American Journal of Physics*, 12, 303 (1944).

²The date of Gilbert's birth is usually given as 1540, since the mural tablet placed by his brothers over his burial place in the chancel of the church of Holy Trinity, Colchester, states that he died in 1603 in the 63rd year of his age. However, Silvanus P. Thompson, who is the chief authority for the life of Gilbert, considered the correct date to be May 24, 1544.

Some Antiquities between Windsor and Oxford, with a List of the Several Pictures in the School Gallery Adjoining the Bodleian Library, 1708, p. 33. This is probably the painting which Gilbert is said to have ordered made of himself for presentation to the University of Oxford. A manuscript entry at Oxford, however, states that it was removed as decayed in 1796. There remains only a poor engraving by Clamp, made in 1796, and not true to the original portrait in several details. However, this engraving, which is reproduced in *Fig. 2*, has preserved something more of Gilbert's outward appearance than his pointed beard, ruff, and high hat. “The keen straight-forward searching glance, the twinkling play of good-humored sarcasm, ready to vent itself on all ‘old wives’ gossip’ and ‘foolish vanities,’ the frank, fearless, open countenance, intolerant only of shams and frauds—all these characteristic traits of the man are not untraceable in the portrait.”

Arthur Ackland Hunt made use of Clamp's engraving for his well-known historical painting of Gilbert showing his experiments on electricity to Queen Elizabeth and her court, which is here reproduced in *Fig. 3*. This painting was presented by the Institution of Electrical



DR. WILLIAM GILBERT.

(From the panel portrait in the possession of the late Silvanus P. Thompson.)

FIG. 1: Panel portrait of William Gilbert. (From the panel portrait in the possession of the late Silvanus P. Thompson).



D^r. WILL^m. GILBERT,
Physician to Q^{ueen} Elizabeth

From an Original Picture in the Bodleian Library Oxford.
Engraved May 1796 by S. E. Harding Call. Hall

FIG. 2: Engraved portrait of William Gilbert. (From the engraving by Clamp, published by S. E. Harding, May 1, 1796, in the “Biographical Mirror”).



A. Ackland Hunt, pinxit.

GILBERT SHOWING HIS EXPERIMENTS ON ELECTRICITY TO QUEEN ELIZABETH AND HER COURT.

FIG. 3: Gilbert showing his experiments on electricity to Queen Elizabeth and her court. (From the painting by A. Ackland Hunt, Town Hall, Colchester, England).

Engineers to the Corporation of Colchester on December 10, 1903, the 300th anniversary of Gilbert's death.

The charming word picture of Gilbert given by Thomas Fuller in his *History of the Worthies of England* (1662) is worth quoting in its entirety in this connection. The quaint and witty style is characteristic of Fuller who states that his information came from a near kinsman of Gilbert's. Fuller wrote as follows:

"William Gilbert was born in *Trinity Parish* in *Colchester*, his Father being a *Counsellour* of great Esteem in his Profession, who first removed his family thither from *Clare* in *Suffolk*, where they had resided in a Gentle Equipage some Centuries of Years."

"He had (saith my informer) the *Clearness* of *Venice glass* without the *Brittleness* thereof, soon *Ripe* and long *lasting* in his Perfections. He *Commenced Doctor* in *Physick*, and was *Physician* to *Queen Elizabeth*, who *Stamped* on him many marks of her Favour, besides an *Annually Pension* to encourage his Studies. He *addicted* himself to *Chemistry*, attaining to great exactness therein. One saith of him that he was *Stoicall*, but not *Cynicall*, which I understand *Reserv'd*, but not *Morose*, never married, purposely to be more beneficiall to his Brethren. Such his *Loyalty* to the Queen, that, as if unwilling to survive, he dyed in the same year with her 1603. His *Stature* was *Tall*, *Complexion Cheerfull*, an Happiness not ordinary in so hard a Student and retired a Person. He lyeth buried in *Trinity Church* in *Colchester*, under a plain Monument."

"*Mohomets Tombe* at *Mecca* is said strangely to *hang up*, attracted by some invisible *Load-stone*, but the Memory of this *Doctor* will never *fall* to the ground, which his incomparable Book *De Magnete* will support to Eternity."

Gilbert's contributions to science have been admirably summed up by Silvanus P. Thompson, the chief authority for his life and work as follows:

"Gilbert's renown rests not on his eminence as a physician, but on his achievements in the foundation of the twin sciences of electricity and magnetism. He is beyond question rightly regarded as the Father of Electrical Science. He founded the entire subject of Terrestrial Magnetism. He also made notable contributions to Astronomy, being the earliest English expounder of Copernicus. In an age given over to metaphysical obscurities and dogmatic sophistry, he cultivated the method of experiment and of reasoning from observation, with an insight and success which entitles him to be regarded as the father of the inductive method. That method, so often accredited to Bacon, Gilbert was practicing years before him."

Thompson's papers and lectures on Gilbert are all of great interest. Unfortunately, many of them were privately printed and so are not readily available. It may be of value, therefore, to list them here. They include the following titles:

Gilbert of Colchester; an Elizabethan Magnetizer, (Privately printed at the Chiswick Press, London, 1891).

William Gilbert, of Colchester, Founder of the Science of Electricity, THE ESSEX NATURALIST, 5, 50 (1891).

Notes on the De Magnete of Dr. William Gilbert, (Privately printed at the Chiswick Press, London, 1901).

Gilbert of Colchester, Father of Electrical Science, Gilbert Tercentenary Commemoration of the Institution of Electrical Engineers. (Privately printed at the Chiswick Press, London, 1903).

William Gilbert, and Terrestrial Magnetism in the Time of Queen Elizabeth. A discourse before the Royal Geographical

Society. (Privately printed at the Chiswick Press, London, 1903).

Gilbert, Physician: A Note prepared for the Three-Hundredth anniversary of the Death of William Gilbert of Colchester, President of the Royal College of Physicians, and Physician to Queen Elizabeth. (Privately printed at the Chiswick Press, London, 1903).

The Family and Arms of Gilbert of Colchester. Transactions of the Essex Archaeological Society 9, 197 (1906). (Read before the Society on June 25, 1903).

Other books, articles, and lectures dealing with the life and work of Gilbert are the following:

William Gilbert of Colchester, Charles E. Benham, (Colchester, 1902).

Bacon, Gilbert, and Harvey, Sir William Hale-White, (London, 1927).

"*William Gilbert,*" *Dictionary of National Biography,* Sir Norman Moore.

William Gilbert of Colchester on the Loadstone and Magnetic Bodies, P. Fleury Mottelay, (New York, 1893).

William Gilbert, of Colchester, Conrad William Cooke, *ENGINEERING,* 48, 717, 729 (1889).

Dr. William Gilbert (1544-1603), Charles Singer, *JOURNAL OF THE ROYAL NAVAL MEDICAL SERVICE,* October, 1916.

William Gilbert and Magnetism in 1600, R. B. Lindsay, *AMERICAN JOURNAL OF PHYSICS,* 8, 271, (1940).

William Gilbert and the Science of his Time, Sidney Chapman, *NATURE,* 154, 132 (1944).

William Gilbert: His Place in the Medical World, Walter Langdon-Brown, *NATURE,* 154, 136 (1944).

There are two English translations of Gilbert's *De Magnete, Magneticisque Corporibus, et de Magno Magnete tellure; Physiologia nova, plurimis argumentis, experimentis demonstrata* (London, 1600. Later editions, Stettin, 1628, 1633; Frankfort, 1629, 1638), one by P. F. Mottelay entitled *On the Loadstone and Magnetic Bodies, and on the Great Magnet the Earth. A New Physiology, demonstrated with many arguments and experiments,* (New York, 1893) and one by the Gilbert Club entitled *On the Magnet, Magnetick Bodies Also, and on the Great Magnet the Earth; a new Physiology, demonstrated by many arguments and experiments* (London, 1900). The latter is the definitive translation and is, as far as circumstances would permit, a facsimile (in English) of the original Latin edition of 1600.

"The Old Order Changeth"

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venture, it is this one. And if ever there was a time for casting aside our minor doubts and differences, it is now.

Let it be hoped that we will not concern ourselves too much with the mere mechanics of a world organization or focus our discussions upon this or that feature of its framework. It is easy to pick flaws in any scheme of organization, national or international. No group of men, or even of supermen, can hope to devise a scheme which will conform to the desires of all nations, great and small, or which will not offend the sensibilities of some. The conflicting ideologies of today cannot be reconciled in any charter of freedoms. It is enough that whatever plan is inaugurated shall be sufficiently mindful of the realities to make it serve a world that is rather than one which is not.

Realism demands, for example, that the initiative and the dominating leadership in any plan of world organization which hopes to be effective must rest at the outset in the hands of those nations which have accomplished the great task of saving the world from catastrophe. The United States, Great Britain and Russia are the only nations which at the close of this war will have the power and the prestige to provide the rest of the world with collective security. If these three nations hold together,

and work together, they can guarantee that no aggressor nation or group of aggressors shall challenge the preservation of peace for many years to come. If they do not hold together and work together during the years following the close of the war, then no paper guarantees for the maintenance of peace will much avail.

This is a stark reality of the present world situation, and one which in its importance outweighs all the others. To insure that the United Nations shall stay united will require large concessions from all of them, and not least from ourselves; but our willingness to do whatever is required should be in keeping with the magnitude of the disaster which must result if unity fails.

But while the initiative and the leadership in forming a world organization must be supplied by joint action of a few dominating powers, it seems equally clear and essential that the responsibility for the prevention of future aggression must be assumed in the long run by all the peace-loving nations of the earth and not by any single group of them. To this end it is necessary that the world organization shall have an assembly or great council in which all eligible nations are represented, and equally represented. They should have equal representation because all nations, whatever their size or importance, are equal in their rights at international law. A full recognition of this fundamental principle must be the corner-stone of any world organization which sets out to establish and maintain a reign of law and justice among the nations.

One should hasten to point out, however, that there is no inconsistency between equality of rights and inequality of power and influence. Nations, like states, can have a wide disparity in population, resources and prestige while nevertheless maintaining a fundamental equality in all their rights and privileges. In the sisterhood of American states, New York and Rhode Island are far from being equal in stature; but in their rights as states, under the Constitution and the laws, they are on a plane of guaranteed equality. It is to the everlasting credit of those who framed the Constitution of the United States that by a great compromise they succeeded in devising a plan whereby the equality and the inequality of the states could be harmonized in the same structure of federal government. Americans should have no difficulty, therefore, in reconciling themselves to a form of international organization which accords equality of representation to all member nations in one council while denying them this privilege in the other. We have been familiar with that working arrangement for over 150 years.

There remains, however, the most crucial question of all. How shall a world organization, whatever its form, make its decisions effective? This goes to the heart of the whole problem, for no international body can hope to prevent aggression unless it is given the physical power to prevent aggression. The experience of the past thirty years, if it has proved anything, should be enough to demonstrate that neither treaties, covenants, nor solemn pledges of non-aggression suffice to guarantee the preservation of peace when gangster nations set out to take the law into their own hands. If the world is to have a surcease from international banditry during the next generation it will be because we have shown ourselves able to create, somehow or other, the means of promptly and decisively meeting force with force whenever an aggressor nation resorts to force. No realistic view of the world in which we live can lead to any other conclusion.

Participation of the United States in such an international force, moreover, is not a matter of choice but of necessity. Without such participation our adherence to