

News, Notes and Queries

HARVEY MEETS THE 'HIPPOCRATES OF PRAGUE' (JOHANNES MARCUS MARCI OF KRONLAND)

IN April 1636, while the fires of the Thirty Years War still raged fiercely through Germany, a large and stately embassy made its progress through the war-stricken lands. It was an English embassy, headed by Thomas Howard, Earl of Arundel, sent by Charles I to negotiate with Emperor Ferdinand. Their mission was to try and secure the claims of Prince Charles Louis, nephew of Charles I and heir to the ill-fated Frederick of Bohemia.

The size of the embassy was made necessary by the highly unsettled conditions along the route it followed. William Crowne, its official chronicler, paints a vivid picture of the misery and terrors which the long period of warfare had created. He speaks of deserted villages, burning hamlets, pestilence, and woods infested with the starving, turned robbers.¹

After preliminary meetings with the Emperor at Linz, the embassy travelled to Prague, reaching that city on 6 July. In the evening they were entertained at the Jesuit College by a play in which suit was made to Charles I, through the Earl, to restore peace—exiled from the Continent, and carried over to England by Neptune—to Europe.² The embassy remained at Prague for a week.

What has made Arundel's embassy, and its sojourn at Prague, interesting for historians of science and medicine is the list of the most prominent persons attached to it. For it included, among others, William Harvey: 'little Doctor Hervey' and 'the little perpetual move(ment) called Dr. Herveye'³ as he is described in Arundel's letters and reports to England.

Harvey's presence in Prague in 1636 has stimulated speculation about one intriguing possibility: a meeting of the discoverer of the circulation and inquirer into the mysteries of generation with the 'Bohemian Plato' or as he was also known the 'Hippocrates of Prague'—Marcus Marci of Kronland.⁴ It was only in the preceding year that Marci had published a treatise on generation.⁵ Though largely speculative it had offered one new approach to the perennial problem concerning the formation of a variety of tissues and organs from what appeared to be a simple and homogeneous 'monad' uniting in itself the body and the idea of an individual. Marci was in his forty-first year and though almost twenty years Harvey's junior at that time the most promising natural philosopher and physician in the Empire. He had been a Professor at Prague for nearly a decade and dedicated to the application of optics to the elucidation of organic life against the ideological background of Aristotelianism. In the course of these studies he arrived at an anticipation of a 'field-theory' in embryology⁶ and, a decade later, of such discoveries as the colour of thin plates and the diffraction through a lattice,⁷ foreshadowing also the *Experimentum Crucis* of Newton⁸ and the knowledge of the laws that govern the impact of spherical bodies.⁹

The English embassy was a goodwill mission as well as a negotiating body, and was entertained by meetings with notable men as well as by visits to the best known collections, buildings and institutions. Harvey stayed at Prague for at least a week. It seems highly likely that Harvey and Marci would have met.¹⁰ Despite its plausibility, however, so far no proof has been given that such a meeting did indeed take place—although the visit to Prague is mentioned in the Harvey-Feilding correspondence, as well as in the correspondence between Arundel, Windebanke and Petty.¹¹

The Proof

that the meeting between Harvey and Marcus Marci really occurred is provided by Marci himself and embedded in a critical discussion of Harvey's *De Generatione Animalium* (1651). This is found in Marci's work, *Philosophia Vetus Restituta* (1662).¹² Here Marci expresses regret and disappointment at the omission on Harvey's part of any reference to his, Marci's, book of 1635 on generation. As Marci says, Harvey could not have remained ignorant about it. 'For I gave the book into his hands, here at Prague talking to him familiarly' (*neque ignotum id Harveyo—sc. Marci's hypothesis—Cui librum hic Pragae in manus dedi familiariter cum eodem conversatus*).¹³

To the present-day observer Marci's feelings of disappointment do not seem to be altogether unjustified. For there are not a few essential points in which Harvey's embryological theories conform with those published by Marci sixteen years before his own work. It is true, however, that Harvey did not avail himself of Marci's main approach to the problem which rested on an application of geometrical optics, notably the laws of refraction, to the unfolding of the many parts out of the simple germ. On the other hand Marci complained that he himself had offered a workable hypothesis, whereas Harvey ultimately lost himself in improbable assumptions and idealistic speculations. It is not the intention of the present authors to compare Marci's and Harvey's views in any detail—for one of them (W.P.) has already done so¹⁴ and it was on resuming this task on a larger scale that he encountered the missing proof of the actual meeting of the two savants, postulated before. He hopes to publish the results of his investigation of this matter elsewhere and in a larger Harveian context, in which attention will be also given to the question of a possible influence of Marci on Harvey and vice versa. The purpose of this note is merely to lift their meeting from the realm of speculation on to the firm ground of historical fact. It may be added in passing, however, that Marci was acutely aware of the significance of Harvey's discovery of the circulation and most probably subscribed to it at an early date (1642—Kruta, 1957).¹⁵

Marcus Marci and the English Scene

From the foregoing it is evident that Marci was instrumental in making Harvey's discovery and further work known and discussed in Eastern Europe. In turn Marci was not unknown in England. Indeed his name occurs in the literature of the Puritan Revolution. An example is the work of John Webster, a sectarian author who wished to introduce revolutionary changes in the teaching of the natural sciences at Oxford and Cambridge. He wrote:

What shall I say of *Statics, Architecture, Pneumatithmie, Stratarithmetrie*, and the rest enumerated by that expert and learned man Dr *John Dee* in his Preface before *Euclide*? What excellent, admirable and profitable experiments do every one of these afford? truly innumerable, the least of which is of more use, benefit and profit to the life of man, than almost all that learning that the Universities boast of and glory in, and yet by them utterly neglected, and never lookt into: but what huge, stupendious effects these can bring to pass, let our learned Countryman *Roger Bacon*, let *Cardinal Cusan*, let *Galalaeus*, let *Ubaldu*, let *Marcus Marci*, let *Baptista Benedictus*, and many others speak, who remain a Cloud of Witnesses against the supine negligence of the Schools, who for so many Centuries have done nothing therein: Is this to be the fountains of Learning, and wellspring of Sciences? let all rational men judge and determine.¹⁶

It is of some interest that Webster afterwards censures the Universities for being ignorant of the

most admirable and soul-ravishing knowledge of the three great principles of nature, salt, sulphur and mercury . . . clearly and evidently manifested by that miracle of industry and pains Theophrastus Paracelsus. Which however the *Schools* (as hating any liquor that is not drawn out of their own Cask, and despising all things that come by toil and labour) may slight and contemn it, and please themselves with their ayery *Chimaera* of an abstracted and scarce intelligible *materia prima*. . .¹⁷

This is coupled with an appeal to experience as applied by Van Helmont and 'that profoundly learned man Dr *Fludd* than which for all the particulars . . . the world never had a more rare, experimental and perfect piece', as against 'Peripatetick *Philosophy*'. 'Instead of Aristotelian learning, some *Physical* learning might be introduced into the *Schools*, that is grounded upon sensible, rational, experimental and Scripture principles. . .'¹⁸

The bracketing of Marci with anti-Aristotelian sentiments is typical of the time, but hardly justifiable in view of Marci's strong Aristotelian leanings—it is in these that much of his agreement with Harveian views finds its origin.

A further quotation of Marci is even more interesting as it refers to his embryological work and comes from the mystical philosopher and naturalist Thomas Vaughan (1622–1665/66). It deals with the ideal world of creative divine ideas which foreshadows the material world with its concrete and individual creatures. Owing to this ideal world the sudden emergence, disappearance and revivification (*Palin-genesis*) of things, as it were from their ashes, find its explanation with many other phenomena of *natural magic*. It had been Marci who had defended the possibility of such phenomena against the sceptics who saw the work of the devil wherever things would not fit into their preconceived 'principles' and false hypotheses.¹⁹ Thus Vaughan says:

This Mystery or appearance of the *Idea* is excellently manifested in the *Magical Analysis* of Bodies: For he that knows how to imitate the *Proto-chymistrie* of the Spirit by Separation of the Principles wherein the Life is Imprisoned, may see the Impresse of it Experimentally in the outward naturall vestiments. But lest you should think this my Invention and no Practicall Truth, I will give you another Mans testimony. *Quid quaeso dicent hi tanti Philosophi (saith one) si Plantam quasi Momento nasci in vitreo vase viderent, cum suis ad Vivum Coloribus, et rursum interire, et renasci, idque quoties, et quando luberet? Credo Daemonum Arte Magica inclusum dicerent illudere sensibus humanis.**

They are the words of Doctor *Marci* in his *Defensio Idearum Operatricium*.²⁰

The overall picture, then, entertained of Marci in Puritan English literature was that of an empirical naturalist and physicist who would follow the light of observation and experience rather than preconceived ideas and systems such as notably Aristotelian Scholasticism. In many ways Marci did justify this view of him. Moreover he kept aloof from the unbounded and uncritical credulity shown by some of the Paracelsians. On the other hand, however, he did adhere to sound Aristotelian teaching, especially on generation.

Marci and the Royal Society

It was not only among the 'sectarian' authors on natural philosophy that Marci enjoyed prestige, but also among the true scientists as represented in the Royal

* 'I inquire (saith one) what such great philosophers would say, if they beheld the plant as born in a moment in the glass vial, with its colours as in life, and then again die, and reborn, and that daily, and whenever they choose? But the power to deceive human senses I believe they include in the Magic Art of the demons.'

News, Notes and Queries

Society, for in 1667 efforts were made by Oldenburg, the Society's Secretary, to establish a correspondence with him, which would probably have led to a Fellowship as with Leeuwenhoek and Malpighi. Alas, Marci had died in the same year, on 10 April, at the age of 72, and nothing came of it.²¹

The difficulties in locating Marci's whereabouts at this time are well reflected in the pertinent documents. Edward Browne (1644–1708), the son of Sir Thomas Browne, writes to Oldenburg from Vienna, between 4 and 14 February 1668/69: 'I cannot heare of Marcus Marci, so as I must desire a more particular addresse to him that I may know who he is and where he lives, as also a more particular information where *Herrngrundt* is, which you mention in your tenth inquiry.'²² Oldenburg answers (his only reply to Browne preserved at the Royal Society): 'As for Marcus Marci, I believe you'll hear that he is at Prague, where by a Latin letter of yours to him he might doubtlesse be engaged to a correspondency with us which being but once by you begun, I shall be able enough to continue afterwards.'²³ This is followed by a letter from Browne to Oldenburg, dated Norwich, 26 November 1669: 'I forgot not to enquire after Marcus Marci in Prague, but I understoode he dyed 2 years since.'²⁴

In conclusion

(1) Proof has been adduced that a meeting between Harvey and Marcus Marci—mooted before—did indeed take place in July 1636, at Prague. It is Marci himself who provided the proof, in 1662. Marci's theory of generation, published a year before, should have formed the main topic of the conversation—but Harvey omitted to mention (let alone to accept) it in his own work *On the Generation of Animals*, published fifteen years after the meeting. Nevertheless contacts and parallels can be found in the embryological reasoning and speculation of both savants—largely owing to their adherence to Aristotelian doctrine.

(2) Marci was well known in Puritan English literature as an exponent of empiricism as against scholasticism.

(3) Plans to establish a correspondence between Marci and the Royal Society were thwarted by his death in 1667—as shown in the correspondence between Edward Browne and Oldenburg.

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2. CROWNE, *op. cit.* in note 1, pp. 27–37.
3. B.M. Add. MSS. 15970, f. 49.—Cf. the well known passage in John Aubrey on Harvey's conduct during the journey: 'Mr. W. Hollar (who was then one of his excellencie's gentlemen) told me, that in his voyage, he would still be making of excursions into the woods, making observations of strange trees, and plants, earths, etc. and sometimes like to be lost. So that my Lord Ambassador would be really angry with him, for there was not only danger of thieves, but also of wild beasts.' *Letters written by Eminent Persons in the Seventeenth and Eighteenth Century to which are added . . . Lives of Eminent Men by John Aubrey, Esq.*, London, 1813, vol. II, p. 384.—For a general appraisal of Aubrey's account: SIR GEOFFREY KEYNES, *Harvey through John Aubrey's Eyes*, the

- 254th Harveian Oration, delivered at the Royal College of Physicians 17 October 1958. Reprinted, with additions, from the *Lancet*, 1958, **ii**, p. 859 and *passim*.
4. Marcus Marci was born in 1595 and died in 1667. He was appointed Professor at Prague in 1627, became Physician to the Emperor Ferdinand III and Senior Physician of Bohemia in 1647 and was raised to the peerage as *Pfalzgraf* with the title of *Kronland* in 1654. He was Rector of Prague University in 1662. See the biographical note by Julius Pagel in Hirsch's *Biographisches Lexikon d. hervorragenden Ärzte*, vol. iv, Wien and Leipzig, 1886, p. 129, as based on J. J. Wencesl. Dobrcensky de Nigroponte in Marci's *Liturgia Mentis s. disceptatio medica, philosophica et optica de natura epilepsiae*, Ratisb., 1678; MORHOF, D. G., *Polyhistor*, Lubecae, 1732, vol. II, p. 39; PELZEL, F. M., *Abbildungen böhmischer u. mährischer Gelehrten u. Künstler*, Prague, 1773, pp. 80–5.
 5. *Idearum Operatricium Idea s. Hypotyposis et Detectio illius Occultae Virtutis, quae Semina fecundat et ex iisdem Corpora Organica producit.* (Colophon on sig. Tt 4 verso:) Pragae. Typis Seminarii Archiepiscopalis. Anno 1635. Dedicated to Ferdinand III, *serenissimo Hungariae et Bohemiae Regi*.
 6. On Marci's theories in embryology: PAGEL, W., Religious motives in the medical biology of the XVIIth century, *Bull. Hist. Med.*, 1935, **3**, 224–31. See also: NEEDHAM, J., *History of Embryology*, Cambridge, 1934, p. 63.
 7. MAŘEK, J., Johannes Marcus Marci als erster Beobachter: Farben dünner Schichten, *Arch. internat. Hist. Sci.*, 1960, **13**, 79–85; *idem*, Observation in the year 1648 of diffraction through a lattice. *Nature*, 1961, p. 1092.
 8. HOPPE, E. M., Ein vergessener Physiker d. XVII. Jahrhunderts, *Arch. Gesch. Med. Natwiss. Technik*, 1927, **30**, 1–2. See also: ROSENFELD, L. M., Untersuchungen über das Prisma und ihr Verhältnis zu Newtons Farbenlehre, *Isis*, 1931, **17**, 325 (restricting Marci's achievement).
 9. MACH, ERNST, *Die Mechanik in ihrer Entwicklung historisch-kritisch dargestellt*, Leipzig, 1883.
 10. KRUTA, V., Harvey in Bohemia, *Physiologia Bohemo-Slovenica* 1957, **6**, 433–9.
 11. See Bibliographical Note at the end of this paper.
 12. *Johannis Marci Marci a Kronland Philosophia Vetus Restituta partibus V comprehensa*, Pragae 1662. Edition here used: Francof. et Lipsiae sumpt. Christ. Weidmann, 1676 (this is the second ed.: xi, 580 pp.), p. 352 in Pars III, subsectio 2 (n).
 13. As quoted in note 12, p. 352.
 14. PAGEL, W., William Harvey and the purpose of circulation, *Isis*, 1951, **42**, 22–38, p. 32. *Idem*, The philosophy of circles—Cesalpino—Harvey, *J. Hist. Med.*, 1957, **12**, 140–57, p. 156.
 15. KRUTA, *loc. cit.* in note 10 with reference to the doctoral thesis of Jac. Forberger *De Pulsu et ejus Usu* defended under the presidency of Marci in April 1642. In this the main points of Harvey's discovery are incorporated and accepted without criticism, though omitting Harvey's name—not an isolated example at the time. See LEFANU, W. R., Jean Martet, a French follower of Harvey, *Science, Med. & History*, Oxford, 1953, vol. II, pp. 34–41; PAGEL, W. and POYNTER, F. N. L., Harvey's doctrine in Italy: Argoli (1644) and Bonaccorsi (1647) on the circulation of the blood, *Bull. Hist. Med.*, 1960, **34**, 419–29.
 16. WEBSTER, JOHN, *Academiaram Examen, or the Examination of the Academies*, London, 1654, p. 52.

News, Notes and Queries

17. WEBSTER, *loc. cit.* in note 16, pp. 76 et seq.
18. WEBSTER, *loc. cit.* in note 16, p. 105. In his reply to Webster, Seth Ward (*Vindiciae Academicarum*, Oxford, 1654, p. 46) comments on this passage: ‘. . . there are not two waies in the whole World more opposite, than those of the L. Verulam and D. Fludd, the one founded upon experiment, the other upon mysticall Ideal reasons. . . .’
19. VAUGHAN, THOMAS, *Anthroposophia Theomagica*, published under the pseudonym ‘Eugenius Philalethes’, London, 1650.
20. VAUGHAN, *op. cit.* pp. 9–10. With reference to: Marci, *Idea loc. cit.* in note 5, 1635, sig. A 2 recto.
21. First mentioned in NEWBOLD, W. R., *The CIPHER of Roger Bacon*, Philadelphia (Univ. California Press), 1928, in ch. 2, p. 32 (also printed in *Tr. College Phys. Philad.* 1921, 415–30); also mentions that Marci had studied under Athanas. Kircher in Rome and refers to a letter from Marci to Kircher concerning a cipher-manuscript of Roger Bacon.
22. Royal Society, marked: Read March 4, 1668/69, entered letter-book 200.
23. Oldenburg to Browne, London, March 1, 1668/9.
24. Marked: read Feb. 3, 1669, entered Letter-book 200.—For an account of Browne’s travels in Europe see POYNTER, F. N. L., ‘Dr. Edward Browne’s visit to Vienna in 1668–9’, *Festschrift zum 80. Geburtstag Max Neuburgers*, Vienna, Maudrich, 1948, pp. 381–385.

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Harvey’s journey to Prague has been discussed in some detail in two accounts: Sir d’Arcy Power, A revised chapter in the life of Dr. William Harvey, 1636, *Proc. roy. Soc. Med., Sect. Hist. Med.* 10, 1897, 35–59, and Mary S. Hervey, *The Life, Correspondence and Collections of Thomas Howard, Earl of Arundel*, London, 1921.

The primary sources employed by Sir d’Arcy Power for his account were:

William Crowne, *A True Relation*, *op. cit.* in note 1, London, 1637. *Historical Manuscripts Commission, Report* (on MSS. of the Earl of Denbigh), London, 1911. John Aubrey, *Letters written etc.*, London, 1813; *loc. cit.* in note 3.

M. S. Hervey’s sources for the chapter on the 1636 embassy included:

Earl of Clarendon, *State Papers* vol. I, London 1767 (containing letters from Arundel to the Secretary of State Windebank. B.M. Add. MSS. 15970 (containing letters from Arundel to the Rev. William Petty at Venice). Public Records Office, *State Papers, Foreign, Germany*, 1646. (Windebank-Arundel correspondence.)

A check through these sources shows that Mary Hervey has used and reproduced all the letters contained in them which have references to Harvey’s visit, with two exceptions: (1) P.R.O., S.R. 80, vol. ix, fol. 205. The remarks about Harvey in this letter are of interest, since they cast further light on the circumstances in which he decided to visit Italy, and, while there, was asked to undertake a commission for buying paintings. Arundel writes from Ratisbon, 30/20 July 1636 to Mr Secretary Windebank: ‘Honest little Doctor Hervey, havinge a greate desire to see some partes of Italy, I thought fitte to let him take these days of vacancy, to rather satisfye his curiosity there, than in Hungary where he might have . . . hazarded his health more, for wante of necessaries.’

(2) From B.M. Add. MSS. 15970, Lord Maltravers to the Rev. William Petty, 21 August 1636: ‘Wee were all heare extremely troubled to heare out of Germany that Doctor Harvey, went by Sienna and left you there sicke, but I hope in God there was no danger. . . .’

They to these may be added another reference to Harvey which does not seem to have been quoted before. It occurs in *The Calendar of State Papers, Domestic*, 1636/37 (London, 1867) in a

News, Notes and Queries

letter from Sir Thomas Roe to Elizabeth, Queen of Bohemia, 1 August 1636, p. 83: '... he heard also that Dr. Harvey assured his private friends of great hopes of justice and equity from the Emperor, but he believes, the doctor judges by symptoms, like a physician, and the Ambassador is so wise or so warned as not to show discontent, nor what he hopes or fears.'

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WALTER PAGEL.

PYARALI RATTANSI.

SIR GEORGE ENT'S COMMONPLACE BOOK

25 October 1963

Dear Sir,

When the Royal College of Physicians of London published the collected Works of William Harvey in 1766, the editors had access to a Commonplace book of Sir George Ent which was their authority for nearly all the letters of William Harvey published in that volume. This appears at that time to have been in the possession of Francis Figgot(t) who had obtained his B. Med. at New College, Oxford in 1748. If any of your readers know of the present whereabouts of this manuscript, I should be glad to hear from them.

L. M. Payne, *Librarian*

Royal College of Physicians

Society Reports

FOURTH BRITISH CONGRESS ON THE HISTORY OF MEDICINE AND PHARMACY

THE Fourth British Congress on the History of Medicine and Pharmacy, organized by the Faculty of the History of Medicine and Pharmacy of the Worshipful Society of Apothecaries of London with the co-operation of the Pharmaceutical Society of Great Britain and sponsored by Boots Pure Drug Company Limited, was held at the University of Nottingham from 20 to 23 September 1963. The theme of the Congress, presided over by Professor G. E. Trease, was 'The Evolution of Pharmacy in Britain', and the meeting was opened by his own survey of 'Pharmacy in Britain'.

Dr. T. D. Whittet, Chief Pharmacist of University College Hospital, in a paper on 'The History of Hospital Pharmacy', surveyed the development of hospital pharmacy from Roman times to the foundation of the Guild of Pharmacists in 1923. Unfortunately, as a result of the Dissolution of the monasteries in 1537, little evidence remains of pharmaceutical practice in monastic hospitals. But it is known that the Royal Hospitals (St. Bartholomew's, St. Thomas's, St. Mary's of Bethlehem, Christ's and Bridewell) all had apothecaries on their staffs—though the term should be cautiously interpreted—and these men became the pharmacutists, dispensers and pharmacists who in later times founded the Society of Apothecaries.