

**Some recently discovered letters of William Harvey, with other miscellanea / by S. Weir Mitchell ; with a bibliography of Harvey's works by Charles Perry Fisher.**

### **Contributors**

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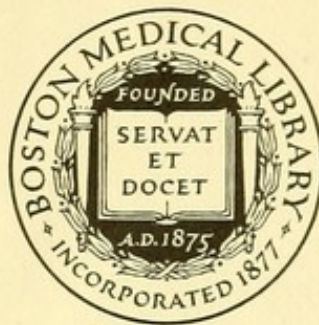


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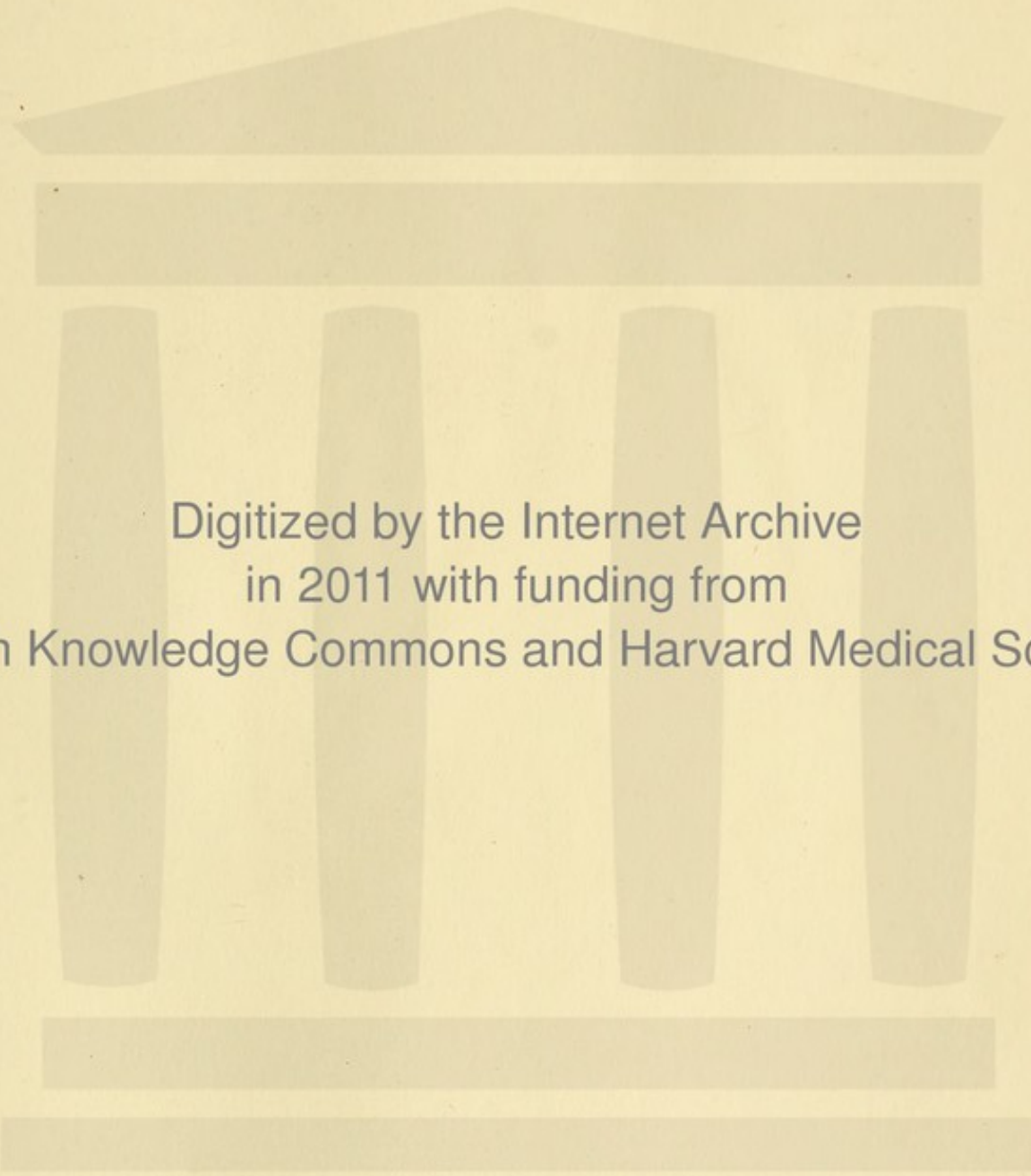
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V. 1016  
SOME RECENTLY DISCOVERED LETTERS

OF

WILLIAM HARVEY

WITH OTHER MISCELLANEA 1578-1657

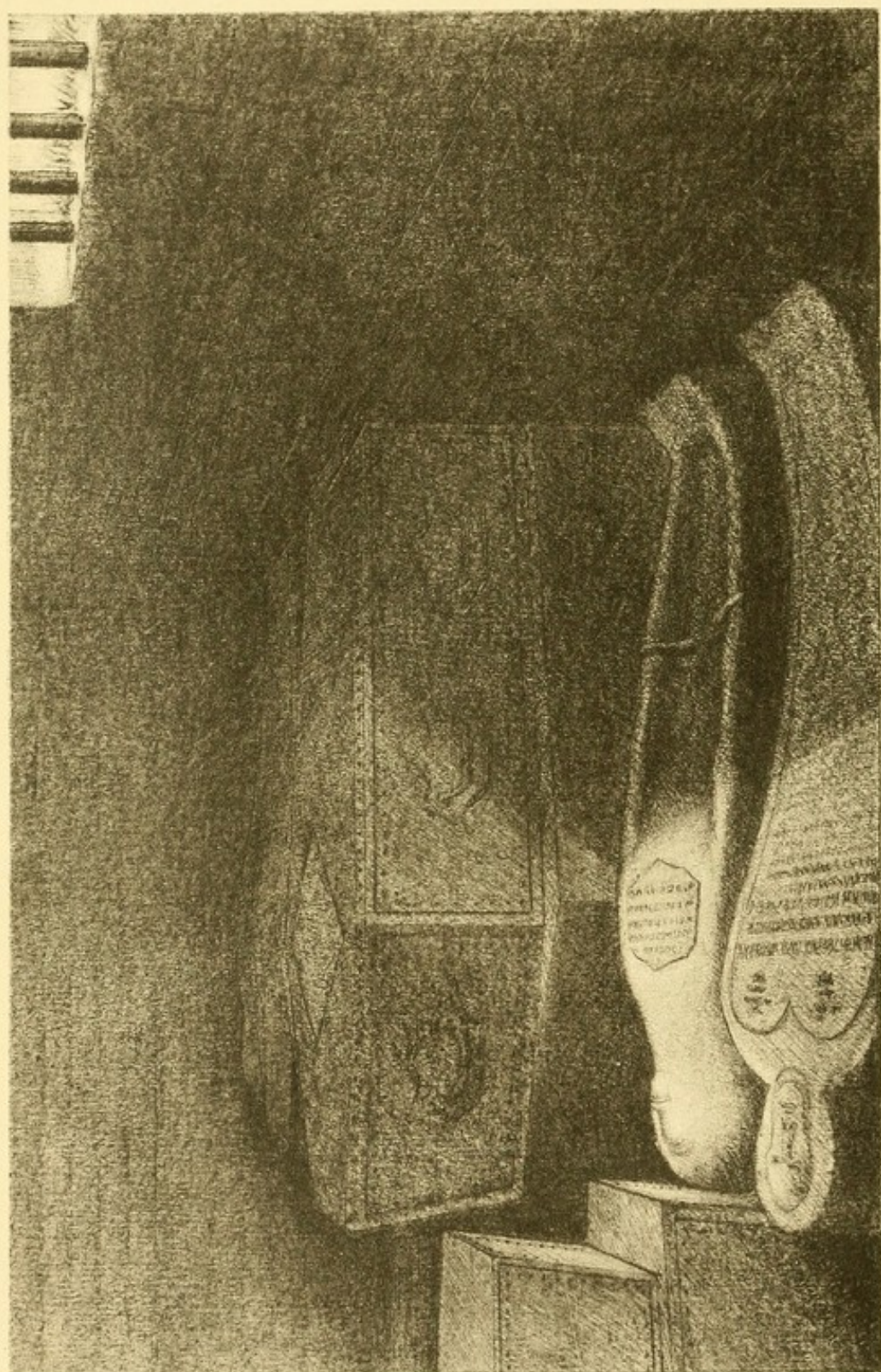
BY S. <sup>James</sup> WEIR MITCHELL



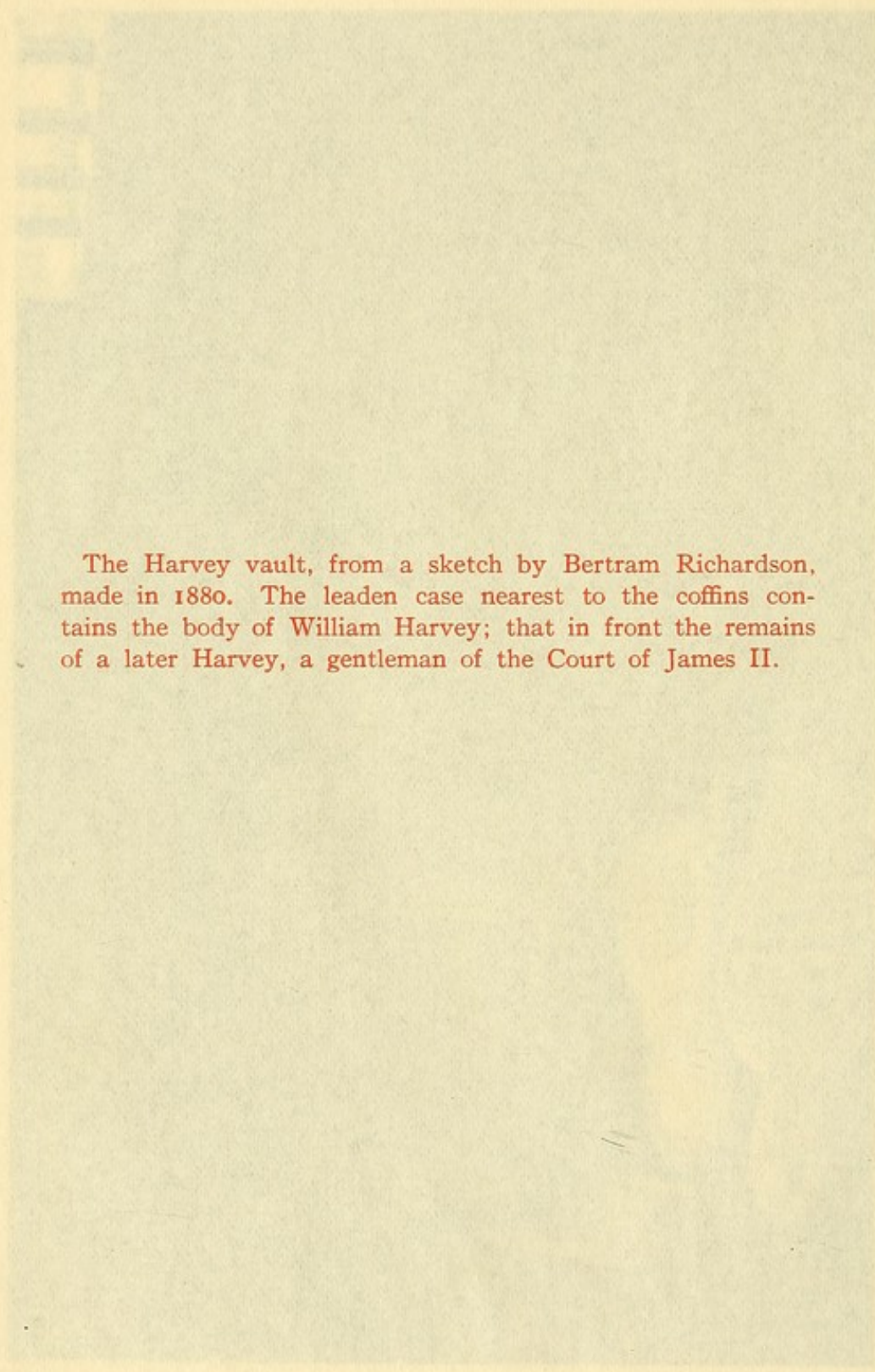












The Harvey vault, from a sketch by Bertram Richardson, made in 1880. The leaden case nearest to the coffins contains the body of William Harvey; that in front the remains of a later Harvey, a gentleman of the Court of James II.

TRANSACTIONS OF THE COLLEGE OF PHYSICIANS  
OF PHILADELPHIA

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SOME RECENTLY DISCOVERED LETTERS

OF

WILLIAM HARVEY

WITH OTHER MISCELLANEA

By S. WEIR MITCHELL, M.D., LL.D., F.R.S.

CORRESPONDING MEMBER OF THE FRENCH ACADEMY OF MEDICINE

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WITH A BIBLIOGRAPHY OF HARVEY'S WORKS

By CHARLES PERRY FISHER

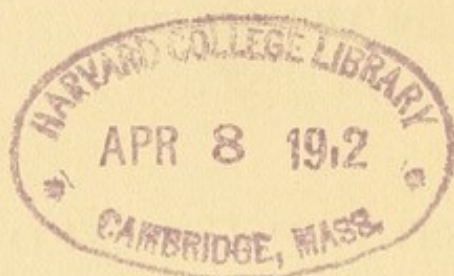
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BOUND JAN 1 1914

SOME RECENTLY DISCOVERED LETTERS OF  
WILLIAM HARVEY, WITH OTHER  
MISCELLANEA.

THE life of William Harvey by Willis has been replaced by the admirable biography we owe to D'Arcy Power, and we still hope to have from this author some more ample history of the life and times of the great physiologist. New material has become available of late, nor have all the sources of information been explored. There are long gaps in the personal story which excite interest, and of Harvey's remoter ancestry we know nothing. He came of highly competent people and the genealogy of genius is always a matter for more than idle curiosity. Despite the information gathered by Sir James Paget, by Aveling, D'Arcy Power, George Paget and others, there are lesser personal data which have escaped the research of the student. In my former memoranda I referred to some of these and as nothing concerning Harvey is to be neglected, I quote there the consultation related in Ho-Elliciana and Selden's amusing story, with his reference of an insane man's case to Harvey. Both had been overlooked by the biographers and perhaps regarded as trivial.

My former paper arose out of the purchase of the *Commonplace Book* of Heneage Finch, who married Harvey's

niece, daughter of his brother Daniel, and whose family is now represented by the Earl of Winchilsea.<sup>1</sup> In this volume William Harvey wrote some medical advice for the young man he calls in his will "Cousen;" and hence my interest in a volume which is otherwise of singular value for its record of the youthful industry of the great Lord Chancellor.

Since printing this last contribution to Harveiana, I have gathered other material of less moment, which taken alone were hardly worth printing, but is quite available for use in connection with copies of the important Harvey letters which by happy fortune have come into my possession.

Before considering what are new and valuable additions to our personal knowledge of Harvey, one may pause to comment on certain matters which seem to have been too easily neglected in the larger interests of his matchless career.

The surname Harvey is presumably Norman. Hervé is found in France, and in England as Hervie, Hervy, and Harvey. The name is frequent in Kent.<sup>2</sup>

In some of the Clarendon manuscript letters and elsewhere the great doctor's name is spelled Hervie or Hervey.

Thomas, his father, born in 1549, had one brother and three sisters, from whom may have descended other of the many Kentish Harveys. The belief in the descent of this energetic family from a certain Sir Walter Harvey,

<sup>1</sup> Heneage Finch, of Burley on Hill, and others.

<sup>2</sup> County Genealogies: Kent, by William Berry, London, 1830.

A.D. 1272, appears to be, as D'Arcy Power states, without any firm foundation. It seems to have had its origin in a note by William J. Harvey<sup>1</sup> in his genealogical paper on Thomas Harvey's descendants. He bases it on the resemblance of their coats-of-arms. This is somewhat bewildering. When William Harvey went to Caius College he was described as a lesser pensioner,<sup>2</sup> the son of a yeoman, and, of course, not armiger.

<sup>1</sup> Not of these Harveys.

<sup>2</sup> Since writing of Harvey as a lesser pensioner, I find that in America at least the term has been misunderstood, and it is worth while, therefore, to print an explanatory note, which I owe to the constant kindness of Sir William Osler and his correspondent, Dr. J. Venn.

VICARSBROOK, CHAUCER ROAD, CAMBRIDGE.

DEAR PROF. OSLER:

For the last 350 years there has been a three-fold division of students here at Cambridge as at Oxford:

1. Fellow-commoners, gentlemen commoners (Oxf.), *pensionarii majores*.
2. Ordinary students, commoners (Oxf.), *pensionarii minores*.
3. Sizars, servitors (Oxf.), *paup. scholares, mediastini*.

The distinction was marked legally and officially by a difference in the scale of charges and of the table at which the students dined.

Socially, of course, they corresponded to the main three-fold distinction of gentlemen, middle-class, and poor.

The fundamental distinction is between those who paid for their board and lodging (whence the term *pensionarii*) and those who were supported by college funds. This dates from very early times, probably from the foundation of the colleges. The foundationers (fellows, scholars, and sizars) were those for whom the colleges were established; in fact, it was sometimes intended to confine the college to them (All Souls seems a "survival" here). But the convenience of living within the college walls was so great that outsiders were soon admitted for a *pensio*. These pensioners in time subdivided into *majores* and *minores*—probably about the time of the Reformation. Now, the minor pensioners (commoners in Oxford technical language; pensioners in that of Cambridge) have become almost the sole class of student.

Believe me,

Yours very truly,

J. VENN.

When Harvey was leaving Padua, in 1602, he placed his well-known "stemma" on the wall, where he would probably have set his arms had he then possessed them. Certainly, neither Thomas Harvey nor William had any early accredited right to use arms. When they were given this privilege I do not learn from the biographers. One of William Harvey's portraits has in the corner arms which, in the photograph, are not decipherable. A note in W. J. Harvey's paper still leaves this question without satisfactory answer.

The first of these very notable Harveys of whom we hear is Thomas, the father of seven sons and two daughters. He lived in the little seaside village of Folkestone, in Kent, was sometime alderman and mayor, and was described in the books of Caius College, Cambridge, when his son entered, as "yeoman." There could have been no large commerce in the little seaport town, and whether Harvey the yeoman had landed property or not could, I presume, be ascertained.

It is just possible that the fisheries, a great business in those days, may have had to do with the ample means Thomas Harvey must have acquired. To educate William at Cambridge and to give him four years at Padua involved much expense, nor could he as a physician have been able to support himself during his early years of life in London. Before or after Thomas Harvey removed to London, in 1605, he apprenticed five of his younger sons to "Turkey merchants," paying, of course, the fees exacted for receiving apprentices. When later they became

members of the Levant Company,<sup>1</sup> capital must have been required. One daughter married, and certainly not without dowry. Here assuredly was varied need for large means.

Of more moment than this unanswered question of how Thomas Harvey became the fortunate possessor of wealth, would it be to learn why only his eldest son was "bred to learning," and in this little village was so early meant to be a physician.

Harvey settled in London in 1602, became a hospital physician and no doubt was soon busy dissecting and experimenting. But of what he did in these years before his anatomical lectures in April, 1616, we know nothing; yet long before that date the great new truth must have become his assured mental property. A single couplet in a strange and most indecent set of anonymous doggerel of about 1611, concerning London doctors, is quoted in my former memoranda, to the effect that Harvey was dissecting and was notably small in stature. This is all we learn of those busy years.

<sup>1</sup> Memoranda taken from *Queen Elizabeth and the Levant Company*, by the Rev. H. G. Rosedale, and published by the Royal Society of Literature.

The Levant Company were merchants trading in the Levant, and sometimes known as the "Turkey Company." At the close of the sixteenth century Sir Edward Barton was Ambassador in Turkey, and he was not only the nominee of the Turkey Company, but his entire income was derived from the resources of the company, while his every act was done in the name of the sovereign and under the direction of her Ministers of State.

It was to this "Turkey Company" that the younger brothers of Harvey belonged, and it was through their relation to the trade of the Levant that some of them became men of wealth and importance.

Then came the statement during his lecture course of his great discovery. The day of his first lecture, in 1616, is memorable, for Shakespeare died a week later, and on the same date Cervantes.

It is hard to realize as possible the contemporary silence on this grave announcement, but when, preceded by twelve more patient years of self-assuring labor, his book at last came out in 1628, there was interest enough, and the discovery aroused ample medical comment hostile or favorable. None came from the laity. Although Bacon (if we may trust Aubrey) was at some time Harvey's patient, there is no word about the circulation in the philosopher's many volumes.

So rare, indeed, are the evidences outside of medical literature of any interest in Harvey's revelation that it seems worth while to quote Robert Boyle's account of a far later interview with Harvey. It is not mentioned by the biographers.

"And I remember,<sup>1</sup> that when I asked our famous *Harvey*, in the only discourse I had with him (which was but a while before he died), what were the things that induced him to think of a circulation of the blood? He answered me, that when he took notice, that the valves in the veins of so many parts of the body were so placed, that they gave free passage to the blood towards the heart, but opposed the passage of the venal blood the contrary way; he was invited to

<sup>1</sup> The Works of Robert Boyle, London, 1744, vol. iv. page 593.

imagine, that so provident a cause as nature had not so placed so many valves without design; and no design seemed more probable, than that since the blood could not well, because of the interposing valves, be sent by the veins to the limbs, it should be sent through the arteries, and return through the veins, whose valves did not oppose its course that way."

The wonderful volume of Harvey's lecture-notes should be the subject of far more careful commentary than it has yet secured. These notes are full of varied illustrations of the anatomist, the physiologist, the physician, and of the man's personal character. He is unconsciously autobiographic. The second series, on the muscles, soon to be published, should prove of equal interest. Before leaving this matter of the lecture-notes, an allusion may be made to one of the many matters in the first series to demonstrate the way in which these pages reward critical examination. In speaking of dwarfs, he thus classifies them, using English, Latin, and Italian, as elsewhere in his notes, a strange medley:

vnde Nanorum 3 species	{	pigmei pusilli
		proportionati
		pomiliones sumbody
		informes vgly
		gibbosi quibus spinae curvae
		artus satis longi
		gibber Gobbo Nang
		[ 9 ]

He notes here that there are of "nanorum" three species. Apparently the first are the weak pigmies who are not otherwise deformed. Secondly, there are the dwarfs who are misshapen and ugly. The word "sumbody" is here of course somebody. Finally, there are the dwarfs who are humpbacked, having curved spines, but with limbs of sufficient length. Then in the final line he seems to indicate as an example of these, "gibber Gobbo Nang." The absence of punctuation here and elsewhere in the notes adds to our difficulty in comprehending what to the lecturer must have been clear enough. Gibber is neither Latin nor Italian. Gobbo is the Italian adjective for humpbacked. There has been long at Venice the figure of a humpbacked dwarf known as "Gobbo," and from his station were proclaimed certain edicts of Venice. We are at once reminded of the Launcelot Gobbo of the "Merchant of Venice." Nowhere else is the character alluded to in this play as being humpbacked, nor is there any mention in the books of travel of Shakespeare's time of this Gobbo of the marketplace. It is quite possible that Shakespeare may have heard of it from men who had travelled in Italy, and liking the sound of the word used it without other intention. The word "Nang" puzzled me a little, until a clever friend suggested that it probably meant dwarf, being the English misspelling of the French word "nain" for such deformity. I pointed this out to Horace Howard Furness, the author of the great Variorum edition of Shakespeare. He referred me to the English-French grammar of Shakespeare's time for a satisfactory reference to the fact that the English pro-

nunciation of this word "nain" would have been as Harvey writes it, "nang," in accordance with the difficulty the English had in giving the French pronunciation of the word. All this pleasantly, but dimly, connects this morsel of Harvey's lecture-notes with Shakespeare's possible knowledge of the humpbacked dwarf of Venice. One likes to think that these two great men may have met, but it is somewhat unlikely, as Shakespeare left London in 1611. It seems probable that the figure of Gobbo stood in the market-place of Venice when Harvey lived at Padua and was in his mind when he wrote these notes as a representative illustration of the humpbacked dwarf.

In the year 1626 Harvey was examined before a select committee of the House of Commons in regard to the last illness of James I. As I find no notice of this in the biographies, it will be well to print Harvey's evidence.

At Lowther Castle are two manuscript note-books of proceedings in two of the parliaments of Charles I. The first of these extends from April 24 to June 12, 1626, when Charles' second parliament was hastily dissolved, on its determination not to proceed with the question of subsidy until the charges against the Duke of Buckingham and other grievances had been properly considered. The greater portion of the notes appear to have been made during the time the debates were going on—the handwriting is therefore somewhat cramped and the meaning of the entries at times rather vague; but a careful transcript of the whole has been made, which will be found a very important addition to the printed journals of the House of Commons

and to the other known sources of our information about Parliament at that period. The subjects mainly under discussion during the six or seven weeks that this record was kept were the proceedings of the select committee on the charge against the Duke of Buckingham and the doctors' evidence before that committee touching the alleged poisoning of King James.

Royal Historical Manuscript Commission, Thirteenth Report, Appendix, Part VII. Manuscripts of the Earl of Lonsdale, 1893, page 5.

(Dr. Harvey.) "A plaster applied to his side, thinks twice, first his fit worse, secondly done in the afternoon at the beginning his fit, the King desired it; commended by Duke as good for him, and Earl Warwick his opinion asked before done; he gave no opinion because ingredients not known. He gave way to it, thinking it easy, and could do no harm; he thought it not against his opinion nor consultation, and King desired it, it being external, to work while he by; and it was hot, and at his hot fit they took it off. Lister present at the laying it on. The posset drink the Duke prepared; the King called for it, drank once or twice; because it was commended King desired it; because the medicine Duke and Warwick had used it, King determined to take it. He knows no advice of doctors to take it. Sunday; King heavy, he got him to rise; said better, but found heaviness at his heart on Monday,

as in other fits, and he feared that fit would be worse because he had less fit before, which he told physicians, his disease not mending when that done. He first that spoke of King's demise before that fit twice, and he was in fit before next consultation. Lister, Moore came; he thinks Atkins. Lister opposed the posset thinking King called for drink; the night before the ague in his opinion still increased: on Saturday at conference the physicians thought not the King was mending. The day the King died upon, knows Sir William Paddie brought the note; and it was approved and might be used: generally they disliked a plaster, but not this. They said the plaster was a secret of a man of Essex; Hayes laid it on, King liked it as approved and experimented it, and King took divers things whether they would (or) not, undervaluing physicians. He commended the posset."

During this attack on the Duke of Buckingham many doctors were examined, some of whom seem to have been in attendance on the King and some of whom evidently were not. The Committee arrived at the conclusion that the Duke's interference in giving the King medicine and ordering plasters without the advice of his physicians was to be added to the Duke's charge as "*a transcendent presumption of dangerous consequence.*"

In general, these brief extracts and statements of the evidence given by the doctors are exceedingly curious and

occur from time to time in the Lowther Castle note-books. I have been content to quote in full only that which concerns us here, the evidence of Harvey.

Harvey seems to have been on the Continent several times. In 1629, at the age of fifty-two, he accompanied the Duke of Lennox. We owe to Dr. Aveling an interesting account of this travel.

Some matters which were of common interest to Harvey and Lord Arundel<sup>1</sup> may have led later to the selection of Harvey, then fifty-eight years old, in 1636, to be physician to the Embassy with which the Earl was charged. This errand concerned the Palatinate and that unfortunate Queen of Bohemia, so charmingly remembered in the verse of Sir Henry Wotton, "You meaner beauties of the night," etc.

But little was known of this portion of Harvey's life of travel until a happy chance threw into my hands certain letters.

In 1910 Sir William Osler wrote me that the Royal Historical Manuscript Commission would publish in two years a volume in which would be many hitherto unknown letters of William Harvey. These would not be made public until the volume as a Government publication had been presented to the House of Commons. An earnest application by Sir William Osler to those higher in authority procured for me corrected proof copies of the letters in question. I was set free to print them, and desire to express my most

<sup>1</sup> D'Arcy Power, page 112, the case of Thomas Parr.

thankful acknowledgment of this courtesy of the Royal Historical Manuscript Commissioners.<sup>1</sup>

The history of the letters is as follows: Harvey seems to have had some friendly relations with Basil, Lord Feilding,<sup>2</sup> Ambassador at Venice, to whom he wrote as he travelled through Germany. These letters, happily preserved, descended to the present Earl of Denbigh and were copied for future publication by the Royal Historical Manuscript Commissioners.

The Embassy left England early in April, 1636. Lord Arundel, April 16-26, writes to Mr. Secretary Windebank, that between the Hague and Utrecht the Secretary's son fell ill and was left at Leyden, Dr. Harvey being left with him "to prescribe the best course for his health." (Clarendon State papers, vol. i, p. 514.) The illness was brief, for they rejoined the Embassy next day.

On May 6, 1636, "Stilo novo," Arundel writes from Cologne to Windebank of "little Dr. Harvey:" "I have been this evening at the Jesuits' fair new church and college. I found in the college little Dr. Hervey, who means to convert them." (Clarendon, vol. i, p. 519.)

The biographers say nothing definite in regard to Harvey's form of religion. The Earl was a Catholic, and we may quite reasonably infer from his jest that Harvey was known to Windebank and himself as a Protestant,

<sup>1</sup> This volume has since been printed, but as it is likely to be seen by few physicians, these letters are here given in full. Other documents concerning Harvey found by me among the Clarendon papers add interest and fill certain gaps.

<sup>2</sup> Afterward the second Earl of Denbigh.

otherwise the Earl's pleasantry would be pointless. Windebank's religious views varied, but he probably leaned toward the Church of Rome, and certainly died in that fold.

On the 20th of May Harvey was at Nuremburg, whence he wrote to Dr. Hoffman, at Altdorf, offering to demonstrate the circulation.<sup>1</sup> The traditional story of his annoyance at failing to convince the old man is well known.

In thus following Harvey we come next upon the lately discovered series of letters addressed to Lord Feilding at Venice. The first is from Lintz on the Danube.

Dr. William Harvey to Lord Feilding:

(1636) June 9-19. Lintz.—“Right honourable, My sweete Lord, So much the more I now condemn my self (having att this hower receyved such sweete and loving lines from you) in that I did not send those letters I intended by the bearer heareof. His suddayne and unexpected departure was the cause that from Nuremberg I did not by writing present my humble service, which I beseech you to accept in excuse, and not lay on me soe fowle a fault as neglect of one soe extreamely well desearving, and to me ever soe kind and friendly.

“I thank your honor that you vouchsafe to advertize me of one whome I hard before would write agaynct me, butt till now never heard he did, or ever yett saw that book. We are heare lately arrived thorowgh that ruined desolat country of Germany into Austria, and

<sup>1</sup> D'Arcy Power, p. 113.

at Lintz have had only twice audience. Our bysenes to expecte the delivery of the Palatinate, is not unknown to your Excelency. My lord will omitt noe dilligens or labour to effect itt. This day sum of us accompanied his Majesty the Emperor a huonting, which was the killing of too deere encompassed by a toyle in a little wood, and soe putt forth for the Emperor and Empres to shoote with carabines, which they perform with great dexterity.

"The post stayeth for this letter upon thornes, and therefore I must deferr any farther untill the next occasion. Yf ever I have done and may be able to doe service to you, ther is nothing wilbe more comfort and joy unto me, wheare all good endeavours bring forth soe much good fruite, and all service is soe plentifully acknowledged.

"I should be glad of any occasion to see Venis once more, soe much the rather to have the happiness of your conversation, untill which time I will live in hope to see your Eccellent lordship, and in certenty to remain your Excellent Lordships humble at command,

"WILL. HARVEY."

Postscript—"Your letter receyved by James Quirke."

The Same to the Same:

1636, June 16-26. Lintz.—"Not to lett slipp any occasion of presenting my service and thanks to your Excellency for your letters, att this time I am bould

to write, and to congratulate with your Excellency of the honorable fame and esteeme of your dispatches and abilityes, whereof I heare in that honorable employment you are in, with the expectation of your future increase and perfection therein, as wilbe to our Master and the Kingdom of greate and beneficiall use, and to your self honnour.

"My lord here hath not yet had answeare. We hope it wilbe good and satisfactory, though we are not out of feare of delayes. Our greatest certenty groweth from the necessity they have heare of making peace on any condition, wheare ther is noe more meanes of making warr or source of subsistence; and this warfare in Germany without pay is rather a licence to prey and of oppression, and threateneth in the ende anarchy and confusion, then a just and laudable warr to establish peace and justice. I have been twice or thrise a hunting with the Emperor, who certainly in his owne disposition is a pious good man, desierous of all love, quietnes, peace and justise. How the concurrents and interests of the times will permit him I know not.

"Yesterday my lord was feasted by the nobility at the house of the Count of Melan, the cheife major-domo of his Majestie. We drunke hard, and had many expressions and many good wishes. What will succeed is of noe less expectation and consequences then our desires are to know it.

"We hear from England the plague increaseth not

much, yet is soe feared as the tearme is for that cause put off. James Querck earnestly desiers to have his service remembered to your Excelency. He hath done well, though he lost his *fede*. My sweete lord, with all the commendation I can, I desier to remain your Eccelencys humbly at command,

“WILL. HARVEY.”

[Seal with interlaced triangles.]

Harvey's allusion to his share in the hard drinking is interesting. His horror of useless war and of the devastation wrought in Germany reminds us of his vigorous and somewhat humorous description of the calamities of warfare in his letter to Lord Rochester when he himself was with the Duke of Lennox on the continent.

Dr. Harvey to Lord Feilding:

1636. July 9. Baden.—“So greate is my desier to doe your Excellency all service as I cannot lett slip any occasion whereby I may give any testimony thereof. This gentilman, whoe is now comming for Venise, although I love, yett I a little envy, that he should enjoye the happines of that place and your Excellencys sweete conversation and that I cannot. My lord embassador, heare now at Vienna, did receyve att Lintz such an answeare to his demands as caused him to send an expresse to England, before whose retorne I thinke we shale not see the Emperor agayne. Yesterday we visited at Vienna the Queenē of Hungary

and the Archduke, and too very fine little babyes her children. To-morrow my lord intendeth to retorne by Prage in Bohemia to Ratisbone, wheare is expected the diett wilbe; wee finde heare greate expressions and many wishes for the success of my lord his embassadg; how the effects will prove we hope well, butt cannot certaynly assure our selves. I thinke the miserable condition of Germany doth more then requier it. I am this night heare by chance with this gentleman, to see these bathes, wheare such is my bad pen and inke and the shortnes of my time as I am humbly to intreat your Excellency his pardon for this hasty and rude scribbling and soe, your Excellency his assuredly devoted servant,

“WILL. HARVEY.”

[I p. Seal of arms, but not his own.]

In July Harvey seems to have obtained permission to travel in Italy. There may have been some difficulty or the Ambassador may have desired to keep near him his official physician. He was, it seems, given leave of absence, for on July 20-30, Sir John Borough writes Windebank: “Doctor Hervey with earnest entreaty hath gotten leave to go into Italy for some weeks during this vacancy,” that is, because of a delay in the meeting of the diet at Ratisbon.

Lord Arundel to Secretary Windebank:

Ratisbon, July 20-30. “Honest little Hervey is going a little start into Italy, and I give him some

employment to Mr. Pettye, about pictures for his majesty. I hope ere long he will be back. Your good son hath a great mind to be going with him;—and truly I think, he could not probably go in better company for safety.”

Clarendon MS., vol. i, p. 591.

At Treviso, Harvey was, to his great annoyance, detained for quarantine. A letter of Sir John Borough to Mr. Secretary Windebank explains more calmly an incident of travel common enough in the time of the plague.

“May it please your Honour,

“Upon Thursday last, the  $\frac{25 \text{ August}}{4 \text{ September}}$  Mr. Windebank, your worthy and noble son, departed from hence towards Italy, not only with the good leave of my Lord Ambassador, but by his advice and direction, knowing how much more that journey may be for his advantage than to live in this dull place, where was neither exercise for his mind nor body; and this consideration is yet the only qualification of that general sorrow that was taken at his departure, who had given such testimony of his virtue, during the time of his being here, as not only those of my Lord’s family, but the best at Court did highly esteem and honour him. His purpose was to go first for Venice; but, because the ordinary ways were not passable, by reason that that State, fearing the infection of the plague, (which they say

is in some places of Tirol) have forbidden entrance unto any that come from this place, (witness Doctor Hervey, who at Treviso, a town about twenty miles from Venice, was stayed, and put in their *lazaretto*, there to do his *quarantina*, as they term it, and to air himself for fear of infection; being not as yet, for ought we hear, released, (though he have been now kept sequestered in that place above a month). Mr. Windebank, by the best advice we could here procure, took his way down the Danube to Vienna, purposing to go from thence to Gratz, and so to a port town of the Emperor's, called Triest, from whence, by bark, there is ordinary and speedy passage to Venice: and had letters of recommendation to the Governor of Gratz to advise and assist him in the choice of his way and company; besides the Emperor's and my Lord Ambassador's passes, and other letters testimonial. I beseech God send him a good and happy voyage. . . .

“Your Honour's

most humbly devoted Servant

“JOHN BOROUGH.

“Ratisbone,  $\frac{30 \text{ Aug.}}{9 \text{ Sept.}}$  1636.”

(Clarendon State papers, Oxford, 1767, vol. i, p. 631.)

The *fede* so often mentioned in the following letters was the *fede di sanita*, or certificate of health, to be endorsed at every town through which the traveller passed.

Dr. Harvey to Lord Feilding:

1636. Aug. 3-13. Treviso.—“My sweete lord, I came this morning to the gates of Treviso with great joy, and hoped this night to have had the happiness to have beene with you att Venise, butt I have receyved heare a very unjust affront, being stayed and commanded by this podesta to have gone into the Lazaretto, without any cause or suspition alledged. I took my first *fede* under the seale of Ratisbone, a place free, and now destined, as your Eccelency knoweth, for the meeting of the Emperor and all the rest of the princes, which yf it had not beene soe, they would not have com thither, it being infected or suspected. Since, in every place as I came, I caused my *fede* to be underwritten, so that there is no ground for them to say any suspition upon me. And att this sentence on me by the podesta (that I should goe to the Lazarett) I absolutely refused, and sayd and offered to shewe that I had the pass and recommendation of his Majesty the King of Great Brittain and of the Emperors Majesty and of my lord Embassador his Eccelency, and that I had to goe to princes and men of quality, and that my busynes required expedition, and desier'd they would not hinder me, butt, as my passes required, further me and that I mought not bring that suspition and infamy on me, besides my own security, to goe to such a place as Lazaretto, whear they use to putt infected persons, and that I had shewed them

sufficient *fede*. Notwithstanding all this, heare I am to lye for ought I see in the open base feilds, God knows how long. The podesta refuseth to see or reade my passes, and I cannot cum att him to speake and use my reasons. I am afraid this lying in the feild will doe me hurt in my health. I beseech your Eccelency to lament hearof. It is unjust to proceed with any man thus without cause and otherwise then Venetians are used in England or soe meritt to be used heare, and otherwise then is fitting for the respects ther shold be used to the passes forenamed.

"I pray pardon this scribling on the grass in the feild, and procure with all expedition my freedom from this barbarous usadg. Your distressed frend and humble servant of your Eccellency."

Dr. Harvey to Lord Feilding:

1636. Aug. 6-16. Saturday.—"I perceyve heare by there behavie to me how much your Eccellency is pleased ther to stirr and laber for me, for yesterday after I had sent my letters to your Eccelency, they sent sum in a coatch to me, as from the Podesta, that I should goe to the other place, wheare I was before (yf I would) or that I should have heare a bed, or that he would doe for me what he could, to which I answered, that since it had pleased him with soe much rigour and cruelty to inflict upon me the greatest misery he could and had brought soe much infamy

upon me as to putt me into the Lazaretto without any just cause, without any respect of the recomendation I had from my lord Embassador his Excellency or from the Emperors Majesty or from his Majesty my master, not soe much as to reade them or give notice of them in his first dispatch to Venis, nor to make any difference of a servant of his Majestye the King of Greate Brittan, butt by force and threatning of muskets to compell me into the very nasty roome wheare the Vitturin and his two servants and saddels lay and not att my request granting me a bed or any commodiy scarce straw; his offers now weare unseasonable and like phisick when a man was ded and that I had now hardened my self and accomodated as I did content myself and resolved, since it had pleased God by his hands to humble me soe low, I would undergoe it as a pennance and that I had written to your Excellency and hoped by your intercession within sum few days to have release, and therefore determined to receyve and acknowledg all my comfort from you and to trouble the Podesta with noe other request but that he would with all expedition free me and shew a respect to my master and my bysines; and debating the bysines and urging them for a reason of all this and that it was unjust to detayn any man and not shew him the cause, or to receyve a man into ther territoryes and then imprison him, they should have denied me entrance att the first and then I had gone sum other way for they should have putt those townes they suspect into ther

bands and then I had shunned them or make known att his entrance to every man what he was to doe, otherwise this was to surprize and catch men; and they knowing not well what to answer sumtime alledged that Villach was suspected sumtime I had not gotten my *fede* subscribed att Conian (? Conegliano) or Sacile, sumtime that the Vitturin had brought a boy with him, his son to gett a master, whose name was not in the Vitturins *fede* soe sumtime I was stayed for him, sum time (they sayd) he and his horses stayed for me.

“Touching the suspicion I answered Villach tooke as great care and examined my *fede* as strictly as they could and had given me *fede* of ther safety which they ought in civility to trust, and that the Duke of Alcalay (Alcala) viceroy of Naples with 100 persons choosed to stay there. And that upon bare suspitions of ther owne without any just ground ought not to be thought cause enough to use me in all respects as if I had the plague for certentye on me, and that if I had had it would they not have granted me in charity a house, bed and succour for my money though all had beene burned after, and I have payd for it. It was agaynst all manhood and charity. And for not having my *fede* subscribed in ther own town, as we passed, they knew well I could com noe other way from Pontevi (Pontebba) and that they weare all without suspicion and that I was towld, and it was and is every man’s mouth ther was noe neede, and that it was upon accident for our Vitturin whoe should have directed us being

strangers gott his own *fede* subscribed att Connian, and for the horses we rood on, and did not tell us untill it was to late, thinking his was sufficient. Butt for all these cavills, I sayd the word of an honest man or his oth in this case ought to suffice. I write the larger to your Eccelency of those passages because I know not what they may make of my conference in ther letters that ye may know the truth, and indeed my lord I am a little jealous of them, and to take anny beds now of ther sending, for since ther manners and cruelty hath beene soe shamefull to me, and they have soe little reason for what they have done, it would be like the rest of ther proceedings yf they sent me an infected bed to make ther conjectures and suspitions prove true; therfor I choose to lie still to be redeemed by your Eccelency oute of this inocent straw. Yesterday likewise the patron that owed the howse wheare I first took my straw bed (a little poore garden howse full of lumber, durt and knatts, without window or dore, open to the high way att midnight) was to offer me that agayne, because I had chosen that to shun the infamy of this lazaret and the suspition I had that sum infected person had lately bene heare, and from which they forced me with terror of muskets, I write this to shew your Eccelency that all they doe hence upon your stirring is butt formal to salve ther own errors. I tell them I desier nothing of them, or expect or will except, but only beseech the Podesta that I may be att liberty with all expedition, and that att

last he will have respect to princes recommendations and to my bysines: and now as I am writing I humbly thanke your Eccelency, your servant is arrived and hath beene with me and is gone to the Podesta according to your order. He will tell you of a trick to burn my pass and the injury they have offered me therein.

“When your lordship shale marke how tedious I am in writing I pray give it this interpretation, I have noe other thinge to doe and infinite greedy to be gone, and that I scribe thus, in hast and the want of good pens and inke, etc.

“Yf your Excellency goe to the Colledg ye may justly lament the little respect this Podesta hath given the recommendations I have from my lord Embass. and his Majesty, or the bysines I am sent in, whoe would not soe much as receyve it and read it being offered nor send information thereof to Venis, nor make difference thereupon betweene me and the vitturines servants, would give me no releife or assistance, not soe much as a barne or stule free to myself butt force that infamy, danger, suspition and base usadg of ther lazarett upon me, not to suffer me to write to your Excellency untill 5 or 6 howers past, that in the meane time he mought procure an order from Venis to countenance his act and injure me upon unequal relation; and your Excellency may justly resent that the dispatches to you and bysines of yours should be thus used and not upon your letters released and

that ye may have that respect therein which is due, and that I may have reparation and testimony for the burning my pass and for the clearing me of the suspicion and infamy of having beene in the lazarett, and my unjust stay, and that I may have agayne my *fede* to make appeare to the world wheare soever I goe that I am cleere, or els that I may have a full *fede* from this state. Yf they make difficulty of my coming to Venis, I pray that I may have sufficient *fede* from hence and I will goe by Padua to Florence and see your Excellency as I retorne. I pray pardon me for propounding this to your Excellency whoe know better hearin what is to be done which I doute not but you will performe, that I may be free and we rejoyse together heareafter; and in good sober truth I feare least this ill usadg and base place and the unquiett of my mind may not bring sum sicknes on me this extream hott wether therfor I beseech etc. Your Eccelencys humble servant."

The Same to the Same:

(1636, Aug. 9-19.) Tuesday afternoon.—"My sweete Lord, this place is soe incommodious to me, and affordeth me soe little comfort, as I beseech your Eccelency to pardon me yf I take the bowldnes herein to make my complaynts unto you. The great longing I have to be gon and free maketh me thinke the four days past (since I had the comfort to see your servant here) to

appear soe maney years, whearin I hoped ether they would have relented of ther cruelty or your Eccelency effected somethinge for my releife. I had thought with joy to have presented my service unto you, and now am sorry instead therof to putt your Eccelency to the troble I knowe ye take for me. The ill diett I have heare, and the wors usadg hath produced this ill effect that now these two nights I have had a sci- atique in my right thigh and legg that much discour- ageth me, and maketh me lame. I would fayne Signor Francesco (Vercellini) woud come unto me. I will pay for his coatch and expence, to direct and advise me, and to deliver him the busynes I had to him from my lord Embassador and the letters I have els to Venis; and yf he bring my freedom with him, I shale have the more joy; yf not, he may gett me heare sum garden house, with fier, bed and other necessaryes, least I fale woers. Iff his being there effect better for me, then that som man be hired theare to com and goe between, by whom I may heare often what is or can be don, and may certefy me of the receyte of my letters att the least, that I may heare what I may hope or looke for. They tell me heare, yf there be any truth in them, that they have written to the Duke for my liberty, and that they desier I would write this to your Eccelency, that by your joynt helpe it may be procured. I pray that Signor Francesco would come. Thus in hast, I pray pardon and releve, Your Eccelencys humble servant."

Dr. Harvey to Lord Feilding:

(1636, Aug. 12-22) Friday. Treviso.—“Although I know your care and dilligence for my liberty, and make noe dowte butt your Eccelency doth what is possible and omitteth noe occasion, yett the longing I have to be out of this thraldom and the dayly hope from you maketh me soe often look oute as having not heard from you sinse your man was with me (on Saterdag last) I desier much to know how the case standeth, what is the cause, what I may expect. Ther is nothing can beare any color of just objection butt that my *fede* was not underwritten att Conian (? Conegliano) and Sacile, which towns they know well enough are cleare, and by the computation of my journey from Pontevi (Pontebba) it is not possible I could take any other way, butt that I passed those townes wheare it was tould me that it was not necessary for my *fede* to be underwritten since I had the seale of St. Mark att Pontevi and yett the vitturin had his *fede* underwritte att Connian for him and the horses we rode on and owers had been underwritten too but that he which was to guide us tould us when it was too late, and sayd his underwritten was sufficient, and whearas it was sayd we had one in our company more then we had *fede* for, that was not soe, for that party had a *fede* for himself att Pontevi though after not underwritten.

“I feare lest there may be some other matter in

it then I imagin and they meant to stay me, had I the best *fede* could be (as I thinke I have) and that they seeke butt cavills to colour ther intent, otherwise the word of an honest man or his othe would easily give satisfaction for such slight douts; they have since and before letten pass others upon as little testimony. I hoped much on your Excellencys complaynt to the Colledg butt now because I heare not I dowte much least they neglect you too. I have now bene heare 10 dayes and my *fede* giveth me testimony of health for 40 days almost before that, soe that I cannot guess other then sum malis in this, considering with what cruelty and severity they have proceeded with me. My sciatiq which I gott heare by injurious lodging, I thanke God mendeth well. I beseech you my sweete lord lett me hear from you att least that I may know these letters com to your hands which I write, and what I may hope for, and what reason ther can be of the greate neglect they have used to the recommendation and the passe I brought from my lord Embassador, the King his Majesty and the Emperour. I would be glad since my stay is soe long to have a trusty messenger to send all my letters I have to Venis, and to that end I have sent to Signor Francesco (Vercellini) to whom the greatest part are that he would com hither, my lord Embassador in my last letter from Ausburg commendeth him unto your Eccelency, and sayth ther is nothing yett fallen out worthy of your knowledg, otherwise he would have written to your

Eccellency er this. Even as this morning I had finished thes lines, came one from this Podesta to vew us how we weare in health and sayth within these 2 days we shale have liberty, butt what trust may be given to there words I cannot tell. I feare it is butt a shuffel to detayne me heare yett a weeke longer, which is the extremity they doe ot the worst *fede* and meanest man; likewise it is tould me that Signor Francesco should write soe much to a frend of his heare who is restreyned to his howse who sent, I thinke, him to me to excuse him. I wonder Signor Francisco, I having written so earnestly to him he did not write a word to me, I know not the passages of your Eccelency being in the Colledg, but suer I am they have used a neclect and contempt of his Majesty's recommendation in his pass and of the Emperor worthy to be hotely complayned of, and to me have done barbarous injustise and incivility. Ther is a post cometh every day from Venis, I beseech your Eccellency to be a comfort to me that I may have butt one word. Of your Eccellency an humble servant and faythfull frend."

(Postscript) "I humble desier to know when the soonest post goeth for Ratisbone, that I may provide letters."

The Same to the Same:

(1636) Aug. 13-23.—"My sweete Lord, becaus I see heare nothing butt injury, deceyte and jugling

every day this eleven days, that to-morrow and att night and to-morrow and shortly I shall be released, and doe not heare from Venis any certenty by any hand; and I lay heare in a miserable case; I pray pardon me yf to your Eccelency I seme in this often sending importune; except by your Eccelency his means (in whom is my only hope to gett release from these barbarous oppressions) they delight hear soe to exercise there tirennny as I am like lye for every day they promise a weeke. I feare none of my letters com to your Eccelencys hand or to Signor Francesco; I make noe dout butt your Eccelency hath don for me what is fitting and have procured my releas long befor this time butt that your letters and your help is kept from me. Therefore I pray earnestly I may have but one word in answeare, that I may knowe my letters come to you and what is done, which was my chefest requeste to the gentleman your Eccelency pleased to send to me seven days agoe. The post commeth every day, and even to him that night this podesta sayd he expected from Venise and soe will doe by his good will I feare this month to your Eccelencys humble servant."

Dr. Harvey to Lord Feilding:

1636. (Aug) 16-26. Treviso. "I wrote to your Excellency yesterday what a heavy messadg these of the Sanita have delivered to me from the Senate att Venis, which was that I must stay heare yett untill

farther order; and asking how long, they said seven or ten or twenty days, soe I perceyve they doe butt abuse your Eccellency, to beare you in hand that every day I shall have my liberty, and therein they betray me and make me loose my time, with whom yf they had delt playnly and rowndly, I moght have gone back att the first to Villach and from thence to Gorilia, and there gotten shipping and beene by this time at Rome or Florence, and seene your Eccelency and dispatched my bysines att Venis coming back. Now yf I stay a week or ten days more heare, I shall loose soe much time as the intent of my jorney wilbe broken, and I must retorne without going farther. Good my lord, I beseech you, putt them spedily and rowndly to it, ether that I presently goe (having now beene 15 days) or that I may retorne, which is a thinge is usuall here, and a little while agoe they did it, sending ther officir with them untill they weare oute of ther territorye, and in justice they cannot deney your Eccelency one of these and indeed nether, yf ether they did respect any thinge your intercession or would do justice. I perceyve I am fallen into the handes of most base and evel people, and now they begin to accuse one an other, and when I ask them the cause of my stay, they forge lyes, as that I was att Saltburg, and that Villach hath the plauge, and I know not what, and in this place they have talked soe much that to-morrow and to-morrow I should be free, and when they heard your Eccelency stirred in it,

expected noe less than present delivery, that now they begin to disesteem what your Eccelencys favour can do for me. My lord, I pray therfore urge further the disesteeme and neglect of his Majestys pass, and your intercession, that they stay me for coming from Villach and yett itt is nether a towne in ther bande, and they lett all others pass from thence but me, two having passed by *fede* from thence since I lay here.

“I beseech your Eccelency to pardon me and not thinke this often writing importune, for having soe often written and receyving noe answer from you, which in all my letters I did soe earnestly requier, and it did soe much concerne me to know the particulars as fearing my letters come not to your hands, I send this messenger of purpose to bringe me or write me, whether your Excelency have any hope, or have or intend anything, and what answer they give and wheather you have or intend to complayne of the unjust and barbarous dealing with me att the first, soe much to neglect the King his Majesty's pass and recommendation as not to reade it, not therupon to have made some difference betwene the usadge of me and the Vitureturin and his servants butt chiefly in staying me and putting me into ther Lazarett, having brought sufficient *fede* and such as they lett others pass with all, butt yf of these they will not be sensible of, to give present reparation, then to demand my *fede* back agayne oute of the Sanita and a testimony of my being heare in Lazarett, and my passe burned, and

that I may goe back which I now yf I cannot goe presently forward would be glad to doe with Signor Francesco. Ether to goe forward or backward presently they cannot in any justise denye, and I never longed for any thinge in all my life soe much as any way and on any condition to be gone from this base place and barbarous poeple and fearing lest I should be sick and then they would crye me into the plag, and keep me and cheate and tyrunise over me, God knoweth how long. Signor Francesco was with me on Sunday last and tould me (I humbly thanke you) with what desier and earnestnes your Eccelency dealt for me, and that you hoped every day, butt other perticulars I could not learne by him, nor since. I send by this bearer the letters I had to deliver att Venis both to your Eccelency and others and a packet for my lord Herbert which was caryed to Ratisbon by James Querck and my lord being not in those cuntryes, is retorned back. Your Eccelency please to pardon this troble which my unfortunat change hath inforced me to put you to. Your Eccelencys humble servant."

Harvey had been thus held in the Lazaretto from July 9 to August 16, and how much longer than this thirty-seven days we do not learn. Probably he completed the quarantine period, but why forty days was ever set as the limit I do not know. He was finally at liberty to visit Venice, and we next hear of him when he writes to Lord Feilding

from Florence the last of these interesting letters which have been preserved.

The Same to the Same:

(1636) Sept. 7-17. Florence.—“My sweete lord, with many thanks I humbly present your Eccelency for all the favour I have receyved att my being att Venise. Since I came safe to Florence, I have seene this fayer citty and enjoyed much contentment therin, with health and mirth. The Grand Duke his highness receyved my letters and me with greate curtesy, favour and respect; talked often long and familiarly with me, presented me with frute, fowle, wine, &c., gave order for one of his coatches to attend me whearsoever and whensoever I went abroad, shewed me himself many of his rarities, woud have given order for a gally to have carryed me from Leghorn to Naples, and when I thanked his highnes for his affection and love to his Majesty and his affayres, sayd there was nothing in his Court or power that was not at the King of Inghland his service, seemed to love and honor him very much, much enquisitive of him, his health and welfare, customs and vertues. I tould him, as your Eccelency commanded me, of your devotion and promptnes, and order ye had to doe him all service, which he accepted very kindly, and commended him unto you, and certeynly yf ye came hither, woud doe you all possible honor. It may be his marriadg is

shortly to be consummated; it wilbe a fitt occasion to have order to congratulate. I perceyve heare myself to have much acceptance, access and familiarity, whereby it may be (att least I desier) to performe his Majestys service, or for your Eccelency or any your affayres.

"Here is a great Coort. The Duke of Loreyn and his Dutchess, to whom the Grand Duke giveth the hand; the Duke of Guise, his lady and his sonnes, Prince Janviel (Joinville), the Duke of Joyeux and too little ones, knights of Malta, and a daughter marriedgale, besides the Dukes sister, his too brothers, and the Cardinall and one of his uncles. Your Eccelencys humble servant."

The Grand Duke who thus liberally entertained the great physician was Ferdinand II, who himself was the inventor of various forms of thermometers and took the greatest interest in the scientific work of his day. The best account of this remarkable prince is to be found in the brochure of Father Urbano Daviso, entitled "*Pratiche Astronomiche*," annexed to "*Trattato della Sfera*," quoted by De Nelle (*Vita e Commercio Litterario di Galileo Galilei*), Losanna, 1793, pp. 91 to 93. In an address on "The Early History of Instrumental Precision in Medicine" (Second Congress of American Physicians and Surgeons, September 23, 1891) I described long ago some of the instruments invented by the Duke Ferdinand.

Harvey is heard of again in Rome, where on October 5

he dined with Dr. Ent at the English College.<sup>1</sup> He was in London at the close of 1636.

These letters seem to show that the great physician, was certainly treated with small consideration. The orders for extreme precaution against the reasonably dreaded plague came evidently from Venice, and Lord Feilding seems to have been unable to effect his friend's release. I have not been able to find anywhere accurate information in regard to the Lazaretto customs of the seventeenth century. Harvey's complaint of the lodging in "base"—or is it "bare"?—fields, of want of shelter and decent bedding are quite pitiable. His suspicion that fear of plague did not explain his detention might have seemed just, for the plague was sometimes used as an excuse to detain persons who were suspected for political reasons.

Arundel's "little doctor" so often thus described, was said by Aubrey to be a choleric man, and certainly he shows no serene temper under the detention and "barbarous usadg." There is something of childlike petulance in the letter of August 16, where he is so outraged that he declines any favors from the Podesta. The mood of anger and sense of insult shows in the many repetitions of his successive letters. The style of these epistles betrays such impatience as made him heedless of how he said his say, provided he said it with emphasis. Moreover, his apology for "this scribbling on the grass in the field" may have been needed since, according to Ent, and as his lecture notes prove, he wrote a villanous script.

<sup>1</sup> D'Arcy Power, p. 115.

It is amusing to see how when happy at Florence his style and even his spelling improves. His letter to Lord Dorchester when on the Continent is written in far better English than the letters to Lord Feilding. It is probable that Latin was more at his command when writing than was English, nor do his letters compare favorably in their use of his native tongue with those of Arundel, Borrough, Aston and other educated men of his day.

The pages of D'Arcy Power's book describing the life of Harvey at Oxford during its occupation by the Royalists add largely to our knowledge of the physician. That Harvey during his years at Oxford was still busy with physiological research seems probable. There exists, however, a singular piece of confirmatory evidence in regard to this matter. It is in the form of verse, and was, of course, known to D'Arcy Power. That he does not mention it made me hesitate until, in a recent letter, he expressed himself as sharing my opinion that this curiously definite statement justifies the belief that the author must have seen at Oxford demonstrations by Harvey on the living animal. I owe my possession of this singular Latin verse to Dr. D'Arcy Power. I am in debt for a careful prose translation of parts of the poem to the kindness of Dr. Astley Paston Cooper Ashhurst. The verse in question is entitled "*Roberti Grovii Carmen de Sanguinis Circuitu, a Gulielmo Harvaeo Anglo primum invento. Adjecta sunt, Miscellanea Quaedam. Londini, 1685.*"<sup>1</sup>

<sup>1</sup> The author became later Bishop of Chichester.

Dr. Ashhurst thus writes:

In a preface addressed "Ad Lectorem," the author explains how he came to compose this poem; he says it was only on the repeated urging of his friends, and with considerable reluctance, since he had never considered himself among the poets, had written only the usual Latin verses when in college, and had not for a period of twelve years even dreamed about Latin poetry. Having finally begun the poem, he abandoned it for some years owing to the difficulty of the task; but being again urged to compose such a poem, he finally resumed the work while languishing one February with an attack of quartan fever, during which illness his physicians had forbidden weightier studies.

The plan of the poem, he tells us, consisted first in a description by Harvey of his discovery of the circulation of the blood; Harvey then promises at another time to write "*de Animalium Generatione*"; meantime the author represents Harvey as predicting the Civil War, beholding in vision the Restoration, and the founding of the Royal Society.

The poem on the Circulation of the Blood is in heroic hexameter verse, contains many Virgilian phrases, and has in many places a truly epic flow; in others the rhythm is harsh, and the meter not always impeccable. There is great redundancy of adjectives, which makes a readable translation difficult, and the

mixed metaphors in which the poem abounds render even a free translation rather ludicrous in places.

I have omitted some very unpleasant descriptions of the binding of the dog used for demonstration, and of his suffering. [We may well be thankful for anæsthetics. —W. M.]

Invoking the Muse to narrate to him the causes of arterial pulsation, the heart beat, etc., the author rejoices that though these phenomena were not understood by the great physicians of classic times, nor even by Cæsalpinus himself, yet that Harvey, the offspring of Britain, was the fortunate mortal whose name would be known for all time as the discoverer of the circulation of the blood. "For this Man," he continues, "was a most ardent investigator, inquiring into the structure and use of all parts of the body, and inspecting all the hidden seats of disease in dissected animals."

"One day Harvey called together his chosen friends, and said: 'I shall now make trial of my beliefs, and prove whether they are correct or whether Error leads me astray. . . . It is not,' said he, 'ferocity of mind, it is not dire lust that makes me cruel, nor is it the mercilessness of a wicked heart; but the sacred hunger for Fame, deep within my spirit and in my inmost being, which forces me against my will to make such experiments, and drives away from my breast gentle feelings. It is in my mind to open the dark secrets of nature, to inquire the causes of things once unknown; to release the truth long a captive in chains.

I desire to seek out great things, and to explore parts hidden and far removed: to learn in what stream the blood is driven along, what is the manner in which a new purple tinges the livid vein. Thou, wretched one, though thou wilt experience unspeakable pain, and wilt bear an unmerited punishment, shalt have in death a solace; for thou wilt not be murdered by an unjust fate; thou wilt not be torn asunder by the cruel tooth of a Molossian beast, nor will a lazy old age slowly consume thee. Thou wilt not be cast out as an ignoble cur in the ditches, nor will corruption disintegrate thy carcass. Thou wilt neither be wounded by the monsters of the night, nor will the crows assemble on thy rotting limbs. But, if, as I fondly trust, learned Minerva smile indulgently upon me, and if Apollo answer my vows, never will thy fame perish; but whithersoever the glory of my deed extends thou also wilt be known, in the entire world thou wilt be renowned, and thou who art about to die wilt become a Lycisca<sup>1</sup> of eternal life.'

"The old Master ('Senior') imperturbably proceeds on his way, and carries his undeviating and inexorable blade through the outer structures even to the viscera; intent on his work he lays bare the very remotest penetralia of the abdomen, and hastily plucking aside the flesh which he has incised, plunges his hands here

<sup>1</sup> Lycisca is the name of a dog in Virgil's *Eclogue*, iii, 18; and in Ovid's *Metamorph.*, iii, 220.

and there within, and, indicating each in turn, brings forth to view the warm entrails.

“Here on one side lies the immense liver, on the opposite side the spleen, of lesser bulk, obscure in position as well as in function; in the midst lies the immense sac of the stomach, and affixed to it the main mass of the intestines, gyrating through many sinuous curves. These are bound together by a light membrane, but in firm embrace; and through it course snowy fibres first discovered by the learned art of Asellius, and named by him lactiferous veins, from the word for milk. The pancreas, the kidneys, many and wonderful things he passes by in haste; higher things he seeks, and strives to inspect even the citadel of life itself.

“Spread across the body stands the memorable Septum (diaphragm), and above it the hairy Thorax raises its protecting sides; for here with constant motion the lung ventilates the præcordia, and alternately sucks in and expires the air. Here, in the midst, in highest seat, the Father himself has placed the Heart, because he wished it to excel all other viscera. But neither the highest honour nor the defenses of Nature avail, for he (Harvey) plunges his blood-stained hands within the breast, and hastily severs everything with his gory blade; he breaks through the outer approaches and throws aside the tottering ramparts. Then in truth the hidden seats and recesses of life come into view, and the lofty home of the Heart is laid bare.”

Then follows a description of the motions of the heart and lungs: how both human hearts and those of lower animals are provided by nature with twin cavities, which alternately distend and become flaccid with the entering and the leaving blood.

“From the upper heart arise in order four veins, here two, there two; neither their appearance nor their use is identical: one part shines white, safe with a thick covering, and with care conceals the fluids within; the other part, clothed with thin covering and shining skin, offers to view a purple liquid, and by its livid colour confesses that its inner channels burn with native minium (reddish-blue colour). Swelling and turgid, the one is distended with spirits; placid blood, in gentle current, flows through the others. But all arise from the Heart, from the same source; at first they swell out big, and flow in larger current; but afterwards they suddenly diminish into narrow streams, and dividing little by little into smaller channels, appreciably decrease, and spreading out into minute filaments wander through the viscera, through the flesh, through all the limbs, breathing the life-giving fire into every structure.

“These matters, sufficiently explored once by others, he leaves; but meanwhile a new care harasses his eager mind: to know what force drives the mass of the Heart, whence it receives the warm sap, and into what regions it drives it forth; whither flows the Blood escaping through the open channels (*i. e.*, from the heart),

the Blood which, shut in the surrounding cover of the veins, travels its wandering paths and eludes pursuit.

“Two veins there are, notable above all others in size and use: one the Roman youth rightly called the Cava; the other the Greeks once named by the word Aorta. Side by side their currents flow, and as companions both spread their branches through the body. This one and that Harvey went over with his eyes and in his mind; surrounding the Cava, as it happened the first, in a slender thong, he bound up its ample channel in the encircling thread, and obstructed its path. And here, wonderful to see, the blood nearer the Heart slipped away of its own accord into the auricle of the Heart, and the vein, empty of blood, collapsed, and with no stream within, the empty banks were joined together. But that (blood) which was more distant from the citadel of life, shut off by the tightly drawn thread, arrested the journey it had begun, and the vessel was raised up with a great swelling; it beat on the distended tunics and obstructing barriers, vainly eager to break through the binding knots. As soon as Harvey, with skilled mind, had noted these phenomena, he himself loosed the knots and the linen band. Then suddenly the blood, released by removal of the barrier, was carried back into the empty chambers and coverings of the Heart. When this was seen and pondered upon by the sagacious old man, he snatched the huge Aorta and bound it up with a cord. All things

now seemed different, now another face of Nature arose. For where the longest vein was lying stretched out beyond the obstructing knots, it became softer and more flaccid as the blood slipped out; but where it looked inward, joined to the left of the Heart, it stiffened up, rigid, and swelled out with the oncoming fluid; and the liquor gliding on, shut up in constricted spaces, churned inwardly, enlarged its vital channel, and pressed hard against the restraints of the almost ruptured Heart. Having duly observed these things, the old man immediately loosed all the cords, whereupon at once the blood spurted forth with great force and raging ran forth in a headlong stream; and the Heart beat again alternately, the artery renewed its pulse, so much so at least as was possible for the languid limbs of the moribund animal.

“Harvey, who encountered all things with equanimity, after slight delay, at length in these words addressed his dear friends: ‘Ye in whose care is dear Health, who mingle sacred cups of healing drugs, and by whose powerful herbs the Fates are delayed, and lives of the wretched prolonged: Receive this into your spirit, and lay it up in your memories, and at length recognize the true causes of life. Different Veins are formed for different uses: these first bedew the flesh with liquors received from the full Heart; those pour back again into the interior of the Heart the returning (liquors). At first the blood forcing its way out from one source gathers strength, and is carried along in

a great flood; but later it divides itself into lesser streams. Then travelling an obscure path and blind channels, the slender summits of the Veins ("exiles Venarum apices") comes slowly up the little vessels on its way to the greater; and always larger and larger as it goes, returns to the præcordia an immense torrent. For just as trickling springs and lesser streams lead their waters into the Thames with gentle murmur, and he with a new flood and more spacious in a wider channel moves forth his growing waves in sinuous channels to the Sea, and pours into Ocean a huge river; no otherwise acts the blood returning from the limits of the body: first into little veins and small channels it insinuates itself; suddenly growing stronger it makes for larger vessels; and finally it forces its streams, collected from all over the body, into the Cava, and distends its walls. The Cava swells mightily, and bursting with the returning fluid lays aside part of its load and pours it forth into the chambers of the Heart. And this, as soon as it feels the weight of the incoming fluid, becomes tense and struggles with all its fibres, rigid and weighted with greater mass, and powerful in its strength binds the bloody fluid in its embrace; but the blood rushes on through the open gates: headlong it inundates the whole lung, and breathing forth its foul smoke from the breast, tempers its too great fervour with ethereal air; and it excites the vital flames with the inspired air, and quickly is kindled with celestial fire. Then new brightness and

glory return to the exhausted fluid, and more glowing it enters the left chambers of the Heart, and thence driven with great force it leaps forth into the vast Aorta: this is distended by the stroke, and at the same instant every remotest branch in the whole body pulsates.' "

Harvey finally closes with reflections on the death of the dog—how endless fame will crown his sacrifice; how he will join in the Constellations his fellow dogs, Procyon and Sirius, and will shine with effulgent light close to the Pole.

There is much of interest in these verses, especially the allusion to the vessels as spreading out into minute filaments and later to the blood as travelling in obscure paths and blind channels.

There is so little known of contemporary lay interest in Harvey's researches that it is worth while to hear of the king's occasional desire to see what he was doing. It may have been due to the merest curiosity or perhaps to a quality of intellectual sympathy of which we learn nothing elsewhere in the monarch's history. His death must have been felt by Harvey as a very personal calamity.

Something like a sad echo of the tragedy and of regret for the changes of Government are heard in Dr. Ent's report of his famous interview with the aging scholar in 1650. The years and war had taken away from Harvey his king, his wife, two brothers, and many friends. The Parliament soldiers had plundered his house, destroyed

his collections and scattered papers which he ventures to think were a loss to the republic of letters. Life which had given much had also taken much. It is pleasant to know that he loved the Latin poets and finding occupation and interest in science used his later years to write his great work *De Generatione Animalium*, and so to leave with us a lesson on the conduct of life and the consoling value of the love of scientific pursuits when the practical day is over and the twilight of life has come.

Harvey died in his brother's house on June 3, 1657. It is strange that of this wonderful life so little that is personal is known to us. In fact, almost all that we do know we owe to the gossiping pages of a layman, Aubrey. Here we find the only detailed contemporary statement of Harvey's final illness and death. More might have been found in the archives of the college had not these, as I presume, been destroyed in the fire of 1666. Aubrey's account of Harvey's brief illness bears internal evidence of being correct.

Sudden deaths were apt however in that day to be explained as due to other than natural agencies. Harvey's death did not escape suspicion as to having been caused by poison self-administered.

Aubrey gives a positive denial to "the scandall that ran strongly against him (Harvey), viz., that he made himself away, to put himself out of his paine, by opium."

"The scandall aforesaid is from Sir Charles Scarborough's saying that he (Harvey) had, toward his

latter end, a preparation of opium and I know not what, which he kept in his study to take if occasion should serve, to put him out of his pain, and which Sir Charles promised to give him. This I believe to be true; but do not at all believe that he really did give it to him. The palsey did give him an easie passeport."

Dr. Mead has been credited with some statement in regard to this rumour of suicide, but I find it nowhere in his works nor in the records of his life. I mention it because in Hasted's *History and Topographical Survey of the County of Kent*, Canterbury, 1790, vol. iii, p. 382, I came upon a singularly detailed statement concerning Harvey's death which has escaped the biographers and is well worth quoting in full. As an illustration of the growth and development of what was surely but an idle rumor, it is hard to match:

"The following circumstantial account of the death of this eminent man, I believe, is little known beyond his family, but is related on the authority of a clergyman of this county, who was assured of the fact of it by the late Eliab Harvey, esq; Barrister-at-law, a descendant of the Doctor's younger brother, of that name. Dr. Harvey was ever afraid of becoming blind: early one morning, for he always rose early, his house-keeper coming into his chamber to call him, opened the window shutters, told him the hour, and asked him if he would not rise. Upon which he asked if she had

opened the shutters; she replied yes—then shut them again—she did so—then open them again. But still the effect was the same to him, for he had awaked stone blind. Upon which he told her to fetch him a bottle, (which she herself had observed to stand on a shelf in his chamber for a long time,) out of which he drank a large draught, and it being a strong poison, which it is supposed he had long before prepared and set there for this purpose, he expired within three hours after.”

The Hamey manuscripts, *De Bustorum*, etc., give the date of Harvey's death in an odd passage much in the fashion of the day.<sup>1</sup>

Harvey's death and his habit of fasting for two days at a time are spoken of in a letter of Bishop Duppa, now in the possession of Sir Vere Isham. (Royal MSS. Commission, July 8, 1660, appendix to Third Report, p. 254.) The full text of this letter might prove of great interest, but at present the MS. is at Lamport Hall, the seat of Sir Vere Isham, and is unattainable, so that I have had to give up for a time any hope of printing this contemporary mention of Harvey's death.

In 1880 I made a pilgrimage to the little church at Hempstead with Sir Benjamin Richardson. We procured the key of the Harvey vault, and presently, stepping over the many dead, we stood beside the leaden coffin of William

<sup>1</sup> Some Memoranda in Regard to Wm. Harvey, M.D., by S. Weir Mitchell, p. 21.

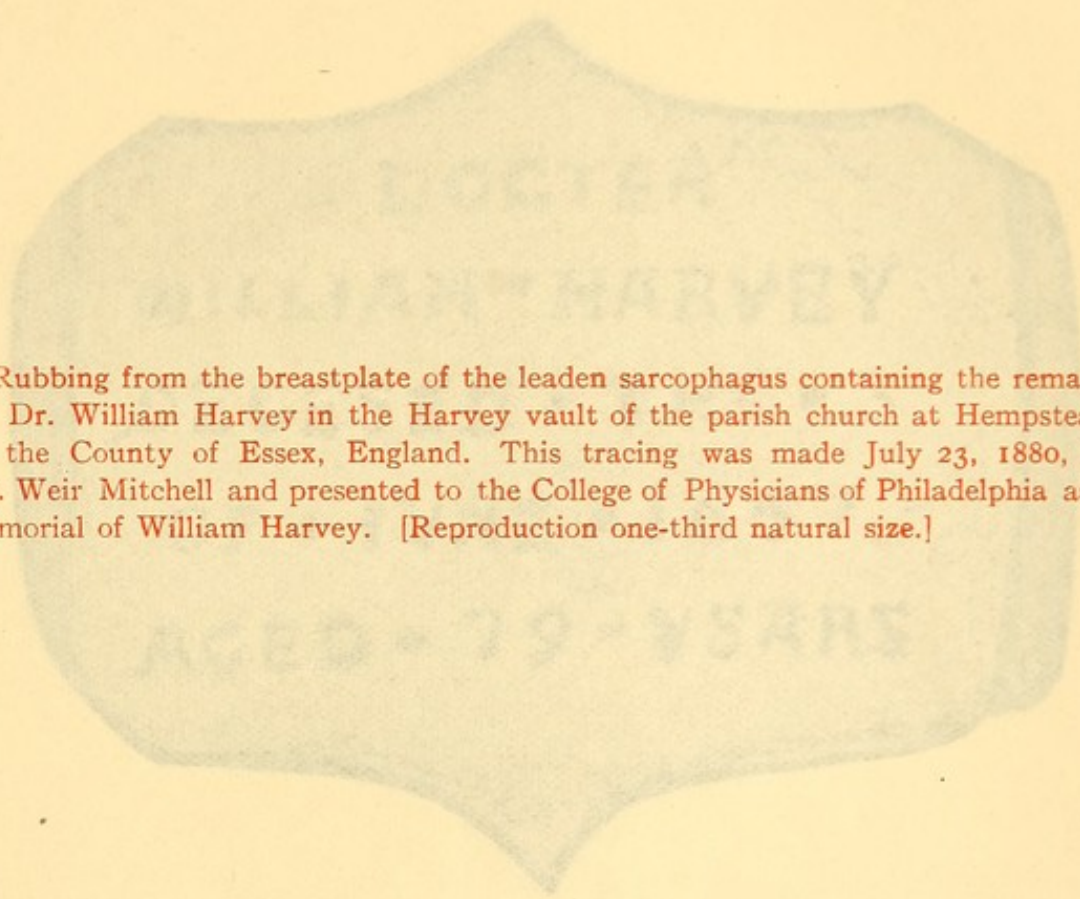
Harvey. The dark vault, the coffins of other Harveys and that of the great physician, are well shown in the accompanying photograph from a drawing made on Sir Benjamin's first visit in 1847, by his son, Mr. Bertram Richardson, and given to me by Sir Benjamin. The latest burial was that of Nelson's Captain, Admiral Sir Eliab Harvey, the last male of his race. I made a rubbing of the coffin plate of William Harvey, which is here reproduced.

My comments on the disconnected material I have gathered for the future greater biography of Harvey may have no great value, but I am pleased to have been enabled to print the letters which throw fresh light on a part of Harvey's life.

Enough is now known of this very great man to permit of some estimate of his character. Much more has yet to be learned of his early and even his later life, but we may still hope that some of the manuscripts scattered by the Puritan mob have not been destroyed and may yet be recovered, as have been his precious lecture-notes.

Even what one may call the setting of his life has unusual interest. The son of a well-to-do yeoman, he lived to become the physician of two kings and to see pass before him a tragic historic drama. Wide travel, the life of courts and friendly association with great nobles, must have influenced the manners of the yeoman's son.

Intellectually he was in many ways remarkable, for even in the youth of his brilliant discovery, he had none of the abrupt conclusiveness of youth nor any of the raw haste of our own day. He must slowly and deliberately have



Rubbing from the breastplate of the leaden sarcophagus containing the remains of Dr. William Harvey in the Harvey vault of the parish church at Hempstead, in the County of Essex, England. This tracing was made July 23, 1880, by Dr. Weir Mitchell and presented to the College of Physicians of Philadelphia as a memorial of William Harvey. [Reproduction one-third natural size.]



DOCTOR  
WILLIAM HARVEY  
DECEASED THE 3  
OF JUNE 1657  
AGED 79 YEARS



invented and perfected methods of research which made him the fertile father of modern physiological science.

One may say of his moral qualities that he had two tempers. Concerning scientific differences and hostile comment on his discovery, he was charitable, magnanimous and well-mannered in his replies, a model for those men of science who bitterly resent opinions contrary to their own. In smaller every-day matters, he was probably, as Aubrey says, choleric. The letters in Italy reveal his impatience under what in his day was not a rare annoyance to travellers.

That he attracted the love of his fellows and had warm friendships is plain, and that he was largely and thoughtfully generous is as clear. Of his politics we know enough. He was a Royalist, and that he regretted the change of government he himself, or rather Ent, makes plain. Of his form of religion we learn little beyond the inference from Lord Arundel's jest, that he was known as a Protestant. He could not, I presume, have been elected Warden of Merton College unless he had been of the Church of England. That he was a reverently religious man is written in many a page of his works—surely, taking him for all in all, a noble-minded model of what is best in the physician and the gentleman.

## BIBLIOGRAPHY OF WILLIAM HARVEY.

THE following list comprises the various editions published of the writings of William Harvey contained in the principal medical libraries in the United States, London, and Paris, including the British Museum; also the editions quoted by the *Bibliotheca Britannica*, *Encyclopaedia Britannica*, and Doctor George Jackson Fisher that are not in the possession of any of the libraries included in this list. The fact that no copies of the editions marked "quoted" are to be found in any of the large libraries might possibly lead to a reasonable doubt of the correctness of the quotation.

The editions marked with an asterisk in the following list are in the possession of the Library of the College of Physicians of Philadelphia.

### *Exercitatio anatomica de motu cordis et sanguinis in animalibus.*

- \*1. Latin. 72 pp., 4°. Francofurti, Fitzeri, 1628.
- 2. Latin. 12°. Lugd. Batav., 1636. (Quoted.)
- \*3. Latin. [6], 267, 84 pp., 2 pl., 4°. Lugd. Batav., Maire, 1639.
- \*4. Latin. [10], 227 pp., 24°. Patavii, Sardun, 1643.
- \*5. Latin. F°. [Amsterdami, Blaev, 1645.] [In—Spigelius, A. Opera. 1645. v. i, pp. xxxvii-lxiv.]
- 6. Latin. 4°. Patavii, 1646. (Quoted.)
- \*7. Latin. 267 pp., 12°. Lugd. Batav., Maire, 1647. [In—Recentiorum disceptationes de motu cordis. 1647.]
- \*8. Latin. [38], 215 pp., 24°. Roterodami, Leers, 1648.
- 9. Dutch. [22], 97, [2] pp., 24°. t'Amsteldam, Last, 1650.

10. English. [38], 112, [20], 123 pp., 8°. London, Lowndes, 1653.
11. Latin. [28], 285, [18] pp., 16°. Roterodami, Leers, 1654.
- \*12. Latin. [38], 464, [24] pp., 1 pl., 12°. Londini, Danielis, 1660. [Engr. t. p. 1661.]
- \*13. Latin. [28], 285, [20] pp., 16°. Roterodami, Leers, 1660. [Engr. t. p. 1661.]
- \*14. Latin. [20], 285, [26]., pp., 16°. Roterodami, Leers, 1671.
- \*15. English. [24], 107 pp port. 8°. London, Lowndes, 1673.
16. Latin? F°. Geneva, 1685. (Quoted.)
- \*17. Latin. [18], 178 pp., 1 pl., 16°. Bononiae, Longhi, 1697.
- \*18. Latin. [12], 167, [4] pp., 4°. Lugd. Batav., van Kerckhem, 1736.
- \*19. Latin. [12], 170 pp., 4°. Lugd. Batav., van Kerckhem, 1737.
20. Latin. [2], 267, 84 pp., 1 pl., 4°. Lugd. Batav., Marie, 1739.
- \*21. Latin. x, [2], 299 pp., 8°. Glasguae, Urie, 1751.
- \*22. Latin. xviii, 250 pp., 2 pl., 8°. Edinburgi, Carfrae, 1824.
- \*23. German. 4°. [Stuttgart, Enke, 1878.] [In—Baas, J. William Harvey . . ., 1878; pp. 49 to 108.]
- \*24. French. iii, 287 pp., 8°. Paris, Masson, 1879.
- \*25. English. xx, 147 pp., 12°. London, Bell, 1889.
26. French. 128 pp., 2 pl., 16°. Paris, Masson, 1892.
- \*27. English. x, 72, [2], 91 pp., 4°. Canterbury, Moreton, 1894.
- \*28. German. 120 pp., 12°. Leipzig, Barth, 1910.

*Exercitationes duae anatomicae de circulatione sanguinis ad Jo. Riolanum, filium*

1. Latin. Cambridge, 1649. (Quoted.)
2. Latin. 140, [2], pp., 24°. Roterodami, Leers, 1649.
3. Latin. 81 pp., 12°. Parisiis, Gaspardum Meturos, 1650.
4. English. 86 pp., 8°. London, Leach, 1653.

*Exercitationes de generatione animalium; quibus accedunt quaedam de partu; de membranis ac humoribus uteri; et de conceptione.*

- \*1. Latin. [24], 301 pp., port., 4°. Londini, Pulleyn, 1651.
- \*2. Latin. 568, [6], pp. 24°. Amstelaedami, Elzevirium, 1651.
- \*3. Latin. [30], 415, [6] pp., port., 24°. Amstelodami, Janssonium, 1651.
- \*4. Latin. [26], 388, [2] pp., 16°. Amstelaedami, Ravesteynium, 1651.
- \*5. English. [44], 566, [2] pp., port., 12°. London, Young, 1653.
6. Latin. 12°. Amstelodami, 1661.
- \*7. Latin. [26], 388, [4] pp., 16°. Amstelaedami, Ravesteynium, 1662.
- \*8. Latin. [32], 604, [6] pp., 24°. Patavii, Frambotti, 1666.

- \*9. Latin. [34], 582, [4] pp., 16°. Hagae-Comitis, Leers, 1680.  
 \*10. Latin. [20], 404, [38] pp., 4°. Lugd. Batav., van Kerckhem, 1737.

*Opera omnia.*

- \*1. Latin. 2 v. [12], 170 and [20], 404, [38] pp., 8°. Lugd. Batav., van Kerckhem, 1737.  
 \*2. Latin, [8], xxxviii. 673 pp., port., 4°. London, Bowyer, 1766.  
 3. Latin? 2 v., 4°. London, 1776. (Quoted.)  
 \*4. English. xcvi, 624 pp., 8°. London, Sydenham Soc., 1847.

*Prelectiones anatomiae universalis.*

- \*1. Latin. viii, 98 pp., 196 photolith. pl., 4°. London, Churchill, 1886.

The following writings of Harvey, which are included in his "Opera omnia" were purposely omitted from the preceding list as not being properly classed under his published works:

Anatomia Thomæ Parri [first published in— Bettus, J. De ortu et natura sanguinis, 1669; also in Philos. Trans. Roy. Soc. Lond., 1669. Abridg. vol. i].  
 Letter on the circulation to Caspar Hoffmann of Nuremberg, May, 1636.  
 Letter on the circulation to Schlegel of Hamburg, April, 1651.  
 Three short letters of friendship to Giovanni Nardi of Florence, July, 1651, December, 1653, and November, 1655.  
 Letter on the discovery of the lacteals to Dr. Morison of Paris, May, 1652.  
 Two letters on the discovery of the lacteals to Dr. Horst of Darmstadt, February, 1654-55, and July, 1655.  
 Letter on the discovery of the lacteals to Dr. Vlackveld of Haarlem, May, 1657.

Also, no mention is made in this list of works which Harvey had planned or written, but which were lost in the plunder of his house during the civil wars, or perhaps in the fire of London, which destroyed the old College of Physicians. The *Biographica Britannica*, under the article "Harvey," contains a list of these, thirteen in number.

Neither is any mention made of the notes and accounts of his manuscripts contained in the British Museum, Bodleian Library, and the Royal College of Physicians.

The Library of the College of Physicians of Philadelphia has 33 of the editions mentioned in the above list; the Library of the Surgeon-General's Office has 33; the British Museum has 27; the New York Academy of Medicine has 21; the Boston Medical Library has 19; the Faculté de Médecine de Paris has 16. The editions, 5 in number, marked "quoted," are not in any of the libraries.

CHARLES P. FISHER,

Librarian of the College of Physicians of Philadelphia.



















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