## JOHN FRANCIS VIGANI:

First Professor of Chemistry

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In the University of Cambridge

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Professor John Ferguson LL.D.

Read to the Cambridge Antiquarian Society,

Wednesday, May 16, 1894.

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§ 1. The name of Vigani, if it be not prominent in the chronicles of Chemistry, ought nevertheless to be quite known to students of the history of the science, seeing that it occurs in the chief works on the subject. It had been familiar enough to me from these sources, long before 1874 in which year I first acquired a copy of his one treatise. It was, however, only when consulting the Cambridge University Calendar some little time ago that I became aware of the fact that he was the first professor of Chemistry in the University. This discovery stimulated my interest in him and I accordingly re-examined such notes and collections relative to him and his book as I possessed, and being shortly afterwards in Cambridge I made inquiries about him on the spot. So far as I could ascertain, by the kind assistance of various members of the University, there are no traditions of him and no official record except that of his appointment as professor. In the University Library I found a M.S. volume containing notes of Vigani's lectures, which will be referred to later on.

The notices of him derived from other sources are equally scanty, for beyond a few dates, some scattered facts and incidental references, and half a dozen letters, and his will, there is nothing for the construction of what might be called a biography of Vigani. As this material, however, scanty tho' it be, has not been set forth in regular order, I have tried in this paper to do so, in order to fill a blank at once in the Fasti of the University and in the history of Chemistry. It may not be without interest to know from such very definite sources what were the character and scope of Chemical teaching in the University exactly two Centuries ago. The notice of Vigani in the D.N.B. was drawn up by me in 18, and is based on the material which is here set forth in full.

The subject falls conveniently under the following heads:

I. The biography of Vigani

II. The bibliography of his book

III. The Chemistry he taught

IV. An estimate of his character and position.

## The Biography.

§ 2. About the early life of Vigani I have been unable to gather any information. As he styles himself constantly <u>Veronensis</u>, it may be taken for granted that he was born at Verona, or at least belonged to the Veronese district, the Territorio di Verona.

To the period of his birth we can make only an approximation by inference from other quite fixed dates, but even then there is some difficulty in arriving at a (plausible) conclusion. Among the years we have to go by, the most important for fixing precise terms to our suppositions are 1682, the date of the Danzig edition of his book, and 1703 the date of his appointment to the Professorship at Cambridge.

The question, therefore, must be asked: What could his age have been when he printed his book in 1682? At the very lowest estimate I think we must assumed him to have been not less than twenty years of age. This would make his birth year 1662 and would give him just bare time to have studied the subject and to have composed a small treatise like the <u>Medulla</u>. I am inclined, however, to think that he must have been older, possibly considerably older. For 1. In his book he speaks of having been at Parma in 1671 where he saw repeatedly a quack or empiric swallowing snake poison without injury. Now while a boy

of 9, which he would be on these suppositions, might possibly be sufficiently impressed by this exhibition to remember it, can we believe that he could know enough about pharmacy to appreciate the quackery with such critical insight from the future author's point of view as to be able to incorporate the fact eleven years later in a book ? L.do not think so.

2. The 1682 edition of the book is dedicated to a man who, so far as I can ascertain, died in 1663, that is nineteen years before it was printed, or when Vigani on the above hypothesis was one year old. The preface besides is the work of a person of some maturity.

3. Vigani had also travelled a good deal prior to 1682, and as locomotion was less rapid at that time than now and possibly required maturer age for encountering its hardships, one would be disposed to think that the <u>Medulla</u> <u>Chymiae</u> is the summary of an experienced man of 30, if not more likely of 40 years of age, than of a youth of 20. If this be correct, he may have been born about 1640-50.

4. There is a discrepancy in the dates assigned to the first edition, which has some bearing here. According to some authorities the first edition was printed at London in 1658, instead of at Danzig in 1682. I shall consider this statement more in detail in the Second section of this paper, but granting it to be correct it would agree so far with the year 1640 as the hypothetical date of his bbrth, although in that case, the author would have been only 18 years old. This certainly would be the very earliest age one could allow for the production of his book, in fact too early for a book on any branch of science, which requires knowledge, experience and a certain amount of maturity.

5. His book is not a mere compilation, a piece of literary work, which would have been drawn up from other books, it embodies the results of his own experience. But experience in science always involves time. A poet, a novelist, an artist, a mathematician may display the most wonderful talent, even creative genius, at a very early age, but for knowledge of a science of experiment or observation, time, considerable time, is an absolute necessity.

It is possible that Vigani was a most precocious pharmacist, but there is no evidence of this from anything that he has left behind him; it seems to be rather the other way.

It may be assumed, therefore, until there is more decisive information forthcoming, that Vigani was born not earlier than the year 1650, or within ten years of that date, more or less.

Of his early life there is no record. He has not

told us where he studied chemistry and pharmacy; he makes no allusion to any special teacher, no text book. He travelled about a good deal, as has been already said; in 1671 he was at Parma, and he refers to Seville, and Paris, and from the dedication of his book he seems to have made some connections in Holland. On his travels he observed closely, visited the mines, collected minerals and plants and gathered information on Pharmacy and Medicine. There is no positive proof that he was a qualified physician, and I am inclined to think that he was not one. There is no indication of his having a degree or licence.

1682. This is a year which marks an epoch in Vigani's biography. His book entitled <u>Medulla Chymiae</u> was printed at Danzig and it is the first precise date in the Author's life. There is no good reason for doubting that this is the first edition, but the question will be considered in the second Division under the Bibliography. The volume is dedicated to "Joannes de Waal Toparcha in Aukeveen", but unfortunately, whether by design or by accident, the dedication is not dated, so that we are deprived of the means of determining whether it was composed for this edition or not, and whether it was printed in 1682 for the first time or not.

As it was natural to suppose that the person to whom the book was dedicated would be a contemporary of Vigani,

I have tried to find if there was a Joannes de Waal, alive in 1682, worthy to be addressed in the terms used by Vigani. I have found no one of that name at all except Jan de Waal, Herr van Aukeveen who was highly distinguished in the social and political troubles of the time. This man must have been born in the latter years of the sixteenth century for in 1618 he was appointed Councillor on the change of government, and in 1622 was Captain of one of the

Hasselt for the purpose along with other forces of making passage for a diversion of the Spanish army at this time beleaguering Bergenop Zoom, which was successful. In 1627 he became the first Burgomaster and served in this post of honour on nineteen occasions continuously:

which at this time went to

he showed himself one of the boldest and stoutest Regents of the time, especially in the opposition to the growing power of the Stadtholder. With five other members of the States Assembly of Holland, he was taken prisoner in 1650 on the charge of William II, conducted to Loevestein and on the release of August 13th was liberated by his

After the death of the Stadtholder he was reinstated in honour and dignities and

He was the son of

Jan de Waal and his first wife, Cornelia Juijst. He died

portraits November 23rd, 1663. The original/of himself and his old father both painted with extraordinary vigour by Frans Hals were still at Kampen in 1802.

The career of this man bears out all that Vigani says of him. and I feel constrained therefore to believe that Vigani's patron was no other than the sturdy opponent of the Stadtholder. The remarkable, and to some inexplicable, extent. troublesome, thing is that the dedication, which is obviously addressed to a living man, is prefixed to a book published in 1682, without the slightest indication that the dedicatee had been dead for nineteen years. Supposing Vigani's book had been ready by 1663 and the dedication to Jan de Waal penned, and then something happened which delayed the publication till 1682, his admiration of de Waal, and gratitude to him (if he felt that such was owing for favours, the nature of which we do not know now) would not have been marred in the least, if he had added a note to say that though his patron had so long passed away, he dedicated to his memory what he had once addressed to him alive. But there is not a word to warn us from thinking that there was still a Jan de Waal in 1682 of great distinction. Was there indeed such a person at that date ? If there were, I have not seen him mentioned with his older namesake.

During September of this same year, 1682, Vigani was

dwelling

in England and was residing at Newark on Trent, a place which for some reason or another he had chosen as a residence. In <u>Medulla</u> [1685] p.11, reference is made to Dr Yarborough of Newark, Nottinghamshire, vir celeberrimus & amicus singularissimus. Does this reference occur in either the 1682 or 1683 Edition ?

Whether he had been in England long before this or not, it is difficult to determine. Possibly he may have been in London for some period before settling at Newark and Cambridge. The tenor of the letter from T.R. (? T.Robson) indicates that he had lived already in this country and was familiar to some extent with disputes which were agitating the Medical profession (?) in the middle of the seventeenth century.

Anyhow by the Autumn he was engaged in revising his treatize on Chemistry, enlarging it and, at the request of his friend the aforesaid T.R., getting pictures of furnaces for it.

1683. In this year the new edition of his book <u>Medulla</u> <u>Chymiae</u> was published at London, and it was dedicated to William, Earl of Devon, Philip, Earl of Chesterfield, and Thomas, Viscount Fauconberg. A review or rather summary of it appeared in the <u>Acta Eruditorum</u> for 1684. In this

Jan. 22, 1683. Ffrances d. of J.F de V baptised.

notice the Danzig edition of 1682 though not called the first, is referred to as if it were so, yet this of 1683 was said to be doubled in size, as was certainly the case. The dedicatory notice to Jan de Waal is omitted in this edition, and there is nothing substituted for it; only the **bare** dedication to the three noblemen aforesaid. It contains, however, an epistle dated London Sept.10, 1682 addressed by a certain T.R. to Vigani at Newark-on-Trent. Who T.R. is I am not certain, but I have thought it may possibly be a Dr Robson to whom reference is made in certain of Vigani's letters quoted below. This however is mere conjecture.

From an incidental remark in the Grace of his appointment and in Monks <u>Life of Bentley</u> as well as from the tenour of the epistle just mentioned, one may believe that it was in this or the previous year that Vigani began to teach chemistry and possibly pharmacy as well, in Cambridge. If this be so, it seems to have been independently of any University or College connection, and he probably took pupils to instruct them in chemical manipulation and in the practical operations of the pharmacist. His book, like that of Beguinus, seventy years earlier, was intended to facilitate the learning and remembering

March 7  $16\frac{84}{85}$  Jane daughter of J.F. de V. baptised.

of the processes and products, but in no way to supersede the practical treatment of the bodies themselves.

1685. Two years later a new edition, or rather a reprint of his book came out at London, and according to certain writers it was printed again in 1687. This edition, however, wants the confirmation conferred by an actual copy, and for my own part I am sceptical as to its existence. It will be considered under the bibliography. (1688]edition).

1692. After this I have found no notice of Vigani for a few years till in 1692 there is some definite information about him. In the British Museum, (Add.MSS. 22910, Vol.I folio 410 to 411 verso, of the Correspondence of Dr Covell), there is a long autograph letter in Italian from Vigani to Dr Covell, then Master of Christ's College, Cambridge, written from Newark and dated August 2, 1692.

This letter interests us in more ways than one. There is, of course, the Chemical part to which reference will be more appropriate afterwards but of greater importance is the statement in the last paragraph, that he had been invited to write a treatise on Chymistry. This request seems to have had some effect on him, for in subsequent letters allusion is made to such a book, the preparation of which he had carried some length. But it was never finished. There can be no doubt that by this year at any rate Vigani had won for himself a certain position as a teacher of Chemistry in Cambridge.

There is still another item of information about him. Abraham de la Pryme, "the Yorkshire Antiquary", who was at this time an undergraduate at St John's College, has the following paragraph in his amusing diary under the year 1692:

Towards the end of this year I went a course of chymistry with Signior Johannes Fransiscus Vigani, a very learned chemist, and a great traveller, but a drunken fellow. Yet, by reason of the abstruceness of the art, I got little or no good thereby.

As an impressionist picture, this swift summary leaves little to be desired, but there are one or two points about it which make me question its accuracy as a portrait. These points arise in connection with a subsequent event in his life and will be considered then. While one may admit the "abstruceness of the Art" as a reason for de la Pryme having made little progress in Chymistry, there may have been another reason. If we may judge by Vigani's correspondence his command of English was limited, and if we take his spelling as phonetically representing his notion of English words, his pronunciation must have been often uncouthly unintelligible. It is just possible therefore that De la Pryme was not able to follow his prelections and dictations. Still, I must allow that against this attack on Vigani's articulateness are to be placed the extant notes of lectures which he delivered but which must have been put into ordinary intelligible English by the listener and writer.

His reputation as a traveller must have been considerable, when it is put forward in such a prominent way. His drunkenness, however, is referred to here and here only. The charge is a specific one, and could not have been made if the fact had not been notorious. The epithet "fellow" seems also to indicate that he was an underbred, illiterate and uneducated man but with force of character and perseverance. Still I am not at all substantiated. certain that the charge can be justified.

In a letter addressed to Dr Sloan, Feb.2, 1701-2, quoted hereafter, De la Pryme refers to Vigani's lecture on Nostock and speaks of him in a more favourable way.

1693. An edition of the <u>Medulla</u> was printed in 1693 at Leyden. It was edited by a certain David Olam, and dedicated to the Provost and Magistrates of Leyden. He inserted a running commentary on the text, which mainly serves to show that Olam was a young man and by no means judicious. Moreover the work is very carelessly printed.  $169\frac{6}{5}$  of this and the two following years there remain certain letters which were written by Vigani to different persons and which are here given <u>in extenso</u>.

On Feb. 10, 1695-6 he wrote to Newberry.

On Nov. 9, 1696 he wrote again to Newberry.

It is dated from Catharine Hall, to which College he was apparently attached.

On June 8, 1697 he wrote again to Newberry this time from Newark.

On March 13, 1698, there is a holograph letter, to whom does not appear - but it may be taken as an admirable example of epistolary style in a comparatively foreign language. His biographer may be allowed to wish that he had "trobled ofne with Leters".

The Elixir proprietatis was a well known remedy of the Time and is described in his lectures. Ludovicus Cornarius was the man whose temperance forms a typical example, for by strict attention to work, rest and diet he prolonged what would be called in Life Assurance language a "bad" life far beyond the average. It was therefore a capital instance for making such a homethrust as that in his letter.

His book: <u>Sure Methods of attaining a Long and</u> <u>Healthful Life. With Means of Correcting a Bad Con-</u> <u>stitution</u>, was written "when he was near an Hundred Years of Age" according to the Copy printed at Glasgow in 1753 by R. and A. Foulis. - Sept. 27, 1698 there is a letter from Newark to a Henry Giles about furnishing the Hall of Sir Thomas Willoughby's house with painted glass

Mr Henry Giles.

(Newark upon Trent)

Sir

I have been at <u>Sir Thomas Willoughbi's</u> last week, where I met with Mounsier <u>Bellgard</u>, who is to paint the Hall there. I did not let slip the opportunity to tell Sr Thomas, that when y<sup>e</sup> Scaffold was up for the painting, he might as well have the <u>windows</u> adorned with <u>painted glass</u>, done by you. I found Sr Thomas not in the least averse to it, but he did absolutely approve of my thoughts. Now you must write to Sir Thomas, before he go to <u>London</u>, and you will here farther from him. I am sorry I could not thus year see you at York, my time being too short, I wish you good success in this business, which I do not question, and am

> (Your Humble (Seruant T. Fran: Vigani)

(27 Sept. 1698)

(The words in brackets are in Vigani's writing. The rest by another hand.

K.

"Birch" 4276 No.174.

All these letters are in the British Museum. Birch MSS. 4276, Nos. 171-175.

Incidentally these letters contain reference to a book in Latin, which he wd. prefer writing in Italian and having translated into English. Newberry was to print it, but it did not get on quickly.

He was going to and staying at York.

He refers to Dr Robson.

He writes from Catharine Hall.

It must have been in the nineties that the small MS. of Vigani's lectures now in the University Library, Cambridge, was written. Unfortunately there is neither date nor name of College but presumably the demonstrations were given at Catharine Hall or at Queens'.

1701-2. De la Pryme, as I remarked above, alludes to Vigani once more. He says:-

I remember that, when I learned that noble Science [Chemistry] with Seignior Vigani, he preached us a whole lecture of this wonderfull substance, but was so ingenuous as to confess that he never made tryal

of the same

The substance referred to is Nostock, or star-shot jelly and to which notable virtues were ascribed. 1703. In the University Calendar under this year Vigani's name appears as that of the first professor of Chemistry.

Cooper quotes from the Statutes: On the 10th of February, a grace passed the Senate for investing with the title of Professor of Chemistry John Francis Vigani a native of Verona, who had taught chemistry with reputation in Cambridge for twenty years previously.

1705. The year 1705, is another positive date in Vigani's biography, for it is quite certain that he lectured at Queens' College. Dr Sherrington's MS. contains notes of the lectures he gave there on and after Nov. 19th.

It is of some importance to observe, as showing that he kept a friendly remembrance of Queens', if he had actually left it, that he bequeathed finally his pharmaceutical and chemical Collections to the same college, when they were still in use in 1730.

1706-8. While the connection of Vigani with Catharine Hall and Queens' is obvious from what has just been said I am, from Stukely, able to produce the same direct proof

Dec. 5.	1704. Vigani son of Tho. Phisick buried July 26,
1705	Thos. Phisick buried
1706.	Stukely - Lab. in Queens'.
1707。	Contd. his courses and Mat. Med.
1707.	Bentley's Chem. Lab. and V. directed it.
170 <b>8.</b>	Excursion to Newark and saw V.
Stukely	went lect. in Trinity and in Queens' Coll.
Clois	ters.

as to his connection with Trinity. The only authority I have found on the question is Monk, who appears to have had documentary evidence, though he quotes none, but merely gives us a narrative. Under the year 1708 he tells us how it was one of Bentley's aims to concentrate at Trinity all the Science teaching in the University and how in a single year, 1706, with this object in view he undertook the erection of an observatory and the foundation of a chemical laboratory and a chemical lecture, over and above the entire rehabilitation of the Chapel. He accomplished these designs and having appointed Roger Cotes as the Professor of Astronomy (and Whiston as well) inaugurated a brilliant school of natural philosophy. Monk's narrative then proceeds:-

> John Francis Vigani, a native of Verona, having resided in Cambridge, and taught chemistry with reputation for about twenty years, received in the year 1702 a strong mark of the approbation of the University, by being invested with the title of Professor of Chemistry. To serve the purposes of science, and promote the celebrity of his College, Dr Bentley resolved to transplant him and his lectures into Trinity. Accordingly

he repaired and fitted up an old lumber house as an elegant chemical laboratory; and here Vigani regularly delivered his courses of lectures for some years. But, whatever might be the reason, the scheme of founding a school of chemistry was not permanently successful. Some time elapsed after the death of Vigani, before the University appointed a successor to the professorship. Bentley's conduct in this business, like several of his laudable undertakings, did not escape an uncharitable construction.

As the institution of this Chemical Laboratory in Trinity was not merely uncharitably construed but formed one of the specific charges against Dr Bentley, and as it happens to be involved in my present theme, I may recall the dispute as far as this institution alone is concerned.

1709. The XXIV Article of Accusation runs as follows:-"Why did you waste fourscore Pounds or some other p. 17 great Sum or Sums of College Money, and other College Goods, in causing a Laboratory to be made in the said College, and that without the Consent of the Senior Fellows, which is required by the Said College Statutes ?"

In his Letter on "The present State of Trinity 1710. College in Cambridge" To the Visitor John Bishop of Ely Dr Bentley replies showing he had spent p. 60. the money on improvements: amongst other things on

"An elegant Chymical Laboratory", where Courses are annually taught by a Professor, made out of a ruinous Lumber-Hole", the thieving House of the Bursars of the old Set, who in spite of frequent Orders to prevent it, would still embezle there the College Timber."

1710. Upon this letter "Remarks" were made by Mr Miller p.137. who reiterates the Complaint of the Article

> "His elegant Chymical Laboratory if it can be call'd so, was done with College Money, without the Consent of the Seniors ever ask'd; which makes the doing it criminal, and not praise worthy tho' he forced them to agree to it afterwards.

1710. Mr Thomas Blomer, however, is much less reserved than Mr Miller, and ascribes motives in the most classical possible language, but cumulative like the House that Jack built. As it bears on the present topic it may be quoted in full:

More Particulars: ----- An old ruinous Lumber-Hole conjur'd all of a sudden into an Elegant Chymical Laboratory, where Courses are annually

(x) These phrases seem to have been even more offensive than the place.

taught by a Professor ! ----- I'll tell you, Sir, a piece of secret History concerning this Lumber Hole. ----- This Lumber-Hole you must know, Sir, lies just upon the edge of a Bowling-Green that belongs to the Fellows; which Bowling-Green that belongs to the Fellows, is parted but by a Brick-Wall, from a certain Garden that belongs to the Master: which Master, Dr Bentley by Name, having, as appears, a very notable projecting Heady thought it would be a mighty pretty thing if he could contrive it so as to justle out the Fellows, and lay this same Bowling -Green into his Own Garden: But the Fellows were not then in a Humour to be so serv'd. Cou'd it have been brought about, nothing in the World wou'd have been more Commodious than this Old Lumber-Hole. For if the Design had not miscarry'd, Then had this old Lumber-Hole been an Elegant Green-House for Dr Bentley: But since they wou'd not do That, He resolv'd He'd be even with 'em for their Stubbornness; and if it cost them a Hundred Pounds the Lumber-Hole shou'd be made, and Constituted, and for ever after call'd, an Elegant, Chymical Laboratory. I am none of those who glory in

despising and running down Chymical Observations and Experiments; but yet with regard to this so famous Laboratory of Ours, I have talk'd with those that have gone the Courses, and they All seem to be of Opinion, That as those Matters are manag'd, the Learned World is not likely to reap any mighty Profit or Advantage from anything that is There taught.----- However, this Quondam Lumber-Hole, this Now Elegant Laboratory, is also Another clear Demonstration, That the GOODS OF THE COLLEGE have not been WASTED !

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1710. Another Critic in a pamphlet entitled "The True State of Trinity College", irritated by Dr Bentley's phrases, falls foul not only of the unwarranted spending of money but attacks the Sciences themselves on the ground apparently that the "College was design'd for a Nursery of Divines". He belongs therefore to a more pronounced type than even Mr Blomer. He says: p.60. "The Lumberhole we think might have remain'd a Lumberhole still; for Boltheads and Crucibles, Glasses, Charcoal and Sand, are as arrant Trumpery, and as despicable Lumber, as old Joices, Cornishes, Wainscot and Doors; and serve only to draw in young

Gentlemen to exchange Gold for Gibberish, to fill

their Heads with unintelligible Jargon of imaginary Trials of Skill, between High-Church Alkali's, and Low-Church Acids, with which when a Man has fill'd every nook of his Brain, he may justly be styl'd a Caput Mortuum."

This, if I may venture to say so, is as fine **a** sample of gibberish as could be taught even in a Lumber Hole by a Caput Mortuum.

1711. Subsequently a writer attempted to describe the dispute then raging in "A True and Impartial Account of the present Differences between the Master and Fellows of Trinity College in Cambridge," and put the discussion into the mouths of a partizan and critic of the Master respectively.

p.8. The friend refers to the widening of the Studies of the place by Dr B. having introduced the Arts and Sciences, and the Lumber Hole converted into an Elegant Chymical Laboratory is referred to as one of the improvements in the buildings.

The critic or "plain Dealer" as he is called, questions the advantage of studying the whole circle of the sciences - a point that does not concern us. As to the other matter he merely says:

p. 14. "His Elegant Chymical Elaboratory, and his Astronomical Topknot (had they been built with the Consent of the Senior Fellows, and not have been Encroachments on their Property contrary to their Consent) being of some use to the Youth of the College, had never been laid to his Charge."

It is not essential to the present theme to consider whether the Master did or did not convert the Lumber Hole aforesaid into a Chymical Laboratory at the extorted or compulsory expense of the Fellows or whether his motive for doing so was disappointment at the loss of a green house.

If the cellar, which I have been shown by the kindness of Dr Aldis Wright is the room in question I cannot imagine how it could ever have been a Chymical Labor atory at all much less an elegant one - and as for its being convertible into a green house, Mr Blomer must have had an almost tropically luxuriant imagination, a very notable projecting head, and a wonderful capacity for ascribing motives to suppose such a thing. The place is practically a dark low roofed apartment or cellar, forming aportion of a very old building, and it has reverted inpart at least to its original character of Lumber Hole which would be grateful to the Author of "The True State" could he but revisit it now.

What concerned us most, however, is that in all these quotations Vigani's name is never introduced not even by those who were inclined not only to attack Bentley but as much as possible to depreciate the study of Science.

The only confirmation I have and it is of the feeblest description, is that Vigani wrote a couple of letters to Cotes - but then he makes no reference to any connexion of his own with Trinity. One might as well say he had a connexion with Christ's because he wrote once or twice to Dr Covell the Master - or was in the publishing trade because he wrote to Newberry,

## IV.

In the course of the preceding statement of facts it has been impossible to avoid altogether quoting opinions as to Vigani's character and acquirements but now with the data before us an estimate may be attempted of the first Professor of Chemistry in the University.

There are at least two aspects under which he may be regarded, the Personal, and the Professional.

The most serious criticism of him personally is made by de la Pryme when he calls him "a drunken fellow".

The statement is such an unqualified one that however sceptical one may be of its accuracy, it is next to impossible to rebut it merely by arguments. There are no means of directly denying the fact; one can only enquire if there has not been a mistake made inadvertently, and one can only put forward questions of probability.

It is to be observed that, with the exception of Pryme no one, has either made such a charge or quoted Pryme's.

Now it seems to me that if Vigani has been a drunken fellow - which certainly connotes habit and repute, the appointment of such a man to a professorship could hardly have been made. Still less would such an abuse have if he had been appointed to lecture in escaped comment It could not have escaped forming one Trinity College. of the Articles against the Master and anyhow some one of his critics, more particularly of those who thought that Trinity College was no place at all for Science teaching and who apparently disliked it entirely, would have been only too glad of the opportunity of attacking disreputable the Master for a man of disgraceful character. It must be observed that when the accusation was recorded Vigani had been already about ten years in Cambridge. It is possible, of course, that subsequent to 1692 he may have

seen the advantage of leading a steadier life and have given up the habit alluded to by de la Pryme. Even granting that improvement if he had been so dissipated in earlier times he would hardly have been appointed because he had taught chemistry with reputation for twenty years.

I do not think it is a valid objection to say that drunkenness was a common vice of the time and that therefore he might be appointed without any demur. The truth is if Vigani as a nominee of Bentley had been a good deal less drunken than de la Pryme implies - and if as such he was to be objected to - his failing would have been used against him even by those of his opponents most addicted to the same vice. Consistency is not always regarded under such circumstances. Let us not forget the fierce and sweeping accusation by Mr Stiggins.

So far as we may judge from his correspondence he was in good esteem. T.R. speaks of him in very high terms, and the letters which Vigani himself wrote are distinguished by good feeling and bad English and show that he was a person of considerable standing if of feeble linguistic powers. If his general habits had been such as those ascribed to him he could hardly have been on the footing he was inside and outside the University. I say nothing of his reference to the

temperance of Ludovicus Cornarius. If he had been intemperate himself he would have been hardly in the position effectively to urge it upon a personal friend as a hygienic necessity.

I am disposed therefore to doubt de la Pryme's statement, notwithstanding its unqualified nature; at least to delay my acceptance of it until there is confirmatory evidence.

To estimate Vigani's professional position will take an amount of detailed exposition not very interesting to listen to, however suitable it may be for students of the history of Chemistry.

What we can gather about it now is contained in his printed book and in the MSS. of his prelections. These record the facts of the Science which he taught but not the manner of his teaching and only in a meagre way the general theories of the Science which he enunciated. His view of the extent of Chemistry could not be wider, for he held justly that it embraced all matter, and that Nature herself was the Arch chemist. He held the atomic constitution of matter and seemed to think that chemical changes were the results of Atomic motions.

When however he came to the practical problems to be solved he was not prepared even with empirical explanations of comparatively simple phenomena. He was at a great loss to understand the combination of acid and alkali and the general features of salts.

In seeing his way through such changes I should consider him to have been less apt than several of his contemporaries. Glaser for instance, Lemery and Homberg. He shows none of the originality of Becher, or the philosophical grasp of Stahl. In fact he does not once refer to these chemists so far as I at present remember, but seems to have been dominated, like others by the critical acumen of Boyle. In his book in fact he dismisses the theory of chemistry with a recommendation to the student to peruse the <u>Sceptical Chymist</u> and the Origin of Forms and Qualities.

His practical teaching like that of his contemporaries takes the form of directions for the preparation of certain metals, and salts, plant and animal derivatives, for use in pharmacy and medicine. There was no design of a scientific investigation or systematic exposition of the chemical changes and properties of the substances submitted to examination. His aim in his lectures was to give the best methods he knew of making the required compounds, and to explain their medical virtues.

MacKaile in Aberdeen - for example.

His book, however, must be judged by the Authors design. Haller (in 1751) passes two distinct judgments on it: 1. It is condemned as a confused farrago of experiments. 2. it is praised for its brevity and case, but it contains only sparsow processus - as they call them (?)

Now this is hardly fair to Vigani - for this is what he says after his brief introduction on the meaning of the name Chymia, and on the nature of principles or elements:

"Leaving and passing over many preliminaries hashed up and processes repeated stalely over and over by other chymists I will describe only those things, which I have myself discovered, or thrown light attained upon, or have accomplished by an easier method, and all as short as possible."

To do Vigani justice therefore it is necessary to compare the methods he gives with those of his predecessors and see what are the differences between them.

It is not just to judge of the book as a complete treatise on Chemistry, but rather as a record of original work and discovery which he published in this form.

I have no hesitation in saying that Vigani must have been a good experimenter and demonstrator and one

of those who liked to gain his ends by the very simplest apparatus and with the least possible trouble.

He seems himself to have taken rather a pride in this, for in his book he laughs at the elaborate apparatus that was in vogue and which can be seen in some of the books both of a previous time and of his own.

In his lectures also he must have discussed the subject, for there is one section on furnaces and utensils in Sherrington's MS. which is worth quoting (p.73).

So too T.R. speaks in high-flown terms of his furnace and urges him to give drawings of it, which he did. I hope to give photographic reproductions of these plates, to illustrate the present paper.

Baumer, with one or two others, has stated that Vigani worked more with his hands than with mere ideas, and quotes Stahl as the authority for saying so. Nothing could be more unjust to Stahl and Vigani alike, than to pick out a qualifying parenthetical statement from a long argument, where it comes in as pure commendation and put it forward as a categorical judgment on Vigani and apparently a depreciatory one. Stahl is engaged in his book on the "constitution of Salts" (Halle, 1723) in discussing a very knotty topic the decomposition of certain salts by heat alone and others by the addition of certain agents. He states the opinions of theorists and then quotes an experiment of Vigani which did not at all bear out the theory, and when its advocates tried to make it fit by proposing a process which they thought must work Stahl says:

"Viganus, who was accustomed to work more with his hands than with mere notions, saw the difficulties." In other words Stahl means not that Vigani was an empirical worker but that accustomed as he was to experimenting he knew he must attend to the practical conditions if he wished to be successful in carrying any idea into practice - and, he adds, he was not deterred by the trouble involved by these conditions, as is the way of experienced Chemists, whereas there is nothing the Gedancken Laboranten, the notion workers, hate more than the trouble of experiment.

Vigani never attained a great reputation, certainly not a European one, and his book had not the success of the Manuals written by Beguinus, Glaser, Lemery and others. But he was a diligent worker, and skilled experimenter and in spite of his small command of English even after twenty years living in the country, he must have been a successful teacher.

He was an accurate observer and was more successful in his natural History descriptions than in his chemical theories. His lectures on the Materia Medica are very well done and show no small amount of knowledge. In concluding this notice for the present I do not think - pace de la Pryme - that Vigani's appointment to the professorship was one which need cause any regret. He had not the grip of Beguinus or of Glaser, he had to contend with the language and customs of a foreign country and he lived in the midst of college and medical disputes, but he must have been endowed with no small perseverance to overcome his drawbacks and no small prudence and caution to live on such good terms with all that he secured and retained the position which he did.

To his prudence and caution it is in part owing that his biographer has so few positive facts to deal with, that he himself comes out of a cloud of uncertainty as to his birth, moves before us dimly seen through haze and doubt and finally disappears in the darkness that surrounds his resignation and death. Had he been more of a positive character we might have known more about him.