JAMES DOUGLAS AND THE HISTORY OF CHOCOLATE

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ABSTRACT

James Douglas, a prominent Scottish physician, is renowned for his anatomical discoveries, particularly the *pouch of Douglas*. Beyond anatomy, Douglas made significant contributions to botany, including a monograph on the history of chocolate, now housed in the Glasgow University Library. His interest in chocolate, alongside other plants, reflects his broad scientific curiosity. Manuscript Hunter 560, meticulously detailed and hitherto unexplored, offers valuable insights into the cultural and scientific perspectives on chocolate in the eighteenth century. The aim of this article is, therefore, to present the contents of James Douglas's *The History of Chocolate* and to vindicate his figure as a botanist and multifaceted man in the field of the eighteenth-century science.

KEYWORDS: chocolate; James Douglas; Glasgow University Library; Hunter MS 560, Hunter MS D425

RESUMEN

James Douglas, destacado médico escocés, es conocido por sus descubrimientos anatómicos, en particular el *fondo de saco de Douglas*. Más allá de la anatomía, Douglas hizo importantes aportaciones a la botánica, que incluyen una monografía sobre la historia del chocolate, ahora conservada en la Biblioteca de la Universidad de Glasgow. Su interés por el chocolate, junto con otras plantas, refleja su amplia curiosidad científica. El manuscrito Hunter 560, meticulosamente detallado y hasta ahora inexplorado, ofrece valiosas perspectivas culturales y científicas sobre el chocolate en el siglo XVIII. Así, el objetivo de este artículo es presentar el contenido de *The History of Chocolate*, de James Douglas, y reivindicar su figura como botánico y hombre polifacético en el ámbito de la ciencia del siglo XVIII.

PALABRAS CLAVE: chocolate; James Douglas, Biblioteca de la Universidad de Glasgow, Hunter Ms 560, Hunter Ms D425

1. JAMES DOUGLAS

James Douglas, a distinguished Scottish physician, is best known for identifying the anatomical space in women between the rectum and the posterior wall of the uterus, known today as the *pouch of Douglas*. In men, this space lies between the rectum and the bladder. Beyond his contributions to anatomy, Douglas was a notable figure in various other fields. He practised as a male midwife and conducted research in botany, English, French, Greek and Latin grammar, and classical literature, with a particular focus on the works of Horace. This article explores Douglas's interest in botany and particularly in the cacao tree, which led him to write a monograph on the history of chocolate. This work has been thus far unexplored.

James Douglas's origins and early years remain largely obscure. He was born at Baads near Edinburgh, with his exact date of birth unknown; the earliest record we have is of his baptism on 21 March 1675. He was the second son of William Douglas, who married Joan, daughter of James Mason of Park of Blantyre, in 1664. Together, they had twelve children, three of whom—James, George, and Jonah—went on to become physicians. According to Brock,

> Nothing is known of his early education, although a James Douglas graduated MA at Edinburgh University in 1694. In 1698 Douglas was a medical student at Utrecht and may have spent time in Paris before graduating MD at Rheims in 1699. In London by 1700 he became associated with Paul Chamberlen in the practice of midwifery. (Brock, 2004)

Soon after, he quickly established himself as a physician, obstetrician and anatomist. From the time when he settled in London, where he was based for the rest of his life, there is enough documentation to trace his interests and activities. Thus, according to Brock,

> He was a practising physician and man-midwife and became Physician in Extraordinary to Queen Caroline, anatomist and teacher of anatomy, zoologist, botanist, grammarian, phoneticist and classical scholar. While some of this information comes from records held by the Royal Society and the British Library, from newspapers and published diaries and contemporary histories, by far the richest source of information is the large collection of papers and drawings in the Hunterian Library, Glasgow University. (Brock, 1994: 2)

He gave his first paper to the Royal Society in 1705 and in 1706 he was elected Fellow of the Royal Society on the recommendation of Sir Hans Sloane. For the Society he wrote papers on different topics: eleven of his papers to the Royal Society were published in *Philosophical Transactions*, but he failed to publish "his great Osteology, his treatises on human reproduction and the diseases of women, on hernias and aneurisms, and only one of the projected manuals for dissecting all parts of the body" (Brock, 1994: preface), as well as at least other fifty-seven papers.

His first book was *A description of all the muscles of a man and a quadruped* (1707), although he wrote extensively on different matters, as Brock let us know,

> In all he published eleven books. Two on descriptive anatomy, the earliest comprehensive bibliography of anatomy, two on lithotomy, not only dealing with the various methods of removing stones from the bladder, but also covering the whole history of the subject; a work on Materia Medica, four books on botany and a catalogue of his library of the works of Horace. (Brock, 1977: 169)

He was acknowledged as an anatomist and obstetrician, not only by his colleagues but also by the upper classes and the nobility: "In 1725, as recorded in an advertisement on the back of his *Description of the Guernsay-Lilly*, 1725, George I gave Douglas £500 to help in the publication of

some of his anatomical work" (Brock, 1995/2000: xiv-xv). Some years later, George II sent him first to attend his daughter, the Princess of Orange, to Harwich in 1734 and one year later, to Holland to look after her, when she was thought to be pregnant (Brock, 1977: 168; Brock, 1994: 7). This service was rewarded by granting Douglas a pension of £500 per annum. His medical writings have given him credit for his achievements, but his interests were wider:

> Douglas had been working on an osteology since at least 1713; the plan was monumental: the book was to comprise plates of all the bones, together with their weights, chemical composition, connections, cartilages, glandulae, and sacculi mucosi (first described by Douglas), and associated muscles and ligaments. It was also to include sections on diseases of bones and a history of osteology and osteological figures. It was virtually complete at his death, but his assistant William Hunter's wish to publish it remained unfulfilled. All that remains extant is a large collection of drawings of dissections of normal and abnormal reproductive systems, gravid uteri and foetuses for the treatise on diseases of women. In order to assist his brother, the surgeon John Douglas, James undertook an investigation of the relevant anatomy to enable John to reintroduce safely suprapubic lithotomy. Indeed, Douglas intended a complete history of lithotomy but got no further than *The History of the Lateral Operation* (1726), reprinted 1731 with an *Appendix Containing Mr Cheselden's Present Method* with French (1726) and Latin (1733) translations. (Brock, 2004)

Regarding his personal life, James Douglas was married twice, though the identity of his first wife remains unknown. His second marriage was to Martha Wilkes, the aunt of the politician John Wilkes. Together, they had three children: Martha Jane (1716–1744), William George (c. 1725–1755), and Israel James. Israel James became an apothecary and likely suffered from tuberculosis; he appears to have died before 1752, as he is not mentioned in his mother's will from that year (Brock, 1994: 2; Thomas, 1964: 3). However, Israel James is noted as the amanuensis for several of Douglas's manuscripts held at the Glasgow University Library, a role also attributed to Douglas's brother, George. How all the manuscripts, papers and drawings ended in the hands of William Hunter, who donated all this material to Glasgow University, is not clear. In the Autumn of 1741, some months before Douglas's death, William Hunter became anatomical assistant to James Douglas and tutor to his son, William George, who was studying medicine.

Before Hunter became his assistant, Douglas had been elected Royal Society Croonian Lecturer and he gave his first lecture on "The Membrana palati mobilis the Uvula and the tuba Eustachina" in March 1742. His second lecture was meant to be about the bladder, but he died on the 2nd of April 1742. Hunter collected all Douglas's notes on the subject and helped Douglas's son, William George, to compose a paper on the bladder. William George read it to the Royal Society on the 27th of May 1742 (Brock, 2008: 13).

Brock also notes that,

> When James Douglas died in 1742 Hunter continued to live with the Douglas's, and after taking William George to Paris in 1743 to attend anatomy lectures, returned to the Douglas household in 1744 and lived there till 1749 when he set up with his brother John in a house in Covent Garden. Perhaps Hunter bought them from the family after William George had abandoned medicine, perhaps he was given them in return for help in the family and care of Mrs Douglas's health. Nor were the papers and drawings the only Douglas material that passed into Hunter's possession. Douglas had built up undoubtedly the best collection of practically useful anatomical preparations (acquired, prepared and preserved at a vast expense fatigue and care) that is or ever was in the possession of any single man. How far it formed the foundation of Hunter's own collection is not known. (Brock, 1994: 2-3)

Brock (1994: 3) even contends that William Hunter must have obtained from Douglas's papers much of the inspiration for his own work. Furthermore, she claims that ideas and achievements attributed to Hunter were already present in Douglas's papers. Thus, she refers to the fact that

> There is a large collection of papers on reproduction and on the anatomy of the gravid uterus. Douglas had long been contemplating a work on aneurysm and left notes on all those writers from Galen onwards who had written on the subject, one that was to interest Hunter for many years. Hunter's first paper to the Royal Society was on articular cartilages, on which he had been working for Douglas. Though little remains amongst his papers of Douglas's interest in hernias, it is known that he was contemplating a book on the subject. William Chesleden left a record of Douglas's interest in hernias and Hunter's involvement in this interest. (Brock, 1994: 3)

James Douglas is renowned for his contributions to anatomy, particularly identifying the anatomical space known as the *pouch of Douglas*, but his multifaceted interests extended beyond

medicine into areas such as botany, grammar, and classical literature. His botanical pursuits, particularly his work on the cacao tree and chocolate, represent an intriguing aspect of his scholarly activities, which will be the focus of the next section. Section 2 explores Douglas's contributions to botany, including his research on various plants such as tobacco, coffee, tea, and his most notable work on the Guernsey Lily. His deepening interest in botany, supported by his connections with prominent botanists, laid the foundation for his exploration of the history and significance of chocolate, a topic that garnered increasing popularity in 18th-century Europe.

2. DOUGLAS AS A BOTANIST

As a Fellow of the Royal Society, Douglas wrote papers on different plants: tobacco, coffee, tea, chocolate and mistletoe, among others. According to Brock,

> It was not until 19 January 1718/19 that Douglas first publicly showed an interest in botany by reading a series of papers to the Royal Society on the germination of mistletoe seed. Whether this was the expression of an interest long latent, or the start of a new enthusiasm, there is no way of knowing. (Brock, 1995/2000: xiii)

His most notable work on botany is on the Guernsey Lily. In October 1724, Douglas had read to the Royal Society a paper entitled "*Narcisso-Lirion Sarniense* or the Guernsey Lilly Botanically described" in which he gave "an account of one season's growth and decay of the plant. In 1725 in his published *Lilium sarniense: or a description of the Guernsey-Lilly* he corrected and amplified the material given to the Royal Society" (Brock, 1995/2000: xvi). In 1726 Douglas sent Thomas Knowlton to Guernsey "to find out what was known on the island about the history of the Guernsey lily and the methods that they used there to cultivate it" (Brock, 1995/2000: xv). Thus, after obtaining more information about the plant from various friends, including the material collected by Knowlton, Douglas published a second edition in 1729.

Previously, Douglas had already published some other works on botany. Brock (1994: 6) gives account of the part of his work on saffron that appeared in *Philosophical Transactions*. For instance, in 1723 "A botanical description of the flower and seed vessel of the crocus *Autumnalis sativus*", *Phil. Trans*. xxxii 441-445 and in 1728, "The culture and management of saffron in England", *Phil. Trans*. xxxv 566-574. In 1724 his *Materia Medica* was published and in 1727

Douglas published *The Description and History of the Coffee Tree* and *A Supplement to the Description of the Coffee Tree*.[1]

Furthermore, Douglas's interest in botany may have been stimulated by the acquisition of a garden. According to Brock, his first residence in London was over an apothecary's shop at the corner of Fetter Lane and Fleet Street, an area where houses did not usually have a garden. In 1716 he moved to Bow Lane, where most houses had a garden strip. Later, he moved again, this time to Covent Garden, when he wrote how

> Having now the official plants in my own little garden, I am thereby furnished with as good opportunitys as can be desired in London, of examining them in all their different states and through the whole progress of their vegetation. Such Inquirys not only tend to the improvement of this delightful branch of Natural History, but likewise may enable me to make some observations concerning the uses of many particular plants in the practice of physick, which tho' of very great consequence, have been much neglected by the writers in Materia Medica. (Brock, 1979: 138)

Douglas was well-connected with the leading botanists, gardeners, and renowned garden owners in and around London, as well as with international figures like Bernard de Jussieu in Paris. He frequently exchanged knowledge about plants with his friends and acquaintances, including Richard Bradley, Thomas Fairchild, and Thomas Knowlton. In 1724, he received a gift of bulbs from the Countess of Hertford from her garden at Marlborough, which inspired the publication of his monograph on the Guernsey lily (Brock, 1995/2000: xii). On other occasions, he acquired plants through purchase or other means, as he did with vanilla, which he later wrote about.

> There are also very good vanillas in Cayan upon the Continent, and it was from thence I had that plant which I am now describing, It being brought me in a pott, with two others, which as soon as I had received, I planted, hard by a Cacao tree, and I watered them till I found they had taken different root, and strong enough hold of the tree, to be out of danger. (Hunter MS 560: f. 48r)

Douglas's specific interest in chocolate does not have a definitive explanation. However, his writings show a broader fascination with various plants, including the Guernsey lily, coffee, saffron, mistletoe, wild valerian and contrayerva, among others. Given this, it is not surprising that he turned

[1] For a detailed description of Douglas's works on botany, see Brock (1979).

his attention to chocolate, especially considering its growing popularity in Europe at the time. The trend of consuming this exotic American drink had spread from Spain to other parts of Europe, including France, Italy, and Britain. By 1657, London had established its first chocolate house (Beckett, 2008: 2), and by the eighteenth century, chocolate had become a fashionable drink among the upper classes and nobility. This exotic allure likely piqued Douglas's curiosity, leading him to explore its origins, cultural significance, and potential benefits, eventually culminating in his work *The History of Chocolate*.

3. THE HISTORY OF CHOCOLATE

The following two sections provide a comprehensive examination of the manuscript, *The History of Chocolate* by James Douglas, held at the Glasgow University Library. Subsection 3.1 details the manuscript's physical characteristics, including its dimensions, binding issues, paper composition, and the condition of the folios, as well as the distinctive watermarks observed throughout. It also touches upon the corrections and annotations made by the amanuensis and the misbound folios. Subsection 3.2 shifts focus to the manuscript's content. It outlines the transcription of the text and describes its structure, which follows a thematic organization based on the *Index Rerum*. The manuscript delves into a detailed analysis of cacao, its cultivation, preparation, and related ingredients, drawing heavily from a range of scholarly and botanical sources. Douglas's reliance on over seventy authorities, the integration of their views, and his critical engagement with their findings are key elements of this section.

3.1. Physical description of Hunter MS 560

The History of Chocolate by James Douglas is now held in Glasgow University Library under the reference GB 247 MS Hunter 560 (S.4.5). It is a folio volume whose measures are 30 x18.5 cm approximately, written in paper. The manuscript consists of 124 folios, plus a final blank folio, none of which are paginated. There are a couple of folios that are misbound, as folio 53r does not continue from 52v but likely from 50v. However, the amanuensis recognized this mistake and marked the beginning and end of the misplaced folios with a cross within a circle. Consequently, this (table 1) is the sequence of the narration as it is currently bound:

F. 50v ends with "I observed carefully all that the Jew said to me, and I made divers tryals of it, but always to no purpose, and from thence I Con-"
F. 51r begins with "+ The first Author in whom I find any account of the Vanillas, is Clusius he had only seen the Pod which he calls lobus oblongus Aromaticus and describes in these words."
F. 52 v ends with "C: B: has likewise mentioned it by the Name of Lobus Aromaticus Subfucus Terebinthi Corniculis Similis, and he has transcribed some part of Clusius's description of it. +"
F. 53 r begins with "cluded that the Martinico vanillas were of another kind from those of Cayanne, but being since that time at Cadix I learned that all the Ceremony of the Indians in preparing the vanilla was to gather it when it turns Yellow and is near opening,"

Table 1: Sequence of wrong binding

The covers are green cardboard, but the front cover and some quires of paper are detached from the original binding. The spine is almost non-existent, especially in the upper and lower part, so the volume must be handled with care.

On a scrap of paper (fig. 1), inserted before the first page of this manuscript, there are directions to the binder in which the manuscript is referred to as "The History of Chocolate". The handwriting of this piece of paper corresponds to William Hunter, according to Young and Aitken (1908: 432).

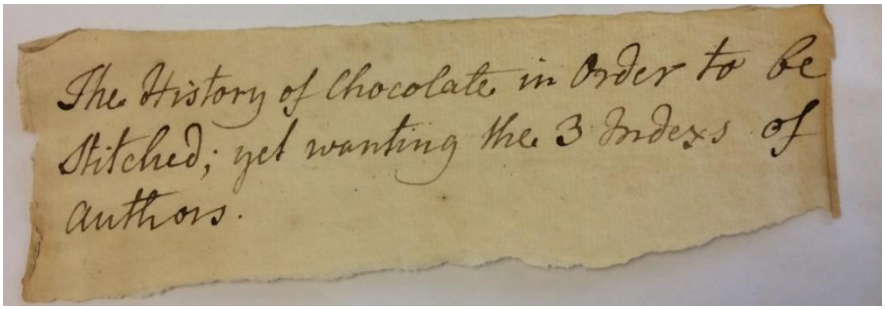

Figure 1. Directions to binder, Hunter MS 560 (S.4.5),
by permission of University of Glasgow Archives & Special Collections[2]

The online catalogue of Glasgow University Library ascribes the handwriting to Douglas's brother, George Douglas, although Young and Aitken (1908: 432) previously attributed it to James Douglas himself. The volume was bequeathed by William Hunter in 1783 and retained in London until 1807 for use of Matthew Baillie, William Hunter's nephew. Douglas's brother, George, worked

[2] I am grateful to Archives & Special Collections of the University of Glasgow for allowing me to consult the manuscript and for granting permission to reproduce the images.

with him for many years and he also had other assistants, such as Robert Nesbitt, Joseph Hurlock, William Douglas (no relation to James Douglas), James Parsons, and, finally, William Hunter (Brock, 2004). The handwriting is a clear fine copy with very few emendations and several easily identifiable abbreviations, such as w^t for *with* and w^{ch} for *which*. As usual, the transcriber must get acquainted with the amanuensis's spelling practices and ductus, since, for instance, <t> shows no stroke on the ascender and can easily be confused with <l>. Likewise, <i> is not always dotted and can sometimes be taken for an <e>, but, on the whole, it is very legible.

Since it is written on paper, often different paper stocks are needed for a manuscript. Thus, different watermarks can be observed. Gaskell (1972: 63) points out that "it is not always possible to examine a mould pattern or watermark in as much detail as one would like to. Sometimes the interesting part is lost in the binding of a book, sometimes it is so heavily printed over that it is virtually hidden by the ink on the surface of the paper". The latter is the case in Hunter MS 560. Very few folios are blank. On folio 9, which is blank, both in its recto and verso sides, a coat of arms, identified by Gaskell (1972: 71) as "Arms of London (Headwood 461, England, 1713)" can be distinguished (fig. 2). It is also visible on folios 2, 4, 6, 10, 13, etc. They alternate with *IV*, although sometimes a particular watermark, like the coat of arms, may appear on two consecutive folios, e.g., 17 and 18, and 33 and 34. And vice versa, *IV* is seen on folios 11 and 12 and also on 29 and 30, for instance.

Figure 2. Watermark on folio 9, Hunter MS 560 (S.4.5),
by permission of University of Glasgow Archives & Special Collections

Since there are few blank pages inside the manuscripts, watermarks are not always so clearly visible, but *IV* (fig. 3) is perceived on folios 3, 5, 7, 11, 12, 14, etc. Gaskell (1972: 68) identified these two letters as a countermark used originally for Jean Villedary. No other watermarks, which are visible in some other of Douglas's manuscripts, such as *LVG*, *GR* and *Pro patria* figures, have been found in this specific manuscript.

Figure 3. Watermark IV on folio 125, Hunter MS 560 (S.4.5),
by permission of University of Glasgow Archives & Special Collections

3.2. Contents of Hunter MS 560

The text under study has been examined from the only surviving original copy and transcribed in its entirety. The transcription covers folios 1r to 124v and totals 37,000 words approximately. In this semi-diplomatic transcription, standard conventions are adopted: expanded contractions are silently expanded; the original punctuation and spelling practices have been retained.

The treatise is structured in several parts contained in the *Index Rerum* where the contents of the book are detailed. However, the first three parts in the table of contents (*Index Auctorum Historicus, Index Auctorum Chronologicus* and *Index Auctorum Alphabeticus*) were missing in William Hunter's time. Brock (1994: 83) mentions the existence of GB 247 MS Hunter D425 *Index Auctorum qui de arbore Cacoa scripserunt* and links it to Hunter MS 560. I have identified this piece among Douglas's papers and have traced his sources by transcribing this piece consisting of twenty unbound folios.[3] The amanuensis is also George Douglas. Here James Douglas references a wide range of authors in his collection of information, since according to Brock,

[3] The transcription of Hunter MS 560 and this piece linked to it totals 41,400 words approximately, whereby 37,000 corresponds to *The History of Chocolate* and the rest to Hunter MS D425.

> Neither tea nor cocoa plants at this time had been grown in England, so, lacking personal knowledge of the growth of these plants, most space was given to the various published accounts of the methods of cultivation of the plants and of the marketing and ways of preparing the beverages and their therapeutic value. As various other plant products were often mixed with cocoa in the preparation of chocolate, descriptions of these plants were also added. (Brock, 1979: 140)

It is true that he needs to rely on previous authors, but the desire to be accurate and informative made him refer to more than seventy different authorities on the topic. Sometimes he just mentions them to support his arguments and, some other times, he quotes from them. Thus, his extensive range of sources includes specialists in botany, with a particular focus on cacao. In Hunter MS D425 he lists Jose de Acosta, Benzonus, Casparus Bauhinus, Johannes Bauhinus, Colmenero, Columna, Du Four, Gemelli, La Bat, Lemery, Piso, Sloane, Stubbs, Tournefort and Trapham, among others, but there are others mentioned in the Hunter MS 560 that are not included in his list of authors, e.g., Bernaldez del Castillo and Monardes. We do not know whether he read them all or quoted them from other sources. He may have had these works in his library or may have borrowed them from friends and colleagues.[4] The most frequently mentioned authors in Hunter MS 560 can be found in fig. 4:

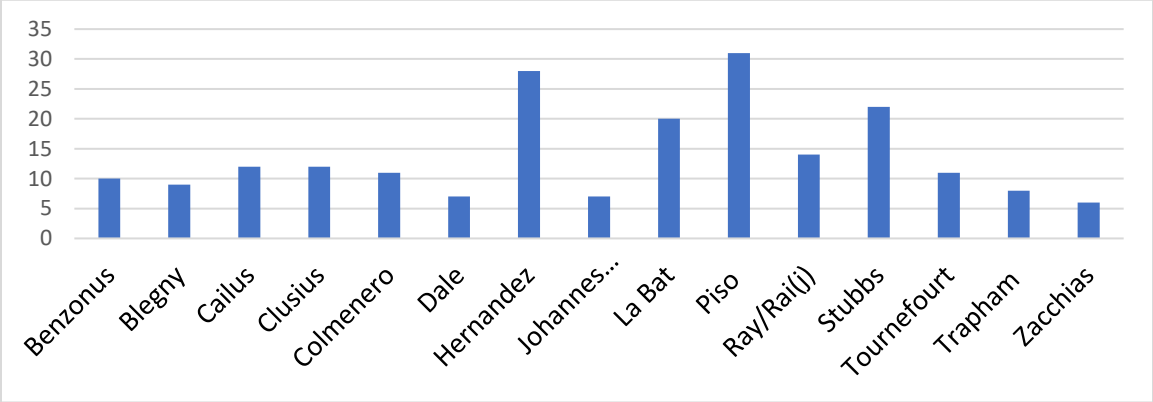

Figure 4: Most frequently mentioned authors in Hunter MS 560

[4] Brock (1977: 169) informs that Douglas prepared a catalogue of the books he had in his library, while he was living in Utrecht, some of which still exists in the Hunterian Library. In fact, Michelle Craig let me know that there are three books that mention chocolate in the title within the catalogue made on Hunter's death. There is no guarantee these three are from Douglas, but this is a possibility: *The manner of Making Coffee, Tea, and Chocolate*, London, 1685; *The Natural History of Chocolate*, London, 1724; and Colmenerus de Ledesma, *Chocolata Inda. Opusculum de qualitate et natura chocolatæ*, Nuremberg, 1644. In fact, the Latin translation of the original Spanish is the version mentioned in Hunter MS D425: f. 4r. My thanks to Michelle Craig for sharing these valuable details with me. For more information on Douglas's impact on Hunter's book collection and the dispersal of Douglas's books, see Craig (2021: 39-42).

According to fig. 4, the authors with more than twenty hits are: Piso, Hernandez and Stubbs. Douglas, in Hunter MS D425: ff. 6r-6v, refers to Hernandez's *Nova Plantarum Animalium et Minearalium Mexicanorum Historia a Nardo Antonio Reutio in volumen digesta* (1651)[5] and to Stubbs's *The Indian Nectar or, A discourse concerning chocolata* (1662) (Hunter MS D425: ff. 9r), which, after Wadsworth's translation of Colmenero's work,[6] was the first monograph in English on chocolate. Although Douglas frequently references Piso, it is surprising that he does not hold him in high regard, as he says,

> What Piso has told us about the Cacao fruit and the other ingredients of Chocolat is taken almost all from Hernandez, and the Methods of making the Drinke from Zacchias & Colmenero, and indeed the Author is so ingenious as to own that he could add nothing to what the Spanish physicians had said upon this subject. (Hunter MS D425: f. 8r)

Notably, some of the works Douglas cites in Hunter MS D425 were published in 1724, according to his own account. This detail suggests that the drafting of *The History of Chocolate* likely took place between 1724 and 1742.

In Hunter MS 560, after the *Index Rerum*, the volume really begins with a section on the names of the trees, their fruits and the drinks derived from them listing them all and the name of the authors where that information can be found, as well as the etymology of "all the names contained in the three forgoing lists, It is Sufficiente to observe, that they seem all to be derived from the Indian Names of the fruit" (Hunter MS 560: f. 8r). Douglas, then, proceeds to discuss the etymology of the word *chocolate*.

He continues with the discussion of the cacao tree, its trunk and branches, leaves and flowers, as well as its fruit and the harvesting, preparation and culture of the plant (*Arbor Cacao in Genere*, *Truncus et Rami*, *Folia*, *Flores*, *Fructus*, *Fructus Collection et Preparatio* and *Cultura*). The names of the sections are in Latin but the whole explanation is carried out in English. The information is gathered from the sources mentioned above and the divergences among the different authors are

[5] Lippi (2013: 5) gives account of how in 1570, Hernandez was sent by Philip II to New Spain, where he would lead a scientific expedition to study native flora, gathering information from the natives about herbs, trees and medicinal plants to learn their uses, doses, as well as the conditions for cultivation, so that medicinal plants could be grown in Spain. This fact is mentioned in Douglas's Hunter MS D425: f. 6v. Hernandez's work was never published in his lifetime, and the manuscript that Philip II had deposited in the library of the Escorial was burnt in a fire of 1671. The Accademia de Lincei edition of Hernandez's Mexican Treasury, published in 1651, is often referred to as *The Rome Edition*.
[6] For more information on this translation, please see De la Cruz-Cabanillas (2022).

evidenced. Thus, Douglas states that "Bravo differs from all the Authors hitherto mentioned in calling the fruit green" (Hunter MS 560: f. 25v). Douglas even criticizes some authors when he thinks they are wrong.

> Mr Ray is grossely mistaken in saying that the fruit has no footstalks, and it was a mistake very inexcusable in him, since he might have found in halfe a dozen Authors who had written befor him, that the flower is not without them, and there for the fruit which, he says succeeds to the flower, must have them likewise. He gives us no reason for this alteration, and meerly upon that account, he ought to have lett Piso's words remained but he still more ground so to do, Since it was in his power to be assured, that the change he was to make was wrong. (Hunter MS 560: ff. 27r-27v)

A well-documented part is the section that includes the ingredients used in preparing chocolate (Vanilla, Achiote, Maiz et Atolle, Chili or Red Pepper, Pimenta or Jamaica Pepper, Mecaxochitl and *Flos Auriculae*). Along with the description of the anatomy and physiology of the plants, their culture and their virtues, Douglas also provides information on the uses, habits and general information about his period. Thus, when talking about *achiote*, one of the main ingredients, he lets the reader know that "In the Year 1694 Achiote was worth twenty tons the pound, but after the peace of Reswick it fell to Seven tons" (Hunter MS 560: f. 66r).[7]

Other elements that can be added to the main ingredients include a wide array of herbs:

> Some putt in a proportion of black pepper, some of long pepper, some retain that of Red Pepper Cinnamon Cloves Almonds. Hasel nutts Orejuela, Vaynillas, Musk, Amber grease Orange flower water and things usually putt in, or omitted, as also nutmeg, Lemon or Citron Pill, Cardamoms Fennel seeds, Chymical Oyle of Nutmegg and Cinnamom and that most delicate spice called Jamaica pepper. (Hunter MS 560: f. 78r)

When referring to Jamaican Peppers, Douglas makes use of different authors. The statement by Hiltunen and Taavitsainen (2019: 13) that medical knowledge in the eighteenth century "remained firmly rooted in humoral medicine" becomes a true claim here. The humoral theory continued to influence medical thought, though its direct mention may have become less frequent in

[7] The Treaty of Ryswick (or Rijswijk), signed in 1697, ended the Nine Years' War in Europe between France and the Grand Alliance, which included England and several other European states.

certain texts as newer ideas emerged. However, the persistence of humoral references in Douglas indicates that the theory remained a significant foundation of medical understanding in the eighteenth century. In fact, very often Douglas describes ingredients following the usual parameters of the humoral theory, where food is defined according to its properties (dryness or humidity, heat or cold). Since diseases also participated in this division, the contrary element was prescribed to cure a specific illness.

> I cannot doe this excellent product of Jamaica this Injustice, continues Stubbs, not to render the Double Character given of it in Spanish by two Spaniards that Lived in the Indies, and whose learning equalled their Curiosity.
> Doctor Fernandez (Lib. 1 Tit. De los Bainillos) Speeches thus of them they are hot and dry in the third degree Cordial, provoke the Termes and Urine & Speedy Labour, and freeing for the after birth, they concoct and attenuate Crudelys; they strenthen the heart and brain and its faculty. Doctor Juan de Cardenas gives us this account of them. The Vanillas equal Amber, grise. They are of Quality hott and dry in the first degree, where with they give to Chocolata and exceeding Sweet Smell, and excel other Simples, being extraordinary strenthening for the heart: they beget strong spirits and of a firm Mixture; they promote digestion in the Stomach and by their heat concoct Crude and grosse humours, and which is above all with their Subtil and hot parts, they consume the Earthy parts of the Chocolate and so leave it more pure and free from the Inconveniencys, with which it might otherwise threaten the Melancholy. (Hunter MS 560: ff. 55r-55v)

Along with the main ingredients he also mentions some other elements that can be added, such as *tabasco* and *orejuelas*, and instruments that are used when preparing the cocoa beans, such as *metate*, an oblong stone on which the cocoa is ground by means of a smaller stone. In the preparation of chocolate, Douglas follows Stubbe's traditional method in which the drink is prepared by means of a molinet or *molinello*.

> Stubbs goes on. Here is no mention of any thing but Jarrs of Cacao together with their froth: which could not have frothed to, had they not been preparations of Cacao Nutts made into a paste, and reserved in cakes for the sudden use of a thousand Cups; they were dissolved in water and frothed by the Agitation of the Molinet; for without such Agitation the Cacao could not froth, nor would it continue in a forth unlesse that some of the Meal of Indian Wheat or Maiz

> made into Atolle, were mixed with it. And this I find to have been the first Composition of Chocolata. Sometimes they mixed with it a Gum called Olli, or a grain called pochholt in equal quantyity with the Cacao nutts, and when they used it, they looke that past and dissolved it in an Earthen vessel, and agitated it with a Molinello, till the more Oyily part and fatty did seem on top, then did they take off the said Unctuous part, and pull to the rest some meal of Indian wheat, and having reduced it to a potable Liquor, they did remix the Oyl or fatt, taken off befor, & to dranke it lukewarme. (Hunter MS 560: ff. 77r-77v)

When compared with Stubbe's text (1652), the first part is exactly what Douglas reproduces. After *chocolata*, however, Douglas avoids the part in which the uses for acute diseases are detailed.

> Here is no mention of any thing, but jarrs of Cacao together with their froth: which could not have frothed so, had they not been preparations of Cacao nuts made into a paste, and reserved in cakes for the sudden use of a thousand cups; they were dissolved in water, and frothed by agitation of the molinet: for without such agitation the Cacao would not froth, nor would it continue in a froth, unless that some of the meal of Indian wheat, or Maiz made into Atolle, were mixed with it. And this I find to have been the first composition of Chocolata. In acute diseases to a?ay heat and fervour, and in hot distempers of the liver, they gave the Cacao nut, punned, and dissolved in water, without any other mixture. In case of the bloody flux they mixed the said nuts with a gumm called Olli, and so cured them miraculously. Nor did they acquiesce in simple preparations of the said Cacao nut; they took of Cacao nuts, and a grain called Pocholt, of each an equal quantity, & grinded them together in equal proportions; and, when they used it, they took that paste, and dissolved in an earthen vessel, and agitated it with a molenillo, till the more oily parts and fatty did swim on top: then did they take of the said unctuous part, and put to the rest some meal of Indian wheat, and having reduced it to a potable liquor, they did remix the oyl, or fat, taken off before, and so drunk it luke-warm. (Stubbe, 1652: 8-9)

In the next section, devoted to *Chocolate Temperamentum Et Vertutes*, Douglas refers to a significant debate which emerged in Catholic countries regarding whether chocolate should be classified as food or medicine. This distinction was crucial, as it determined whether chocolate could be consumed during fasting periods, such as Lent. If considered food, chocolate would be prohibited; if deemed a medicine, its consumption would be allowed. The controversy involved a broad spectrum of society, including ecclesiastics, lay people, and even popes. The Jesuits generally argued that chocolate did not break the fast, while the Dominicans took the opposite stance. This

debate reached such prominence that the Viceroy of Mexico sought the opinion of Fray Agustin Davila Padilla (1562-1604), who maintained that neither chocolate nor wine violated the fast.

However, Douglas, when discussing Caldera's work, notes that his perspective diverges from this prevailing consensus, indicating that the discussion around chocolate's classification was not entirely settled even among prominent voices of the time: "The Dissertation on Chocolate is concluded by an examination of a question very famous in Roman Catholick Countrys even at this day whether Chocolate may be dranke on fast Days, and Caldera is of Opinion it ought not" (Hunter MS 560: f. 90r).

Regarding the virtues of chocolate, he gathers many of the clichés of the time and recommends its use on almost any occasion, considering it especially good for old people:

> Chocolate is in a special manner beneficial to old people, or those whose stomacks are full of wind and Cruditys, or whose natural heat is upon the decline, & to all cold and moist Constitutions, It can never hurt those who live temperally, and does neither good nor harme to those who live otherwise. It is extremely commended by those who have large veins but the Bilious, and those who are full of blood ought to use it more sparingly. (Hunter MS 560: f. 89v)[8]

Douglas also refers to the benefits of drinking chocolate, which had been already praised by previous authors, such as Colmenero or Stubbe. On this occasion, he relies on Blegny, since, according to him, chocolate

> Taken with the Syrup of Vanillas at any time of the day & especially when we goe to bed, will infallibly stop the Immoderate Motion of the Matter of cold & fluxious in the breast, blunt the saline and irritating parts sof the serosity which excites Coughing, dissipate inflammation of the throat, remove all the Causes of want of sleepe, refresh wearied preachers, and others who have occasion to speake long in publick; and by correcting the bite it prevents vomitings Bilious cholicks Colera Morbas Diarrheas and dissenterys. It is likewise a most efficacious Remedy in Hectick Fevers, both to prevent and carry them off. If prepared with the Syrup of Quinces with some drops of the Golden tincture or Essence of Amber, It cures indigestions, & palpitations at

[8] For instance, coeliac people were described at the time as lacking enough heat in their stomachs to digest food properly; this lack of heat should be counteracted by having hot food. In the seventeenth century, scholars such as Rufinus and Honscope, allude to the theory of humours, and abound in the idea that coeliac disease consists of poor digestion. To learn more on coeliac disease in this period, see De la Cruz-Cabanillas (2019).

> the heart, so that it is at the same time a very sufficient Nourishment and cure for the most familiar indispositions. (Hunter MS 560: ff. 109r-109v)

As if all these virtues were not good enough, he continues enumerating other benefits of this panacea, according to Doctor Salmon,

> They open obstructions, restore in deep consumptions, stimulate to venery, causing procreation and conception they facilitate delivery preserve health, helpe digestions make fatt, ease coughs of the lungs, gripings of the guts, and other fluxes of the bowels, greensickness, Jaundice all man ner of Inflammations and Oppilations of the Inward parts, cause a sweet breath provoke Urine, helpe the stone and strangury, and are an Antidote against poison, curing all sorts of Malign and Infectious diseases. (Hunter MS 560: f. 110r)

The History of Chocolate ends with *My Usus Fructuum Cacao*. Here Douglas devotes considerable space to talk about the oil of cacao and how it is prepared according to Caldera: "The three Common ways to extract oyle are by distillation, expression, and Decoction" (Hunter MS 560: f. 120v). After detailing the procedure that must be followed to get the oil, he lets the reader know about his own experiments:

> I had the Curiosity to examine it by a chymical Analysis. I putt three ounces into a litle glasse Cucurbit placed in the heat of Ashes; ther droped from it an Oyly Liquor, which congealed as it fell down, & which did not differ from the butter hat I have described, but by a light impression made upon it by the fire. I only observed that there was at the bottom of the receiver two or three drops of a clear Liquor, which tasted a litle Acid, but very agreable. (Hunter MS 560: f. 121v)

He continues describing the properties of this oil: "It is the best and most natural pomatum for Ladys to clear and Plump the skin when it is dry, rough, or shriveld" (Hunter MS 560: f. 122r). It is good for the muscles, "preserving them from Rheumatisms and other torturing pains" (Hunter MS 560: f. 122v). It is also commendable for apothecaries, because "all other Oyls grow rancid" (Hunter MS 560: f. 122v). Other uses are "to keepe arms from meshing" (Hunter MS 560: f. 123r) and in America to cure piles, and finally for gout or rheumatism pains, as well as a good plaster and pomatum for tetters. He ends the treatise explaining "the method of making Cacao nutts into a sweet Meat or Confection" (Hunter MS 560: ff. 124r-124v). He concludes the book by saying that "these

are the uses that the Cacao nutts have been putt to besides being made into Chocolate" (Hunter MS 560: f. 124v).

4. CONCLUSIONS

Based on the information provided in the previous pages, it is demonstrated that James Douglas was a multi-faceted man. He was not only a distinguished anatomist known for the *pouch of Douglas*, but also a versatile scholar with contributions in various fields including botany, grammar, and classical literature. His wide-ranging interests and scholarly output extend beyond anatomy to include significant works in botany, where he studied plants such as the cacao tree, coffee, and saffron.

Despite his extensive work, many of Douglas's manuscripts, particularly those on topics like chocolate and human reproduction, remain unpublished. The manuscripts offer significant insights into his scholarly endeavours, though they have yet to be fully explored and recognized within academic circles. Thus, the present article also sheds light on Douglas's botanical interests, particularly his unpublished monograph on the history of chocolate. His botanical works were informed not only by the authorities on the topic but also by his practical experience and his connections with prominent botanists of the time. The examination of Douglas's paper, Hunter MS D425, which contains the sources he used, has also helped to more precisely determine the period during which *The History of Chocolate* was written.

The preservation of Douglas's manuscripts, by his assistants and particularly by figures like William Hunter, highlights the historical importance of his work. The survival of these documents ensures that Douglas's contributions to science and literature can still be studied and appreciated today. In summary, James Douglas's legacy is marked by his broad intellectual pursuits, with significant but underappreciated contributions to both anatomy and botany, preserved through his manuscripts. These documents offer a rich source of historical knowledge, awaiting further scholarly investigation. Not only his publications but also his unpublished work should gain him a place in the history of eighteenth-century medicine, comparative anatomy and botany. This article is intended to contribute to the recognition of Douglas's figure, especially in the field of botany.

REFERENCES

BECKETT, Stephen T. (2008): *The Science of Chocolate*, 2nd ed., Cambridge, Royal Society of Chemistry Publishing.

BROCK, C. Helen (1974): "James Douglas of the Pouch", *Medical history*, 04.18, issue 2, pp. 162-163. [*Proceedings of the Scottish Society of the History of Medicine*, Session 1972-73: "James Douglas of the pouch".]

--- (1977): "The Rediscovery of James Douglas", *The Bibliotheck; a Scottish Journal of Bibliography and Allied Topics*, 8.4, pp. 168-176.

--- (1979): "James Douglas (1675-1742), Botanist", *Journal of the Society of the Bibliography of Natural History*, 9.2, pp. 137-145.

--- (1994): *Dr. James Douglas's Papers and Drawings in the Hunterian Collection, Glasgow University Library: A Handlist*, Glasgow, Wellcome Unit for the History of Medicine, University of Glasgow.

--- (1995/2000): *A description of the Guernsey Lilly. James Douglas. With a Modern Commentary and Bibliography by Helen Brock; Assisted by Rosemary de Sausmarez*, Hereford, Severinus Press.

--- (2004): "Douglas, James", *The Oxford Dictionary of National Biography*, www.odnb.com, accessed 05-04-2024.

--- (2008): *The Correspondence of Dr. William Hunter, 1740-1783*, 2 vol., London, Pickering & Chatto.

COLMENERO DE LEDESMA, Antonio (1631): *Curioso Tratado de la Naturaleza y Calidad del Chocolate*, Madrid, Francisco Martínez.

CRAIG, Michelle H. (2021): *The Library of Dr William Hunter: Collection, Usage, and Management of a Personal and Professional Library in the Eighteenth Century*, unpublished PhD thesis, University of Glasgow.

DE LA CRUZ-CABANILLAS, Isabel (2019): "La enfermedad celiaca a través de dos tratados inéditos del siglo XVII", *Panacea*, 20, pp. 165-172.

--- (2022): "*Chocolate, or an Indian Drinke*: The first English Translation of a Spanish Chocolate Treatise", *Kwartalnik Neofilologiczny*, LXIX.3, pp. 331-346. https://doi.org/10.24425/kn.2022.142973.

DOUGLAS, James: *The History of Chocolate, GB 247 MS Hunter 560*, Glasgow University Library, https://www.gla.ac.uk/collections/#/details?irn=296929&catType=C&referrer=/results&q=Hunter+MS+560, accessed 05-08-2024.

--- : *Index Auctorum qui de arbore Cacoa scripserunt, GB 247 MS Hunter D425*, Glasgow University Library, https://www.gla.ac.uk/collections/#/details?irn=297675&catType=C&gdcEvent=hierarchy_item_view , accessed 16-08-2024.

GASKELL, Philip (1972): *A New Introduction to Bibliography*, Oxford, Clarendon Press.

HILTUNEN, Turo, and Irma TAAVITSAINEN (2019): "Towards New Knowledge. The Corpus of *Late Modern English Medical Texts*", *Late Modern English Medical Texts. Writing Medicine in the Eighteenth Century*, eds. Irma Taavitsainen and Turo Hiltunen, Amsterdam, John Benjamins, pp. 1-16.

LIPPI, Donatella (2013): "Chocolate in History: Food, Medicine, Medi-Food", *Nutrients*, 5, 1573-1584, doi:10.3390/nu5051573.

STUBBE, Henry (1662): *The Indian Nectar or, A discourse concerning chocolata the nature of cacao-nut and the other ingredients of that composition is examined and stated according to the judgment and experience of the Indian and Spanish writers*, London, Printed by J. C. for Andrew Crook.

THOMAS, Kenneth Bryn (1964): *James Douglas of the pouch and his pupil William Hunter*, London, Pitman Medical Publishing Co. Ltd.

WADSWORTH, James (1652): *Chocolate, or an American Drink*, London, Iohn Dakins. [Translation of Colmenero de Ledesma's *Curioso tratado de la naturaleza y calidad del chocolate*].

YOUNG, John, and P. Henderson AITKEN (1908): *A catalogue of the Manuscripts in the Library of the Hunterian Museum in the University of Glasgow*, Glasgow, MacLehose.