

# CIRCULATION OF KNOWLEDGE BETWEEN PORTUGAL AND BRAZIL IN THE 18<sup>TH</sup> CENTURY. THE CASE STUDY OF THERMAL BATHING

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**Resumo:** A circulação de conhecimentos medico-cirúrgicos foi um campo explorado no século XVIII. Físicos, cirurgiões e boticários foram fundamentais neste processo de transmissão de saberes. O registro feito por esses agentes da saúde em seus tratados e manuais medico-cirúrgicos nos permite inquirir como esses conhecimentos foram validados. No período setecentista tanto em Portugal como no Brasil, os banhos em águas naturalmente quentes foram considerados um método de cura para diversas mazelas. Em regiões específicas de ambos territórios, os banhos ou a ingestão das águas termais, foram indicados para a restauração da saúde. Porém convem indagar como essa prática foi transmitida dentro da metrópole e da colônia e como se houve comunicação entre elas. Para isso, utilizaremos algumas fontes como primordiais, sendo oriundas de Portugal: o *Aquilégio Medicinal* (1726), de Francisco da Fonseca Henriques, o *Methodo Pratico para se tomarem os banhos das Caldas do Geres e de outras quaesquer Caldas do Reino, adquerido pela experiencia de vinte, e tantos annos, que os tomou, e vio tomar a muitos doentes de vários achaques* (1763), de António Martins Beleza, e a *Provisão real a regular os banhos de rio como forma de remédio para os officiaes militares doentes, à semelhança do que*

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*aconteceu com os banhos das Caldas (1744) de autoria anônima. Provinientes do Brasil: Prodigiosa lagoa descoberta nas Congonhas das Minas do Sabará que tem curado a várias pessoas dos achaques, que nesta Relação se expõem (1749) de João Cardoso de Miranda, e Breve Transumpto das Notícias da Lagoa grande, virtudes experimentadas em diversos achaques, e cautelas necessárias para o uso dos seus banhos, publicado para consolação e regime dos enfermos, que no presente estio se houverem de transferir àqueles banhos (1749), de Antonio Cialli. Estas fontes compõem um cenário multifacetado de agentes da saúde, e representam os dois territórios aqui em discussão. Com o enfoque teórico em história das ciências verificaremos como e se houve circulação de saber no que tange a prática dos banhos que era tida como uma forma de tratamento médico-cirúrgico no século XVIII.*

**Palavras-chave:** História das ciências; História da medicina; Circulação de conhecimento; Banhos termais; Século XVIII.

**Abstract:** The circulation of medical and surgical knowledge between Portugal and Brazil in the 18<sup>th</sup> century is a field of studies already significantly examined by both the Portuguese and the Brazilian historiography. Physicians, surgeons and apothecaries were fundamental elements in this process of knowledge transmission. Still requiring further scrutiny is the way by which knowledge was validated and put into practice, in Portugal and Europe. The contents of text books as well as medical and surgical books are the usual way to inquire how that knowledge was validated and incorporated. This paper will try a different approach. In 18<sup>th</sup> century Portugal and Brazil, bathing in warm waters was considered a method for healing different illnesses. In specific regions of both territories, baths or ingestion of thermal waters was prescribed for the restoration of good health. However, it is still unclear how this practice had been transmitted within the metropole (Portugal) and the colony (Brazil), and also how the channels of transmission of that kind of information worked. In order to take a closer look at this topic, this paper will focus on some sources from Portugal and Brazil. For Portugal we will take into account the *Medical Reservoir* (1726), written by Francisco da Fonseca Henriques, the *Practical Method to take the baths of Caldas do Geres and other Waters of the Kingdom, acquired by his own experience of twenty years that he took them, and saw many patients of several infirmities taking them* (1763), written by António Martins Beleza, and the *Royal Provision regulating the river baths as a form of remedy for the sick military officers, similar to what happened to the baths of Caldas* (1744), by anonymous author. For Brazil we will use the *Prodigious lagoon discovery in Congonhas of Minas of Sabará, which has cured many people of infirmities, which are exposed in this Relation* (1749) by João Cardoso de Miranda, and *Brief reproduction of the news of Lagoa grande, its virtues tested in different infirmities, and necessary precautions for the use of baths, published for consolation and regime of the sick, which in this present summer are to be transferred to those baths* (1749), written by Antonio Cialli. The paper will try to explain

the circulation of knowledge applied to the practice of thermal bathing as medical and surgical treatment in the 18<sup>th</sup> century.

**Keywords:** History of science; History of medicine; Knowledge circulation; Thermal bathing; 18<sup>th</sup> century.

## INTRODUCTION

Bathing in thermal waters as a therapeutic method was a medical procedure used well before the 18<sup>th</sup> century. In the 16<sup>th</sup> century, the Portuguese physician Amato Lusitano devoted part of his work to the virtues of bathing in grouts and rivers in Portugal<sup>1</sup>. It was a therapeutic method which became official in medicine during the 19<sup>th</sup> century<sup>2</sup>. The reasons claimed by the supporters of the practice among 18<sup>th</sup>-century health practitioners ranged from faith, to health care, by promoting the method as a painless and non-invasive treatment.

In the 18<sup>th</sup> century, medicine underwent changes that deserve a brief contextualization before coming back to thermal baths as a therapeutical treatment. 18<sup>th</sup>-century medicine was influenced by various theoretical tendencies, as Hippocratic-Galenic principles, iatrochemistry and iatromechanics or iatrophysics<sup>3</sup>. Medicine was also influenced by practical experiences both in European territories and the overseas colonies. The scientific spirit arising from the Enlightenment intensified studies about the natural world and all components and constituents of the environment<sup>4</sup>. Within this context, Portugal emerges as a case-study, often described as prone to stimulate the circulation of agents and consequently of knowledge between worlds.

As shown by the literature, there is a considerable diversity of agents linked to this field<sup>5</sup>. Among these practitioners, there was an established hierarchy regarding their official status and their appraisal by the institutions. Within this hierarchy the physicians occupied the top, followed by the surgeons, then the apothecaries and last the barber-surgeons<sup>6</sup>. In the metropolis, and even more so in the colonies, this hierarchy was not clearly perceived as such by those who needed and received health care<sup>7</sup>. Day-to-day conditions in colonial spaces, namely in Brazil, made those at the bottom of the scale the most appreciated and frequently the only ones available to a great deal of the patients. What was more, they would often operate alongside a diversity of other non-European agents, including the

<sup>1</sup> CUNHA, 1999: 9.

<sup>2</sup> QUINTELA, 2004a; QUINTELA, 2004b.

For more information about the studies on thermal bathing in Portugal and Brazil in the 19<sup>th</sup> century, we should introduce the project of Professor Cristiana Bastos: *A Água como Agente Terapêutico: Práticas Termiais em Portugal e no Brasil*, FCT (POCTI/ANT/41192/2001) and QUINTELA, M. M. (2004a) – *Cura termal: entre as práticas “populares” e os saberes “científicos”*, also QUINTELA, M. M. (2004b) – *Saberes e práticas termiais: uma perspectiva comparada em Portugal (Termas de S. Pedro do Sul) e no Brasil (Caldas da Imperatriz)*.

<sup>3</sup> EDLER, 2006; ALVES, 2014.

<sup>4</sup> HANKINS, 2002: 1.

<sup>5</sup> ABREU, 2010: 97-122; CALAINHO, 2004: 2; LINDEMANN, 2002; MARQUES, 2003: 171-183; SOUSA, 2013: 13-59.

<sup>6</sup> SOUSA, 2013: 13-59.

<sup>7</sup> BYNUM & PORTER, 2002.

medical (sometimes understood as magical) practitioners of the Indians and the African slave population<sup>8</sup>. This kind of transference among the representatives of different cultures in colonial spaces is not, however, our subject. On the opposite, the focus of our research, is to try to approach both the reception and the potential circulation of knowledge between colonial and European territories and vice-versa.

To fully approach this issues, the analysis of the recruitment process, the academic background (or lack of it), as much as the social networks of those agents are paramount, but again, not the focus of this paper. Relations of power, ideological orientations, colonial administration strategies and even personal issues are items also necessary and operative in this process of knowledge production, reception and circulation<sup>9</sup>.

Equally important for our debate is the emergence of surgery as a discipline and the increasing of its practitioners into Medicine. Gradually unified with medicine in the second half of the 18<sup>th</sup> century, surgery and surgeons, both in Portugal and the rest of Europe, were considerably disadvantaged. Being regarded as some kind of mechanics was an obstacle to their promotion and social recognition<sup>10</sup>.

As stressed before, if it is true that among the academics, surgery and the surgeons had clearly restricted functionalities, it is also true that for the rest of society, that difference was not very clear. William Bynum and Roy Porter discuss this by stressing that for everyone else in society the hierarchy was not so clear<sup>11</sup>. Furthermore, the fees charged by healers were quite differential, being the ones charged by physicians almost prohibitive to the overall patients<sup>12</sup>. Without official training or recognized accreditation, based on theories and beliefs not officially recognized, other kind of healers completed the medico-surgical scenario. In both territories here in analysis, namely Portugal and Brazil, there were men and women with and without proper licenses exercising health practices<sup>13</sup>.

Those unofficial agents are the subject of several critical analyses even in the 18<sup>th</sup> century, and they constituted a parallel reality in the medico-surgical field. In colonial spaces it is estimated that there was a shortage of physicians and surgeons. However, as the historians Flávio Coelho Edler and Maria Raquel Froés da Fonseca pointed out already, it is pertinent to ask who actually felt the absence of these healers<sup>14</sup>. In Brazil, miscegenation provided Creole agents with different medical approaches. Their assistance was more readily available and they offered treatments that were considered less painful. Timothy D. Walker addresses in his work: *Doctors, Folk Medicine and the Inquisition, a societal preference for alternative medicine in the Portuguese context was paramount*. This perspective is certainly applicable also in Brazil during 18<sup>th</sup> century<sup>15</sup>.

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<sup>8</sup> EDLER & FONSECA, 2006.

<sup>9</sup> RAJ, 2013: 337-347.

<sup>10</sup> ABREU, 2010: 97-122; ABREU, 2007: 761-778; FURTADO, 2005: 88-105; WISSENBACH, 2002: 107-149.

<sup>11</sup> BYNUM & PORTER, 2002.

<sup>12</sup> SANTOS *et al.*, 2013: 253.

<sup>13</sup> WALKER, 2013; MARQUES, 2003; CAPELÃO *et al.*, 2015.

<sup>14</sup> EDLER & FONSECA, 2006; SANTOS *et al.*, 2013.

<sup>15</sup> Timothy Walker argued on the painless treatment in his book: *Doctors, Folk Medicine and the Inquisition: The repression of magical healing in Portugal during the Enlightenment*.

## SCRUTINIZING 18<sup>TH</sup> CENTURY AUTHORS: THEIR SOURCES, CIRCUMSTANCES AND PROPOSALS

Included in this multifaceted context were Francisco da Fonseca Henriques (1665-1731), António Martins Beleza, João Cardoso de Miranda (?-1773) e Antonio Cialli – the authors under scrutiny in this paper. With distinct educational backgrounds and coming from different crafts, they all wrote notes on bathing and the ingestion of water from fountains or rivers, both in Brazil and Portugal, which supposedly possessed miraculous healing potential.

Francisco da Fonseca Henriques was a physician. He was graduated in Medicine at the University of Coimbra and even treated King João V (John the fifth). In 1726, he published *Medical Reservoir that gives news of waters from fountains, rivers, wells, lagoons and cisterns of the Kingdom of Portugal and the Algarve, which either by their medicinal virtues, or other some singularities, are worthy of particular details*<sup>16</sup>. The book was divided into seven chapters. The first lists thirty-one water reservoirs, while the second describes nineteen warm fountain and the third two hundred sixteen cold fountains. The fourth chapter covers twenty-one rivers, and the fifth on twenty-eight wells. Of the ponds discussed in chapter six, the author only knew of ten, while the seventh chapter on cisterns only listed seven. Francisco da Fonseca Henriques wrote over three hundred thirty-two possibilities of healing by Portuguese non-salty waters.

The physician demonstrated knowledge of other medicinal waters in other countries, by saying:

*books like this exist in several nations [...] for public utility. Through them we know the medicinal waters of Spain, France, England, Germany, Hungary, Transylvania, and more northern regions; of Italian, in Tuscany, in Sicily, in Naples, Asia, Africa, and America*<sup>17</sup>.

Plus, the physician points out, in the course of his *Aquilégio Medicinal*, specific cases in France, Scotland, Ireland, Italy and Spain. What motivated Francisco da Fonseca Henriques to explicitly quote only countries from Europe and none from Asia, Africa and America is somehow unclear. This opens up the question of the characteristics and the validation the circulating knowledge between the colonies and the metropolis.

Historiography has been highlighting the importance of artisans and practitioners in the transmission of practical knowledge<sup>18</sup>. Referred sometimes as go-betweens, these men sometimes transcended their functions and contributed to the articulation and the increase of knowledge in their respective home countries<sup>19</sup>. However, historiography also addresses the issue that knowledge and

<sup>16</sup> Translation by the author. Original title: *Aquilégio Medicinal, em que se dá noticia das agoas de Caldas, de Fontes, Rios, Poços, Lagoas, e Cisternas, do Reyno de Portugal, e dos Algarves, que ou pelas virtudes medicinaes, que tem, ou por outra alguma singularidade, são dignas de particular memoria.*

<sup>17</sup> Translation by the author. Original quote: «Obras semelhantes a esta se estamparaõ em varias Nações, decretando-o assim o seu governo, para utilidade do publico; e por ellas sabemos das agoas medicinaes de Hespanha, de França, de Inglaterra, de Germania, de Hungria, de Transivalnia, e das mays Regiões Septentrionaes; de Italia, de Toscana, de Sicilia, de Napoles, de Asia, de Africa, e da America» (HENRIQUES, 1726: 11).

<sup>18</sup> RAJ, 2016; LINDEMANN, 2002; LEITÃO, 2013.

<sup>19</sup> RAJ, 2016: 44.

information coming from the colonies were not always treated with the appreciation as that awarded to knowledge produced in the metropolis<sup>20</sup>.

To address this question, we should introduce the surgeon João Cardoso de Miranda, author of the 1749 *Prodigious lagoon discovery in Congonhas of Minas of Sabará, which has cured many people of infirmities, which are exposed in this Relation*<sup>21</sup>. In *Prodigious lagoon*, João Cardoso de Miranda wrote about one hundred seven cases in which the water from the lagoon was effective for curing various kind of diseases. The edition of the source that we use was printed in 1925 with the prologue of the Portuguese physician and historian Augusto da Silva Carvalho. In his introduction to the document Carvalho informs about the itinerary of João Cardoso de Miranda. The surgeon was from the parish of S. Martinho de Cambres in Filgueiras. For three years, he had practiced as a surgeon in the Hospital of Porto. He was examined by others surgeon and then he received his surgery license on May 27, 1722. In 1719, he undertook a trip to Spain and France, and in 1726 he was already in Bahia-Brazil, where he did not just work as a surgeon, but he also devoted his time to trade.

Augusto da Silva Carvalho, the publisher of the 1925 edition, also claims that the information about the Lagôa Santa of João Cardoso de Miranda as it was known in the metropolis and in the colony, was attributed to the physician Antonio Cialli<sup>22</sup>. We will briefly speak about him. Besides that, Carvalho reported the arduous course of the surgeon João Cardoso de Miranda in order to get another of his works published. That book was the *Surgical and medical Relation in which a new method for curing scurvy infection is declared... 1747*<sup>23</sup>.

Exchanges of correspondence show that some contempt was caused by the status of João Cardoso de Miranda as a surgeon and for this reason he should not enter into the debate of subjects that were belonged to the physicians' expertise. That might explain the delay in the publication of the book<sup>24</sup>.

Furthermore, Augusto da Silva Carvalho stressed that the waters began to be famous in Lisbon in 1747<sup>25</sup>. He said that it is possible to find news about it in a rare book printed in Paris called: *Observations on the waters of Caldas da Rainha offered to all poor patients who need this miraculous medicine to cure their infirmities. By a curious that twenty years ago lives on benefit of the said waters*<sup>26</sup>.

The author reported a case of a paralyzed man who was healed using internally the water of Caldas. He argued: «If a similar case had happened in Lagôa Santa of Brazil, it would already have been printed in Lisbon; and I cannot comprehend the reason why one should despise and disdain the

<sup>20</sup> BURKE, 2016: 5.

<sup>21</sup> Translation by the author. Original title: *Prodigiosa lagoa descuberta nas Congonhas das Minas do Sabará que tem curado a várias pessoas dos achaques, que nesta Relação se expõem*.

<sup>22</sup> CARVALHO, 1925: XIV.

<sup>23</sup> Translation by the author. Original title: *Relação cirurgica, e medica, na qual se trata, e declara especialmente hum novo methodo para curar a infecção escorbútica...*

<sup>24</sup> CARVALHO, 1925: VIII-XXXVIII.

<sup>25</sup> CARVALHO, 1925: XV.

<sup>26</sup> Translation by the author. Original title: *Observações das agoas das Caldas da Rainha oferecidas a todos os enfermos pobres que necessitaõ deste milagroso remedio, para cura de seus achaques. Por hum curiozo, que ha vinte anos, que vive a beneficio das ditas agoas* (CARVALHO, 1925: XIV).

miraculous water of Caldas da Rainha, and order water from Brazil' Lagôa Santa without being sure of its virtues, more than based on one crude information that were printed»<sup>27</sup>.

These notes indicate that the circulation of knowledge in the 18<sup>th</sup> century between Portugal and Brazil ran into several obstacles. Considering that distance and the logistics of circulation could be one such obstacle, we might also wonder about other variables that could affect the acceptance of colonial information and knowledge within 18<sup>th</sup>-century European society.

Still focused on the use of thermal waters discovered in Brazil and their use as a medicine, this is acknowledged in the *Brief reproduction of the news of Lagoa grande, its virtues tested in different infirmities, and necessary precautions for the use of baths, published for consolation and regime of the sick, which in this present summer are to be transferred to those baths*<sup>28</sup>, published in 1749 by the Italian physician Antonio Cialli. In his *Breve Transumpto* the author defends the quality of the Brazilian waters as a therapeutic for several diseases. Antonio Cialli wanted to spread knowledge on this subject. He declares:

*I confess that the biggest incentive to publish now this brief summary was to tear out the roots of these preconceptions on the ideas not only of the sick persons, but also of the true Teachers that in distant parts cannot judge but on information which prevent them from forming a judgment of the sources which they come from*<sup>29</sup>.

It is clear that Cialli was concerned about the way «the true Teachers», i.e. the Europeans, approached and assessed the information coming from those different parts they could not reach. Could this mean that Cialli conceptualized differently the information (coming from different parts) from the knowledge (the one produced by the European academy in the 18<sup>th</sup> century)? As stressed by Peter Burke in his book *What is the History of knowledge?*, the knowledge coming from the colonies could be «plural», but it could also be not «equal», i.e. not be treated as «equal» knowledge in the European territories<sup>30</sup>.

Returning to the sources written in Portugal on Portuguese medical waters, we can add António Martins Belezã's 1763 publication *Practical Method to take the baths of Caldas do Gerês and other Waters of the Kingdom, acquired by his own experience of twenty years that he took them, and saw many*

<sup>27</sup> Translation by the author. Original quote: «Se hum cazo semelhante tivesse sucedido na lagoa medicinal do Brazil, andaria já impresso em Lisboa; e não poso comprehender o motivo porque se despreza, e se abomina a milagroza água das Caldas da Rainha, e se manda vir agua da lagoa do brazil, sem mais certeza de suas virtudes, que humas informações toscas, que se imprimirão» (CARVALHO, 1925: XIV).

<sup>28</sup> Translation by the author. Original title: *Breve Transumpto das Notícias da Lagoa grande, virtudes experimentadas em diversos achaques, e cautelas necessárias para o uso dos seus banhos, publicado para consolação e regime dos enfermos, que no presente estio se houverem de transferir àqueles banhos*.

<sup>29</sup> Translation by the author. Original quote: «Confesso pois que o maior incentivo que me fizese resolver publicar já este breve resumo foy o de destroncar as raizes que estes prejuizos vao formando nas ideas não só dos enfermos, mas ainda dos verdadeiros Professores que em partes distantes não podendo julgar senao por informações não lhe é possível formar juizo das fontes donde dellas emanão» (BPMP – *Manuscriptos*, M-VR-70. CIALLI, Antonio (1749) – *Breve Transumpto das Notícias da Lagoa grande, virtudes experimentadas em diversos achaques, e cautelas necessárias para o uso dos seus banhos, publicado para consolação e regime dos enfermos, que no presente estio se houverem de transferir àqueles banhos*).

<sup>30</sup> BURKE, 2016: 15.

*patients of several infirmities taking them*<sup>31</sup>. The author was not a healer: António Martins Beleza was abbot of S. Pedro Fins de Gominhães in the Archdiocese of Braga. On the cover of his book he said «that he wrote it for the common good: and it discourses on the causes for hypochondriacs flatus, its effects, and palliative care they can have»<sup>32</sup>.

Beleza reported the qualities of the waters found in Portugal, and noted that many health carers were unable to obtain satisfactory results, due to not knowing how to prescribe the treatments. And he wrote about the importance of practice, practical knowledge and experience. This is an interesting text which resembles the discourse of some 18<sup>th</sup>-century surgeons who, pushed to the margins of the system, expressed the need for the recognition of their practice as a key element in medicine<sup>33</sup>. In 18<sup>th</sup>-century Portugal, nevertheless, in order to be recognised, one still had to go to University and become a physician, as did Manuel Gomes de Lima Bezerra<sup>34</sup> (1727-1806).

The last source we want to list is being held in the Army Archive. Anonymously authored, it is called: *Royal Provision regulating the river baths as a form of remedy for the sick military officers, similar to what happened to the baths of Caldas*<sup>35</sup>, published in 1744. The folio manuscript recommends that one should proceed to apply to military officers the remedy of river baths the same way as those of Caldas. This proves the belief in the healing characteristics of those waters, the interest of royal officials in their use, and their recognition as therapeutics by the formal authorities: the Contadoria Geral da Guerra and the Vedoria of Alentejo.

## DISCUSSION

Regarding the language used by the authors quoted, we perceive distinctions in the form they report medical waters and water treatment. The authors who wrote on waters in Portugal and Europe were more concerned with where to find the river, font or cistern. Francisco da Fonseca Henriques and António Martins Beleza also reported what might be cured in a specific place. Their authority seems out of question and they just point out the prescriptions to apply as resulting from their observations.

*Near the Caldas da Rainha, on the farm of Bernardo Freire Andrade, there are other Caldas of the same minerals as that of Rainha, and the same virtues, although less active: There you have the baths covered and you can take them with good comfort. It serves the same infirmities that apply to the other; but as it is milder, it is necessary to take a few more baths than ordinarily taken in the Rainha*<sup>36</sup>.

<sup>31</sup> Translation by the author. Original title: *Methodo Pratico para se tomarem os banhos das Caldas do Geres e de outras quaesquer Caldas do Reino, adquirido pela experiencia de vinte, e tantos annos que os tomou, e o vio tomar a muitos doentes de vários achaques*.

<sup>32</sup> Translation by the author. Original quote: «que o compóz para o bem commum: e hum Discurso sobre as cauzas, de que procedem os flatos hypocondriacos, seus efeitos, e cura paliativa, que podem ter».

<sup>33</sup> ABREU, 2010; FURTADO, 2005.

<sup>34</sup> TAVARES, 1988.

<sup>35</sup> Translation by the author. Original title: *Provisão real a regular os banhos de rio como forma de remédio para os officiaes militares doentes, à semelhança do que aconteceu com os banhos das Caldas*.

<sup>36</sup> Translation by the author. Original quote: «Perto das Caldas da Rainha, na quinta de Bernardo Freyre de Andrade, há outras Caldas dos mesmos mineraes que as da Rainha, e com as mesmas virtudes, ainda que menos activas: tem seu banho cuberto em

*Those suffering from urine suppression shall take a bath in a cool well, and after shall drink hot water. Those suffering from suffocation that prevents the rise, shall take a bath in the well of Bica, and after shall drink warm water, as I passed in both infirmities, within the interval of three hours*<sup>37</sup>.

Antonio Cialli and João Cardoso de Miranda, in addition to informing about where to find such waters, were more incisive and wrote as an appeal to attest the veracity of what they wrote. The physician Antonio Cialli, quoted above, made it clear that part of what motivated him to write his *Breve Transumpto* was the hope to dilute ignorance, especially of teachers of the time. And João Cardoso de Miranda reported about one hundred seven cases in which the cure, according to the author, was in fact achieved by the use of water. He exemplifies one by one in an attempt to prove the efficiency of the water, probably also in order to empirically validate his observations and practices.

This also reveals a common approach, which is the geographical characterization of the regions involved. As stressed before, in most their works, the authors were very keen on describing the place and pointing out how to get there. In this case, the physician Antonio Cialli also added a map of the region. The surgeon João Cardoso de Miranda stressed: «In Captaincy of Minas Geraes, Rio das Velhas's county, six miles from Villa do Sabará, going on to the north, in 20.º, and forty eight minutes from the south, there is a big lagoon of water, that is called vulgarly the Lagôa Grande»<sup>38</sup>. Francisco da Fonseca Henriques, in his turn, wrote: «These Caldas are neighbours of Obidos, fourteen miles from Lisbon, in a village, that was populated by them, and from them took the name»<sup>39</sup>. The abbot António Martins Beleza followed a similar path, by writing:

*The Serra of Gerês, also known by Caldas, is placed in Braga city, six miles from Guimarães village: this one is located to the north of the Province of «Entre Douro-e-minho»: it is six miles long and three wide: it starts at Freguezias of Rio Caldo, and Villar of Veiga, and finishes at Tourem, which belongs to the Province of Tras os Montes [...]»<sup>40</sup>.*

That treatment was also considered a real luxury when compared to the usual medicines of the time: «The cold waters that have medicinal virtues, besides being good medicine, they are also a muff.

que se tomaõ com boa comodidade. Servem para os mesmos achaques para que se applicaõ as outras; mas como são mays brandas, he necessario tomar mays alguns banhos, do que ordinariamente se tomaõ nas da Rainha» (HENRIQUES, 1726: 50).

<sup>37</sup> Translation by the author. Original quote: «O doente de supressaõ de ourina tome o banho em poço fresco, e depois delle beba da agoa quente. O doente de sofocaçaõ, que impede o sobir, tome banho no poço da Bica, e depois delle beba agoa quente, como eu passeo em ambos os achaques, e não como até não passarem tres horas» (BELEZA, 1763).

<sup>38</sup> Translation by the author. Original quote: «Na Capitania das Minas Geraes, Comarca do Rio das Velhas, seis leguas da Villa do Sabará, correndo para o Norte, em 20. grãos, e 48 minutos do Sul, ha hum grande lago de agua, chamado vulgarmente a Lagôa Grande» (MIRANDA, João Cardoso de – *Prodígiosa lagoa descuberta nas Congonhas das Minas do Sabará que tem curado a várias pessoas dos achaques, que nesta Relação se expõem* (1749). Ed. lit. Augusto da Silva Carvalho. Coimbra: Imprensa da Universidade, 1925, p. 5).

<sup>39</sup> Translation by the author. Original quote: «Estas Caldas estão vizinhas de Obidos, distantes catorze legoas de lisboa, em huma Villa, que por ellas se povooou, e dellas tomou o nome» (HENRIQUES, 1726: 5).

<sup>40</sup> Translation by the author. Original quote: «A Serra do Gerês, bem sabida pelas Caldas, que nella há, dista da Cidade de Braga, e da Villa de Guimaraens seis legoas: esta cita ao Norte da Provincia de Entre o Douro, e Minho: tem seis legoas de comprido, e tres de largo: principia nas Freguezias de Rio Caldo, e Villar da Veiga, e finaliza na de Tourem, que he da Provincia de Tras os montes» (BELEZA, 1763).

They recreate the soul and heal the body, without experiencing the displeasure of pharmaceutical medicines, from which result more seasickness rather than utility»<sup>41</sup>.

One should add that, common to the sources created by the physicians Francisco da Fonseca Henriques and Antonio Cialli, by the abbot António Martins Beleza, and by the surgeon João Cardoso de Miranda, is the association of healing properties of the waters mentioned and the faith. As an example from our sources, Francisco da Fonseca Henriques writes:

*The large influx of people to these Caldas is helped by a devotion to the Virgin and the Portuguese martyr Saint Euphemia, who the tradition says is the creator of them; understanding that the city of Chalcedon, where the Saint suffered her martyrdom, was in the neighbourhood of Caldas*<sup>42</sup>.

And Miranda says:

*We hope the Divine Mercy will continue to work the wonderful successes that this lagoon has experienced so far in such a variety of complaints and illnesses, so that the name of the Lord be magnified, marvelling the large amount of people which in all Masses thereby celebrated, receive the Holy Communion, showing, by this act of Catholic faith that not only seeks the body for medicine, but also spiritual medicine, in recognition of such a significant benefit*<sup>43</sup>.

It is worth remembering that religion is another factor inherent to the medical and surgical knowledge production in the 18<sup>th</sup> century, becoming even almost a part of the treatment<sup>44</sup>. For the case of bathing, the religion was also an important principle to the process of restoration of health<sup>45</sup>.

Obviously, the kingdom of Portugal had great interest in the news that used to come from the colony. However, the difference in the language used by the authors leads us to ask how this knowledge was received, perceived and integrated in the metropolis.

The case study seems to suggest a distinction between the knowledge coming from the colonies, which required more intensive struggle for recognition, and that generated, on similar subjects, in the

<sup>41</sup> Translation by the author. Original quote: «As agoas frias, que tem virtude medicinal, serbem de remedio, e de regalo. He recrear a alma, e curar o corpo, sem experiemntar o desagrado, dos remedios pharmaceuticos, em que esta mays certo o enjoo, que a utilidade» (BELEZA, 1763: 108).

<sup>42</sup> Translation by the author. Original quote: «Ajuda a ser grande o concurso da gente para estas Caldas a devoção da Virgem, E marti Santa Euphenia Portuguesa, a quem a tradiçãõ faz authora dellas; entendendo que a Cidade de Calcedonia, onde a Santa teve seu martirio, era entãõ naquelle sitio visinho das Caldas» (HENRIQUES, 1726: 74).

<sup>43</sup> Translation by the author. Original quote: «Espera-se na Divina Misericordia continue os maravilhosos sucessos, que nesta lagõa se experimentarãõ até gora em tanta diversidade de queixas, e enfermidades, para que o nome do Senhor fosse engrandecido, admirando-se já a grande quantidade de pessoas, que em todas as Missas, que ali se celebrãõ, recebem a Sagrada Communhão, mostrando neste catholico acto a fé engrandecida, e que não só buscãõ o remedio corporal, mas tambem o espirital, em reconhecimento de hum tão avulltado beneficio» (MIRANDA, João Cardoso de – *Prodigiosa lagoa descuberta...*).

<sup>44</sup> FURTADO, 2005: 97. On this subject there are other works focusing on faith in the field of medicine as a central component, during 18<sup>th</sup> century. In addition to FURTADO, 2005: 88-105; GÉLIS, 2010: 19-130; ABREU, 2007: 761-778; SÁ, 2009: 325-344.

<sup>45</sup> NOGUEIRA, 2011: 38.

metropolis. This can possibly be explained by the social networks, as well as the relations of power and the hierarchical positions that physicians and surgeons held in a world undergoing rapid changes.

The interest in waters as a healing method was thus remarkable, as pointed out by Júnia Ferreira Furtado, who reminds us, in her work *Useful Water, Miraculous Waters in the Captaincy of Minas Gerais (18th Century)* that the fact was reported in the *Gazeta de Lisboa* when a new font of water was found<sup>46</sup>.

As already noted, the waters were used for the treatment of various diseases. The authors mention, among others, muscle and joint pain, ulcers, syphilis, skin diseases, pimples, anthills, liver, chronic enteritis, amenorrhea and dysmenorrhea. Obstruction, abscesses and tumours, hernias, inflammation of eyes and nails, urine retention, leprosy, cancer, asthma, short and tired view, urethritis, craw, haemoptysis, haemorrhage are also mentioned as treated by bathing. Hydrops, scabies, paralysis, hemiplegia, spermatorrhea, dizziness, incontinence of urine, roundworms, otitis, scurvy, bubo, diabetes, forced flexion of the fingers add to the long list already presented<sup>47</sup>.

The waters from Brazil and from Portugal were also ascribed high curative potential for skin diseases<sup>48</sup>. What indeed made these waters medicinal were their sulphurous and mineral qualities<sup>49</sup>.

This seems to indicate that, even if they still apply the Hippocratic galenic principles to the study of the body and to the relations between health and disease, Francisco da Fonseca Henriques, Antonio Cialli, João Cardoso de Miranda and even the abbot António Martins Beleza resorted to iatrochemistry to analyse the peculiarities of the water. Antonio Cialli at one point quoted and praised Herman Boerhaave himself, by naming him as «The real Hippocrates of our time»<sup>50</sup>. Plus, he seems to follow and obey to, as medical theory for his treatments «the teachings of Boerhaave»<sup>51</sup>.

## LASTS CONSIDERATIONS

This might mean that in both territories – Portugal and Brazil – the healers were bound to the theories that most influenced the reformulation of 18<sup>th</sup>-century medical and surgical knowledge. Nevertheless, the information recorded by the authors shows also that the transmission of knowledge was articulated in accordance with and dependent on the hierarchy that each author occupied and the place from which he wrote.

So, even recognising that knowledge circulated between Brazil and Portugal, there is still a significant way to go in order to understand if and to what extent there was metropolitan prejudice against incorporating the knowledge that came from the colony. If there was such resistance, it would have to be clarified if it had to do with the locality, the place where that knowledge came from, and/or with the profile and the status of the emitting agent.

<sup>46</sup> FURTADO, 2014.

<sup>47</sup> BELEZA, 1763; BPMP – *Manuscritos*, M-VR-70...; HENRIQUES, 1726; MIRANDA, 1749.

<sup>48</sup> BELEZA, 1763; BPMP – *Manuscritos*, M-VR-70...; HENRIQUES, 1726: 7; MIRANDA, 1749: 12.

<sup>49</sup> BELEZA, 1763; BPMP – *Manuscritos*, M-VR-70...; HENRIQUES, 1726; MIRANDA, 1749.

<sup>50</sup> BPMP – *Manuscritos*, M-VR-70...

<sup>51</sup> BPMP – *Manuscritos*, M-VR-70...

Notwithstanding the fluxes of knowledge, in this particular case, Portuguese sources do not mention those from Brazil, and similarly, there are sources from Brazil which make no mention of information from Portugal. Even if the sources were not directly connected, at least by direct quotation, they are obviously related with respect to the methods used to obtain a cure.

The history of medicine and circulation of knowledge between Portugal and Brazil requires intense further analysis, even if one would limit it, initially, to the medical and surgical fields. The sources originating from the colony certainly reached the kingdom. They were published there, even if not without resistance. On the other hand, there is no indication that publications from the kingdom, at least those on the baths and the ingestion of water that we referred to in this paper, were circulating in the colonies. However, the knowledge contained in them was spread through the medical practitioners, so it seems reasonable to believe that such a circulation occurred as well.

The Portuguese surgeon João Cardoso de Miranda and the Italian physician Antonio Cialli travelled between Europe and the colonies, not only geographically, but also between two spaces of production of knowledge.

The sources presented here allow us to conclude that the circulation of medical and surgical knowledge on healing waters between Brazil and Portugal in the 18<sup>th</sup> century was not a linear process.

The sources we use, namely those produced in Brazil or by those performing in Brazil, encourage us to think that their authors were already followers of the knowledge arising from iatrochemistry, in a period of extended discussion and changes within the Portuguese and European academic world. We do not have, however, overwhelming evidence that the writings produced in colonies, namely in Brazil, were crucial to the changes that occurred within the surgical and medical fields in Europe, even if we still work with this scenario as a stimulating hypothesis.

Summing up, our view is that, hypothetically, the interest and the general public acceptance of those findings, particularly in Brazil, might not be met at the same extent within the academic and the scientific community, thus the added need for validation of that knowledge or the reserved acceptance of the healing properties of those waters. This raises the issue of the authority, both of locality and the status of the agents of production. We claim furthermore that even without the acceptance and recognition of the metropolis, the colonial space could develop relevant medical surgical practices as well. The historiography has been pointing out that the knowledge was developing in both territories<sup>52</sup>. We should note that every territory contributed in a specific way, and even without a general appreciation in the metropolis, this was one important way of producing knowledge, which requires further attention.

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<sup>52</sup> RAJ, 2013.

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