

C 2.3. COMMUNICATION – FULL ARTICLE

Scientific Construction in Portuguese Journalism of the Enlightenment (1749–1807)

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ABSTRACT: Between the censorship imposed during the Pombaline period and the disruption caused by the French invasions, the Portuguese periodical press disseminated many of the major scientific advances and discoveries of its time. This period witnessed the flourishing of scientific and encyclopaedic periodicals, in contrast with the general decline of the broader press between the late eighteenth and early nineteenth centuries. Reflecting the triumph of Science and the innovations of the Enlightenment in Portugal, scientific publications proliferated, often in contrast to the *Gazeta de Lisboa*, the official and largely “submissive” publication. Many contemporary periodicals focused on commercial, agricultural, and literary matters, yet they also incorporated scientific knowledge and practical information. Imbued with the intellectual spirit of the Enlightenment, these publications became important vehicles for the dissemination of knowledge, heralding the late Portuguese Encyclopedism and bearing witness to a remarkable period for science that deserves renewed scholarly attention.

KEYWORDS: Press; Censorship; Science; Enlightenment; Encyclopedism.

INTRODUCTION

Between the censorship restrictions of the pombaline government¹ [1750-1777], not forgetting the reign of D. Maria I², the regency of D. João³, and the French Invasions⁴ [1807-1811], our periodical press attempted, to the extent of its possibilities, to disseminate the most effusive scientific advances and discoveries of its time.

At that time, we witnessed the splendor of scientific and encyclopedic periodicals, which contrasted with the decline of our official journalism between the late 18th and early 19th centuries, prohibitive remnants that even the *Viradeira*⁵ [a period of political revolution in Portugal] could not overcome.

Proclaiming the triumph of Science and the innovations of the *Enlightenment*⁶ among us, scientific periodicals proliferated increasingly in Portugal, even the old *Gazeta de Lisboa*⁷ [1st series: 1715-1762], the ‘submissive’ official publication that paid little or no at-

¹ Tavares, Rui. *O Censor Iluminado. Ensaio sobre o Pombalismo e a Revolução Cultural do Século XVIII*. Lisboa: Tinta-da-China Edições, 2018.

² Ramos, Luís A. de Oliveira. *D. Maria I, «Reis de Portugal»*, vol. XXVI. Lisboa: Círculo de Leitores, 2007.

³ Pedreira, Jorge & Costa, Fernando. *D. João VI, «Reis de Portugal»*, vol. XXVII. Lisboa: Círculo de Leitores, 2007.

⁴ Cardoso, Rui. *Invasões Francesas. 200 Anos. Mitos, Histórias e Protagonistas*. Lisboa: IN-CM, 2010.

⁵ Serrão, Joaquim Veríssimo. «A Viradeira: seu limite histórico». In: *História de Portugal. O Despotismo Iluminado (1750-1807)*, vol. VI. Lisboa: Editorial Verbo, 2000, pp. 295-297.

⁶ Ramos, Luís A. de Oliveira. *Sob o signo das «Luzes»*. Lisboa: IN-CM, 1988.

⁷ Belo, André. *As Gazetas e os Livros: a Gazeta de Lisboa e a vulgarização do impresso (1715-1760)*. ICS: Lisboa, 2001.

attention to such matters. Instead, most contemporary periodicals were dedicated to matters of a mercantile nature, scientific content, and agricultural use, among other uses, but where, here and there, a thirst for scientific knowledge was emerging.

Zodiaco Lusitanico-Delphico [1749], the *Gazeta Literaria* [1761-62], the *Diario Universal de Medicina* [1764], the *Jornal Enciclopedico* [1788-1793/1806/1820], the *Bibliotheca das Ciencias, e Artes* [1793], the *Anno Medico* [1796], the *Palladio Portuguez ou Clarim de Pallas* [1796], the *Gazeta do Campo* [1804-06], the *Ephemerides Astronomicas* [1803-?] and *Minerva Lusitana* [1801-03], etc. Imbued with the spirit of the century, these periodicals were the messengers of our Encyclopedism, even if 'in tow' with the main European enlightenment movements, being protagonists of a remarkable era for Science, which urgently needs to be remembered in greater depth.

On the path to specialization and diversification in the world of periodicals, the first purely scientific Portuguese periodical was *Zodiaco Lusitanico-Delphico*⁸ was simultaneously the first newspaper to be printed in Oporto⁹. Published under the auspices of a short-lived scientific association, the ephemeral «Academia dos Escondidos da Cidade do Porto, Imitadores da Natureza», its editorship was the responsibility of Manuel Gomes de Lima Bezerra¹⁰ [1727-1806].

Due to its curiosity and innovation, the *Zodiaco Lusitanico-Delphico* was developed purely in analogy with the *Zodiacus Medicvs-Gallicvs* [Geneva, 1680], edited by Nicolas de Blegny¹¹ [1652-1722], constitutes a very important testament to the scientific advances in Opor-

to. Among its main authors and collaborators, who used pseudonyms such as *Andromaco* or *Rhasis*, for example, this periodical had the royal protection of D. José I and his brother, D. José de Bragança, then archbishop of Braga.

Only the inaugural edition of *Zodiaco Lusitanico-Delphico*, although it is known that other issues were published between January and May 1749, the exact details of which remain uncertain¹². Nevertheless, this single issue has 18 «in-quarto» folios, supplemented with the statutes and appointments of the members of the «Academia dos Escondidos da Cidade do Porto». Here, some practical medical cases were presented by medical professionals based on a bibliography in use at the time, standing out for its impartiality and scientific value among its restricted readership.

THE ADVANCEMENT OF SCIENTIFIC JOURNALISM IN THE SECOND HALF OF THE 18TH CENTURY

Between 1761 and 1762, the first Portuguese literary periodical, also of a scientific nature, was published: the *Gazeta Literaria*, edited by Francisco Bernardo de Lima [1727-1764], initially in Oporto and, shortly afterwards, in Lisbon. This is a record of exceptional quality, even by today's critical eye, both for its novelty and its scientific bent, the *Gazeta Literaria* was a major symbol of the *Enlightenment* in Portugal¹³. Considered the first and oldest of the literary periodicals, although other periodicals such as *O Anonymo* [1752-1754] and *O Occulto Instruido* [1756-1758] are, in some way, authentic literary periodicals.

Being an individual work, the universality of its author¹⁴ can be attested to by the epistolary dialogue with various European scholars and academic associations. Obviously, the *Gazeta Literaria* benefited from the dissemination of *gazettes*, *newspapers*, and scientific works in our country, despite the proverbial

8 *Zodiaco Lusitanico-Delphico*. Anatomico, Botânico, Chirúrgico, Chymico, Dendrológico, Ictyológico, Lithológico, Medico, Meteorológico, Optico, Ornithológico, Pharmaceutico, e Zoologico..., pela «Academia dos Escondidos da cidade do Porto, Imitadores da Natureza». Porto: [s. n.], 1749.

9 Pereira, A. X. da Silva. «Zodiaco Lusitanico». In: *Dicionário Jornalístico Português*, vol. I [manuscrito]. Lisboa: ACL, [s. d.], f. os 56-59; Cunha, Alfredo da. «Elementos para a História da Imprensa Periódica Portuguesa (1641-1821)», separata das Memórias da Academia das Ciências de Lisboa, tomo IV. Lisboa: ACL, 1941, pp. 242-243; Martins, Rocha. *Pequena História da Imprensa Portuguesa*. Lisboa: Editorial Inquérito, 1942, pp. 44-52; Nunes, M.ª de Fátima. *Imprensa Periódica Científica (1772-1852)*. Leituras de «Ciência Agrícola» em Portugal. Lisboa: Estar Editora, 2001, p. 54.

10 Machado, Diogo Barbosa. «Manuel Gomes de Lima Bezerra». In: *Bibliotheca Lusitana*, Lisboa: Officina de Antonio Isidoro da Fonseca, vol. III, 1752, pp. 278-279; vol. IV, 1759, p. 243; Silva, Inocência Francisco da. «Manuel Gomes de Lima Bezerra». In: *Dicionário Bibliográfico Português*, vol. V. Lisboa: Imprensa Nacional: 1860, pp. 444-445.

11 Nicholls, A. G. «Nicolas de Blegny and the First Medical Periodical». In: *The Canadian Medical Association Journal*, vol. XXXI, n.º 2, Montreal: CMAJ, 1934, pp. 198-202.

12 *Zodiaco Lusitanico-Delphico*, [s. n.], Porto, 1749. Fac-simile, Porto: Laboratório Normal, 1980.

13 Rodrigues, Ernesto. «Gazeta Literária». In: *Biblos*. *Enciclopédia Verbo das Literaturas de Língua Portuguesa*, direcção de José Bernardes [et al.], vol. II. Lisboa: Editorial Verbo, 1997, pp. 804-805; Lopes, Óscar & Saraiva, António José. *História da Literatura Portuguesa*. Porto: Porto Editora, 1996, pp. 613, 624, 637.

14 Mattos, Manuel de Sá. *Bibliotheca Elementar Chirúrgico-Anatomica*. Porto: Officina de António Álvares Ribeiro, 1788, pp. 145-147; Costa, Agostinho Rebelo da. «Dos homens ilustres em Letras e Armas». In: *Descrição Topográfica e Histórica da Cidade do Porto*. Lisboa: Frenesi, 2001, cap. IX, p. 243; «Francisco Bernardo de Lima». In: *Dicionário Bibliográfico Português*, vol. II, 1859, pp. 352-353; Sampaio [Bruno], José. *Portuenses Ilustres*, vol. I. Porto: Magalhães & Moniz, 1907, pp. 140 e ss.



delays¹⁵. The editorial program of the *Gazeta Literaria* prominently features translated news from scientific works, in addition to Literature and Natural History, among other areas of knowledge. A true forum of *Enlightenment*, the *Gazeta Literaria* requested the active participation of its readers and correspondents in his programmatic direction, encouraging comments on the new ideas conveyed therein.

From this, we can deduce what kind of audiences accessed this dissemination 'tool'¹⁶. How should we evaluate the editorial gambling taken by Francisco Bernardo de Lima to disseminate the 'enlightenment' knowledge presented in the *Gazeta Literaria*? Although he wasn't entirely an admirer of french Encyclopedism, he was more receptive to its british expression, but this didn't prevent him from aligning himself with the purposes of the *Encyclopédie*¹⁷. He was adamant in his ambition to publish a comprehensive work on all subjects necessary for the development of Reason and, in this sense, understood the relevance of questioning the transition between the Modern Age and the Contemporary Age¹⁸.

15 "La época en la cual la «Gazeta Literaria» salió no nos ha dejado documentos portugueses suficientes para hacernos una idea de la eficacia que su función iluminadora pueda haber tenido sobre la opinión pública de su país. La «Gazeta Literaria» misma, sin embargo, nos ha transmitido un documento significativo de su eficacia, ya pocos meses después del inicio de su publicación, al mejorar el desastroso concepto que los extranjeros entonces se hacían de Portugal. El inglés Ricardo Tremblet se ofrece en una carta a Lima a traducir su gazeta en inglés, para que ésta tenga la difusión que merece y sirva para hacer disminuir el número de los extranjeros que «llegando a Portugal, se juzgan en la verdadera habitación de la superstición y de la ignorancia» [Enero de 1762]". Rossi, Giuseppe. La "Gazeta Literaria" del padre Francisco Bernardo de Lima (1761-1762). Nápoles: Instituto Universitario Orientale, 1963, pp. 11-12.

16 Fernandes, Joaquim. «Gazeta Literária (1761-62): reflexos e sombras de um jornal das <Luzes>». In: Revista da Faculdade de Letras. História, II Série, vol. X. Porto: FLUP, 1993, pp. 205-231.

17 "O optimismo, depurador da memória histórica, prolonga no tempo e no espaço a claridade ofuscante de um século 'memorável' na história do juízo humano pela revolução que se tem feito no império das letras. A fé, acompanhando o movimento de dessacralização do universo, é sujeita a atualização. A renúncia à crítica entorpece a liberdade de acreditar. A religião, submetida ao exame livre e público da razão, transforma-se em motivo de acesa polémica. Atento aos ventos de mudança que fazem estremecer as igrejas do Ocidente, Bernardo de Lima abre, discretamente, as páginas da Gazeta Literária aos enunciados da teologia natural, não se furtando também a expor, com mediana clareza, o essencial das teses deístas, materialistas e pietistas." Araújo, Ana Cristina. A Cultura das Luzes em Portugal: temas e problemas. Lisboa: Livros Horizonte, 2003, pp. 75-76.

18 Balbi, Adrien. Essai Statistique sur le Royaume de Portugal et d'Algarve, vol. I. Coimbra/Lisboa: Faculdade de Economia da Universidade de Coimbra/Imprensa Nacional-Casa da Moeda, 2004 [fac-simile da edição de Chez Rey et Gravier, Paris, 1822], p. CLXXVII; «Gazeta Literaria», in Dicionário Jornalístico Português, vol. I, flos 104-105v.; Cunha, Alfredo da. «Elementos para a História da Imprensa Periódica Portuguesa (1641-1821)», p. 245; Reis, Artur Duarte Sousa. Jornais do Porto, edição fac-similada. Porto: BPMP, 1896/1999, pp. 33-35.

In the very first issue of *Gazeta Literaria*, he offered several opinions on the concept of "time" in the epistemological ordering of History, whose use was understood as the mainstay of civilization and scientific progress, dating back to the end of the Middle Ages. Focusing on numerous areas of knowledge, the *Gazeta Literaria* presented the latest scientific works on the "art of war" in Europe and Portugal. Receiving exhaustive commentary from the editor, the second volume of the *Gazeta Literaria* is a wealth of information for Military History, disseminating national and foreign works¹⁹. A simple reading of the *Gazeta Literaria* confirms the attention given to the popularization of Natural Sciences and Literature, although the practice of History, Politics, and Medicine was also extensively discussed²⁰.

Also dedicated to the advancement of Mechanical Arts in Portugal, the *Gazeta Literaria* suffered from the dysfunctions of technical progress, quickly faltering in the face of the Government's despotism, which is why it was suppressed on the orders of Sebastião José de Carvalho e Melo, 1st Marquis of Pombal²¹. The *Gazeta Literaria* resisted for a short time, but it was enough to sow the *utilitarian seeds* of Science against the obstacles of portuguese superstition and orthodoxy.

*O Occulto Instruido*²², one of the most famous periodicals of the 18th century, was a paradigm of professionalism in the journalistic profession in our country. Practically unknown to historiographical studies, it dedicated itself to the entertainment and instruction of its readers. In about two years, it managed to retain the attention of an audience attracted by current events and various information. The editor of this periodical is still unknown due to the militant anonymity of these *papers*, given that, in the author's opinion, only scholarly works should be identified by their true name. *O Occulto Instruido* has 17 «in-quarto» pamphlets of 8 folios each, whose numbering appears

19 Bebião, Rui. A Pena de Marte. Escrita da guerra em Portugal e na Europa (séculos XVI-XVIII). Coimbra: Edições Minerva, 2000, p. 480.

20 Lemos, Maximiniano. História da Medicina em Portugal. Doutrinas e Instituições, vol. II. Lisboa: Dom Quixote/Ordem dos Médicos, 1991, pp. 167-168.

21 Tengarrinha, José. História da Imprensa Periódica Portuguesa, 2.^a edição revista e aumentada. Lisboa: Editorial Caminho, 1989, pp. 46-47.

22 *O Occulto Instruido*, que para licito divertimento, e honesta recreação se ha de publicar dividido em diferentes partes, n.º 1. Lisboa: Officina de Domingos Rodrigues, 1756.

sequentially, given the possibility of binding these volumes at the end of each series²³.

Disseminating historical, geographical, and political news from various European nations, he nurtured a preference for biographies of foreign sovereigns and major religious controversies²⁴. Concerned with presenting an encyclopedic journalistic work, he reveals the influence of French literary currents, while also giving impetus to contemporary scientific currents. In his historiographical texts, he used numerous historical sources and works in short, easily readable texts²⁵. A search for equitable and respectful criticism of good morals is also observed, where – unprecedented until then –, he debated the accessibility of periodicals to all people. He responded to the fierce criticism of various scholars, declaring that knowledge should be accessible to all and not solely to the elites, perhaps one of the reasons for his anonymity.

For posterity, he bequeathed to us a historiographical analysis guided by events in easily readable descriptions, albeit with some deficiencies in its historical rigor. There was, in fact, impartiality in the construction of this discourse and, considering the graphic layout of the periodical, one observes the progressive union between historical narration and a maturing journalistic writing style.

One of our first scientific journals with international reach was the *Diario Universal de Medicina*²⁶ [1764], also under the responsibility of Manuel Gomes de Lima Bezerra, the author of the first scientific journal, the *Zodiaco Lusitanico-Delphico*. Thus, the *Diario Universal de Medicina* was published between January

and April 1764, containing approximately 500 «in-oito» folios, but it was written in Castilian Spanish, possibly in response to its promotion/distribution at the Iberian and European level, but largely revealing of national scientific advances.

In defending surgical practice given that these areas of medicine were vying for different therapeutic practices, the *Diario Universal de Medicina* suggested dosages for various medical cases, based on auscultations recorded in Portuguese and European hospitals, stimulating comparative studies. In the field of medical research, it frequently cited classical and medieval authors such as Hippocrates, Galen, Avicenna, and Roger Bacon, among many others. In a completely innovative way, it addressed female sexuality with almost current terminology, certainly causing some scandal, but it became a fundamental landmark in our History of Medicine²⁷.

Then came the *Jornal Enciclopédico*²⁸, one of the vehicles of our Encyclopedism, although with modest expression in the national scientific community. After its publication ceased, other periodicals would bear the same name until the eve of the Liberal Revolution of August 24, 1820. The *Jornal Enciclopédico* began publication in July 1779, under the direction of Félix António Castrioto, who was granted a *Royal Privilege*. The first issue, or “notebook”, was then called *Prospecto d’um Jornal Enciclopédico*²⁹ [1779] and was published in the name of a «Sociedade de Homens de Letras», the ‘embryo’ of the *Jornal Enciclopédico* itself.

Due to various impediments, the *Jornal Enciclopédico* only reappeared in June 1788, being published monthly until May 1793. Printed in different *officinas*, it counted on the participation of Manuel Henriques

23 «O Occulto Instruído», in Dicionário Bibliográfico Português, vol. XVII, 1894, p. 117; «O Occulto Instruído», in Dicionário Jornalístico Português, vol. I, f.os 123-125v.º; Cunha, Alfredo da. «Elementos para a História da Imprensa Periódica Portuguesa (1641-1821)», p. 243; O Anónimo. *Journal portugais du XVIIIe Siècle (1752-1754)*, leitura, introdução e notas de Marie-Helene Piwnik. Paris: Centre Cultural Português/Fundação Calouste Gulbenkian, 1979, p. 65.

24 Tengarrinha, José. *História da Imprensa Periódica Portuguesa*, pp. 45-46; Alves, José Augusto dos Santos. *O Poder da Comunicação. A História dos Media dos primórdios da imprensa aos dias da Internet*. Lisboa: Casa das Letras, 2005, p. 209.

25 “Para a historia me valerey de Plinio, Justo Lipsio, Natal Alexandre, Marianna, Zahn, Neremberg, Brito, Ozorio, Faria e Sousa, Sousa, Rezende, Barros, Couto, Cardoso, Solis, Macedo, Telles, Brandaõ, Marinho, Goes, Maris, Calmet, Diderot, D’Alembert, Historia geral das Viagens, Historia Romana, e da propria de cada Naçaõ, e outros muitos livros, que citarey”. Cf. *O Occulto Instruído*, n.º 1, fl. 4.

26 *Diario Universal de Medicina, Cirurgia, Pharmacia &c.* Lisboa: Officina Patriarchal de Francisco Luiz Ameno, 1764. Cf. «*Diario Universal de Medicina*». In: Dicionário Jornalístico Português, vol. I, f.º 87; Rocha, João L. de Moraes. *O essencial sobre a Imprensa em Portugal*. Lisboa: IN-CM, 1998, p. 22.

27 “O jornalismo médico renasce em 1764 com a aparição do *Diario Universal*. Não era Gomes de Lima homem para desanimar; se o *Zodiaco Medico-Delphico* apenas tivera um número, não impedia isso que uma nova gazeta de medicina, em melhores condições, tivesse voga e aceitação. Fiado nisso, deu à luz o *Diario Universal*, publicando sucessivamente três fascículos mensais. Não era, porém, ainda a época azada para tais publicações; a ausência de protecção do público e da classe médica em especial, a escassez de colaboração sobretudo, eram obstáculos invencíveis a que a nova tentativa fosse coroada de bom êxito. Daí resultou que o 4.º e último número só saíram em 1772, pelas diligências do seu proprietário e redactor. [...] Assim é que se encontram no *Diario* as análises bibliográficas de grande número de publicações francesas da época, relatórios sobre os progressos da cirurgia entre nós e o começo de uma *Flora Médico-Portuguesa*, infelizmente incompletíssima [...]”. Lemos, Maximiliano. *História da Medicina em Portugal. Doutrinas e Instituições*, vol. II, p. 169.

28 Felicidade, Utilidade e Instrução. A divulgação científica no *Jornal Enciclopédico* dedicado à Rainha 1779; 1788-1793; 1806, introdução e coordenação por Fernando Egídio Reis. Porto: Porto Editora, 2005.

29 Idem.

de Paiva [1752-1829], Joaquim da Costa e Sá [1740-1803] and José Agostinho de Macedo [1761-1831], among others. In 1806, the bookseller António Policarpo da Silva [1790?-1819?] planned to resume its publication, but this *Jornal Enciclopédico* would only distribute one issue. However, it mobilized the educated reader to participate in our cultural and economic life, in addition to having disseminated various medical news³⁰. A space of encyclopedic vanguard, it would not resist, even with institutional support, the defamers, manifested in the difficulties denounced by the *Jornal Enciclopédico de Lisboa*³¹ [1820].

One of the least known scientific periodicals of this period was undoubtedly the pamphlet *Bibliotheca das Sciencias, e Artes*³², published in Oporto in 1793. Only one issue is known, although it is believed that at least two quarto issues existed. Its author, the translator of the international news, and whether it was protected by any institution are also unknown. We note that not all historians agree that it constitutes a “periodical”, for various reasons. However, we support the examination of the single issue of the pamphlet *Bibliotheca das Sciencias, e Artes* in this appreciation.

This issue was then dedicated to the dissemination of a revolutionary work in Medicine, authored by Johann Peter Frank [1745-1821], an austrian physician, who proclaimed that “misery was the mother of all illnesses”. He is considered the founder of Hygiene as a scientific discipline with the publication of *System einer vollständigen medicinischen Polizey* [1779-1819]. Also within the scope of the *Bibliotheca das Sciencias, e Artes*, another work of his was commented on, translated and entitled *Tractado dos meyos, que saõ, ou podem ser applicados, tanto para nós, como para os diferentes povos, para obter huma povoação numeroza, e robusta*. It has no date of publication, having been translated from german into flemish, then back translated into portuguese by the anonymous editor of this periodical, who added some personal notes.

Concerned with the poor social hygiene habits in our country, he evoked medieval times and the absence of sanitary conditions as catalysts for the great epidemics of History, such as smallpox and leprosy³³, among other scourges, also responsible for seasonal demographic declines. The pamphlet *Bibliotheca das Sciencias, e Artes* was not a publication dedicated to historiography, but to scientific dissemination. Even so, the translator’s comments are rich in historical notes, even if not explicitly guided by that intention.

Within the context of scientific dissemination conveyed by the periodical press at the end of the 18th century, it is extremely important to remember the periodical *Anno Medico*³⁴, organized by the physician José Bento Lopes³⁵ [?-1800]. Published in «in-oito» pamphlets in 1796, its title explicitly refers to meteorological observations recorded in 1792, a fact that has led some bibliographical studies to error. Thus, *Anno Medico* meticulously recorded the meteorological conditions observed in Oporto, presenting descriptive tables for every day of 1792. Simultaneously, José Bento Lopes discussed the most common diseases reported in Oporto and its surroundings.

Based on meteorological observations, the journal sought to establish correlations between weather conditions and the seasonality of certain illnesses. This periodical is fundamental for understanding the social customs of Oporto, evident in the prophylactic search for answers to the social ailments of the city. A clear sign of this premise was the recording of several cases, such as the application of the most appropriate dosages, supported by the medical recommendations then in vogue. With the *Anno Medico*, Oporto positioned itself as a privileged city in portuguese medical research, a trend that dated back to the *Zodiaco Lusitanico-Delphico* [1749].

30 «Carta sobre a inoculação das Bexigas». In: *Jornal Enciclopédico*, Fevereiro 1789, pp. 151-152.

31 Dias, Eurico Gomes. «O esplendor do *Jornal Enciclopédico* na imprensa periódica portuguesa entre os séculos XVIII-XIX». In: *Mátria Digital*, n.º 2. Santarém: CIJVS, Novembro 2014 [vide matriadigital.cm-santarem.pt].

32 «*Bibliotheca das Sciencias, e Artes*». In: *Dicionário Bibliográfico Português*, vol. VIII, 1867, p. 402; Nunes, M.ª de Fátima. *Imprensa Periódica Científica (1772-1852)*, pp. 63-64.

33 Bé Bénéiac, Françoise. «O medo da lepra». In: *As Doenças têm História, apresentação de Jacques Le Goff*. Lisboa: Terramar, 1997, p. 128; *Bibliotheca das Sciencias, e Artes*, n.º 1. Porto: Oficina de Pedro Ribeiro França, 1793, pp. 8-9.

34 *Anno Medico*, que contem as observações meteorologicas, e medicas, feitas na cidade do Porto em 1792. Porto: Oficina de Viuva Mallen Filhos e Companhia, 1796. Cf. «*Anno Medico*». In: *Dicionário Jornalístico Português*, vol. I, flos 69-69v.º; Cunha, Alfredo da. «Elementos para a História da Imprensa Periódica Portuguesa (1641-1821)», p. 248; Paulo, Zeferino. *Periódicos Portugueses de Medicina e Ciências Subsidiárias*. Lisboa: Instituto para a Alta Cultura, 1944, p. 12.

35 «José Bento Lopes». In: *Dicionário Bibliográfico Português*, vol. IV, 1860, pp. 271-272; vol. XII, 1884, p. 257; «José Bento Lopes». In: *Grande Enciclopédia Portuguesa e Brasileira*, vol. XV, p. 435.



Among the periodicals that reported on European and North American scientific advances, we recall the case of *Palladio Portuguez, ou Clarim de Pallas*³⁶, published monthly by father José Mariano da Conceição Veloso³⁷ [1742-1811], a famous portuguese botanist of brazilian origin. This periodical heralded the end of the Encyclopedism, although it only published two issues with about 150 «in-quarto» pages – the enthusiasm for the new inventions described *Palladio Portuguez, ou Clarim de Pallas*, such as the still rudimentary telegraph, motivated the inclusion of excellent color illustrations, the first time this had happened in portuguese journalism.

This periodical boasted a descriptive style geared towards technical dissemination, although we can point to an encyclopedic apparatus³⁸. The translation of articles extracted from the *European Magazine* [1782-1826] or *The London Gazette*, among other european newspapers, reveals the editor's correspondence with the main news circles of the time. Moreover, there was a growing need to report scientific innovations through journalism, despite its high cost. One can also consult reflections of a medical-pharmaceutical nature originating from Portuguese doctors in Brazil and other parts of the empire, something completely unprecedented. This newspaper was dedicated to the Junta do Comércio, Agricultura, Fábricas e Navegação [1788-1834], perhaps the protectors and/or promoters of this publication.

Scientific interest in agriculture also benefited from increasing popularization in our periodical press, as was the case with the *Gazeta do Campo*³⁹ [1804-1806], also edited by José Mariano da Conceição Veloso, the

abbreviated name of the periodical *Extractos Praticos, e Uteis, á Economia Rural Portuguesa assim no Reino, como nas Colonias, ou Gazeta do Campo*. Specializing in botanical and agricultural subjects, only 8 «in-oito» issues were published in eight-page format, representing a tiny fraction of the dissemination promoted on national and overseas agricultural matters by the Academia Real das Ciências de Lisboa [1779-], evidenced in numerous translations and summaries of scientific works adapted to common use.

In another scientific context, the periodic publication of *Ephemerides Astronomicas*⁴⁰, composed of tables with the daily astronomical position, according to the geographical position of the meridian of Observatório Real da Universidade de Coimbra. With the University's seal, this quarto-format publication was intended for the university public, but also for Army and Navy officers, with each issue indicating the astronomical forecast for the following year. Belonging to the group of almanacs, most specialists include this title in the universe of periodical press, albeit with some reservations. In the *Ephemerides Astronomicas* contains calendars and horoscopes, a list of professors, and catalogs of medical works printed by the University. It was one of the longest-running periodicals in our journalism, published between 1803 and 2001, albeit with some gaps.

GENERAL CONSIDERATIONS

Thus ended a phase of scientific journalism that began in the mid-18th century and lasted until the beginning of the 19th century, abruptly ended with the entry of french troops into Portugal [November 1807], a turning point in our journalistic world. During the French Invasions [1807-1811], printing workshops suffered heavy losses due to the looting and destruction of printing materials, the destruction of sales and distribution points, etc. However, resistance to the occupiers found an effective weapon in the periodical press and kept the patriotic *flame* alive.

In the scientific field, the interests of most editors were understandably focused on their daily lives, but the political-ideological debate would gain new ground for dissemination to public opinion. The polit-

³⁶ «Palladio Portuguez». In: Dicionário Bibliográfico Portuguez, vol. VI, 1862, pp. 334-335; vol. XVII, 1894, p. 333; «Palladio Portuguez». In: Dicionário Jornalístico Portuguez, vol. I, fl.os 129- 29v.º; «Palladio Portuguez». In: Grande Enciclopédia Portuguesa e Brasileira, vol. XX. Lisboa/Rio de Janeiro: Editorial Enciclopédia, [s. d.], p. 37; Cunha, Alfredo da. «Elementos para a História da Imprensa Periódica Portuguesa (1641-1821)», p. 248.

³⁷ Gama, José de Saldanha da. *Biographia e Apreciação dos Trabalhos do Botanico Brasileiro Frei José Mariano da Conceição Velloso*. Rio de Janeiro: Typographia de Pinheiro & C.ª, 1869; Nunes, M.ª de Fátima & Brigola, João Carlos. «José Mariano da Conceição Veloso (1724-1811) – Um frade no Universo da Natureza». In: *A Casa Literária do Arco do Cego* (1799-1801). Lisboa: BNL/IN-CM, 1999, pp. 51-75.

³⁸ Tengarrinha, José. *História da Imprensa Periódica Portuguesa*, p. 51.

³⁹ «Extractos Praticos, e Uteis, á Economia Rural Portuguesa». In: Dicionário Jornalístico Portuguez, vol. I, fl.os 100-102; Cunha, Alfredo da. «Elementos para a História da Imprensa Periódica Portuguesa (1641-1821)», pp. 253-254; Nunes, M.ª de Fátima. *Imprensa Periódica Científica (1772-1852)*, pp. 68-69.

⁴⁰ Ribeiro, José Silvestre. *Historia dos Estabelecimentos Scientificos, Litterarios e Artisticos*, vol. V. Lisboa: Typographia da Academia Real das Sciencias, 1876, pp. 67-68; vol. VI, pp. 123-124; «Ephemerides Astronomicas». In: Dicionário Jornalístico Portuguez, vol. I, fl.os 93- 96; «Ephemérides Astronómicas». In: Grande Enciclopédia Portuguesa e Brasileira, vol. IX, p. 434; Cunha, Alfredo da. «Elementos para a História da Imprensa Periódica Portuguesa (1641-1821)», p. 252.



ical tone of acceptance and/or rejection of the French invader would be discussed in the overwhelming majority of portuguese periodicals after November 1807. The news discourse itself would undergo profound transformations, equally visible in the scientific studies published in periodicals edited during wartime, notably with the first daily newspapers [September 1809], later fueled by news of the Peninsular War [1811-1815].

The ideological battle that will soon take place between *Old Portugal* and *New Portugal* is undeniable. The periodical press will increasingly fuel the political gains of an emerging public opinion, because of the *periodical's affirmation* as a political weapon⁴¹. As for the news discourse of these periodicals, especially in its scientific aspect, this will serve, in general terms, to assist the patriotic cause by raising the level of education and science in the face of external interference in national life.

BIBLIOGRAPHY

- Alves, José Augusto dos Santos. *O Poder da Comunicação. A História dos Media dos primórdios da imprensa aos dias da Internet*. Lisboa: Casa das Letras, 2005.
- *Anno Medico, que contem as observações meteorologicas, e medicas, feitas na cidade do Porto em 1792*. Porto: Officina de Viuva Mallen Filhos e Companhia, 1796.
- Araújo, Ana Cristina. *A Cultura das Luzes em Portugal: temas e problemas*. Lisboa: Livros Horizonte, 2003.
- Balbi, Adrien. *Essai Statistique sur le Royaume de Portugal et d'Algarve*, vol. I. Coimbra/Lisboa: Faculdade de Economia da Universidade de Coimbra/Imprensa Nacional-Casa da Moeda, 2004 [fac-simile da edição de Chez Rey et Gravier, Paris, 1822].
- Bebianno, Rui. *A Pena de Marte. Escrita da guerra em Portugal e na Europa (séculos XVI-XVIII)*. Coimbra: Edições Minerva, 2000.
- Belo, André. *As Gazetas e os Livros: a Gazeta de Lisboa e a vulgarização do impresso (1715-1760)*. ICS: Lisboa, 2001.
- Bêniac, Françoise. «O medo da lepra». In: *As Doenças têm História*, apresentação de Jacques Le Goff. Lisboa: Terramar, 1997.
- *Bibliotheca das Sciencias, e Artes*, n.º 1. Porto: Officina de Pedro Ribeiro França, 1793.
- *Biblos. Enciclopédia Verbo das Literaturas de Língua Portuguesa*, direcção de José Bernardes [et al.], vol. II. Lisboa: Editorial Verbo, 1997.
- Cardoso, Rui. *Invasões Francesas. 200 Anos. Mitos, Histórias e Protagonistas*. Lisboa: IN-CM, 2010.
- Costa, Agostinho Rebelo da. *Descrição Topográfica e Histórica da Cidade do Porto*. Lisboa: Frenesi, 2001.
- Cunha, Alfredo da. «Elementos para a História da Imprensa Periódica Portuguesa (1641-1821)», separata das *Memórias da Academia das Ciências de Lisboa*, tomo IV. Lisboa: ACL, 1941.
- *Diario Universal de Medicina, Cirurgia, Pharmacia &c*. Lisboa: Officina Patriarchal de Francisco Luiz Ameno, 1764.
- Dias, Eurico Gomes. «O esplendor do *Jornal Encyclopedico* na imprensa periódica portuguesa entre os séculos XVIII-XIX». In: *Mátria Digital*, n.º 2. Santarém: CIJVS, Novembro 2014 [vide matriadigital.cm-santarem.pt].
- Idem. *Representações da Idade Média na imprensa periódica portuguesa entre a Restauração e a Revolução Liberal*. Lisboa: Caleidoscópio, 2017.
- *Felicidade, Utilidade e Instrução. A divulgação científica no Jornal Enciclopédico dedicado à Rainha 1779; 1788-1793; 1806*, introdução e coordenação por Fernando Egídio Reis. Porto: Porto Editora, 2005.
- Fernandes, Joaquim. «Gazeta Literária (1761-62): reflexos e sombras de um jornal das <Luzes>». In: *Revista da Faculdade de Letras. História*, II Série, vol. X. Porto: FLUP, 1993.
- Gama, José de Saldanha da. *Biographia e Apreciação dos Trabalhos do Botanico Brasileiro Frei José Mariano da Conceição Velloso*. Rio de Janeiro: Typographia de Pinheiro & C.ª, 1869.
- *Grande Enciclopédia Portuguesa e Brasileira*, Lisboa/Rio de Janeiro: Editorial Enciclopédia, [s. d.].
- Lemos, Maximiliano. *História da Medicina em Portugal. Doutrinas e Instituições*, vol. II. Lisboa: Dom Quixote/Ordem dos Médicos, 1991.
- Lopes, Óscar & Saraiva, António José. *História da Literatura Portuguesa*. Porto: Porto Editora, 1996.
- Machado, Diogo Barbosa. *Bibliotheca Lusitana*, Lisboa: Officina de Antonio Isidoro da Fonseca, vol. III, 1752, vol. IV, 1759.
- Martins, Rocha. *Pequena História da Imprensa Portuguesa*. Lisboa: Editorial Inquérito, 1942.
- Mattos, Manuel de Sá. *Bibliotheca Elementar Chirurgico-Anatomica*. Porto: Officina de António Álvares Ribeiro, 1788.
- Nicholls, A. G. «Nicolas de Bléigny and the First Medical Periodical». In: *The Canadian Medical Association Journal*, vol. XXI, n.º 2, Montreal: CMAJ, 1934.
- Nunes, M.ª de Fátima & Brigola, João Carlos. «José Mariano da Conceição Velloso (1724-1811) – Um frade no Universo da Natureza». In: *A Casa Literária do Arco do Cego (1799-1801)*. Lisboa: BNL/IN-CM, 1999.
- Nunes, M.ª de Fátima. *Imprensa Periódica Científica (1772- 1852). Leituras de «Sciencia Agricola» em Portugal*. Lisboa: Estar Editora, 2001.
- *O Anónimo. Journal portugais du XVIIIe Siècle (1752-1754)*, leitura, introdução e notas de Marie-Helene Piwnik. Paris: Centro Cultural Português/Fundação Calouste Gulbenkian, 1979.
- *O Occulto Instruido, que para licito divertimento, e honesta recreação se ha de publicar dividido em diferentes partes*, n.º 1. Lisboa: Officina de Domingos Rodrigues, 1756.
- Paulo, Zeferino. *Periódicos Portugueses de Medicina e Ciências Subsidiárias*. Lisboa: Instituto para a Alta Cultura, 1944.
- Pedreira, Jorge & Costa, Fernando Dores. *D. João VI, «Reis de Portugal»*, vol. XXVII. Lisboa: Círculo de Leitores, 2007.
- Pereira, A. X. da Silva. *Diccionario Jornalístico Portuguez*, vol. I [manuscrito]. Lisboa: ACL, [s. d.].
- Ramos, Luís A. de Oliveira. *Sob o signo das «Luzes»*. Lisboa: IN-CM, 1988.
- Idem. *D. Maria I, «Reis de Portugal»*, vol. XXVI. Lisboa: Círculo de Leitores, 2007.
- Reis, Artur Duarte Sousa. *Jornais do Porto*, edição fac-similada. Porto: BPMP, 1896/1999, pp. 33-35.
- Ribeiro, José Silvestre. *Historia dos Estabelecimentos Scientificos, Litterarios e Artisticos*, vol. V. Lisboa: Typographia da Academia Real das Sciencias, 1876.
- Rocha, João L. de Moraes. *O essencial sobre a Imprensa em Portugal*. Lisboa: IN-CM, 1998.
- Rossi, Giuseppe. *La «Gazeta Literaria» del padre Francisco Bernardo de Lima (1761- 1762)*. Nápoles: Instituto Universitario Orientale, 1963.
- Sampaio [Bruno], José. *Portuenses Ilustres*, vol. I. Porto: Magalhães & Moniz, 1907.
- Serrão, Joaquim Veríssimo. *História de Portugal. O Despotismo Iluminado (1750-1807)*, vol. VI. Lisboa: Editorial Verbo, 2000.
- Silva, Inocência Francisco da. *Diccionario Bibliográfico Portuguez*, vol. V. Lisboa: Imprensa Nacional: 1860.
- Tavares, Rui. *O Censor Iluminado. Ensaio sobre o Pombalismo e a Revolução Cultural do Século XVIII*. Lisboa: Tinta-da-China Edições, 2018.
- Tengarrinha, José. *História da Imprensa Periódica Portuguesa*, 2.ª edição revista e aumentada. Lisboa: Editorial Caminho, 1989.
- *Zodiaco Lusitanico-Delphico*, [s. n.], Porto, 1749. Edição fac-simile, Porto: Laboratório Normal, 1980.
- *Zodiaco Lusitanico-Delphico. Anatomico, Botanico, Chirurgico, Chymico, Dendrologico, Ictyologico, Lithologico, Medico, Meteorologico, Optico, Ornithologico, Pharmaceutico, e Zoologico...*, pela «Academia dos Escondidos da cidade do Porto, Imitadores da Natureza». Porto: [s. n.], 1749.

⁴¹ Dias, Eurico Gomes. *Representações da Idade Média na imprensa periódica portuguesa entre a Restauração e a Revolução Liberal*. Lisboa: Caleidoscópio, 2017, pp. 322-323.