

Title: Drugs in ads and news: educating people in the nineteenth century press¹

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Abstract:

This research aims at finding out how scientific knowledge reached the common people in nineteenth century Portugal, using newspapers as the main source of information. Collecting news on science and technology is part of a larger research project focused on producing a History of the Popularization of Science and Technology in Portugal, following a model already developed in the UK and the USA (Bauer 2007). This source was probably the most widespread vehicle to divulge the latest scientific news at the time to an unspecialised audience. The following themes are approached: Drug advertisements in the nineteenth century. How did scientific knowledge on diseases and treatments reach the consumer? How did newspapers deal with epidemics? What were the prevention measures and the known treatments at the time? And what was the role of newspapers as educators? Ads show us the interest on divulging new products and the role of publicity as moulder of minds. All these questions introduce us to the role of the media on the subject of social perception of science and technology and the way scientific knowledge reached the common citizen.

Key words: Newspapers, drugs, ads, 19th century, education.

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Introduction:

Was there really an intention to educate people in the nineteenth century Portuguese press? This is my hypothesis. And I say yes, for it was spelled out on *Diário de Notícias*' first issue, on December 29th 1864. The purpose of the oldest Portuguese newspaper still in publication was "to be of interest to all classes, accessible to all purses and understood by every level of intelligence". It was founded in Lisbon as a daily newspaper, and it was inspired by other European newspapers whose goal was to be afforded by a large audience². Therefore it was very cheap and most of its production costs were paid for with advertisements, which was quite a revolutionary concept for the time. The capital city's newspaper took a neutral stance from the political point of view as a result of its ideological commitment to a new descriptive trend in journalism counteracting former interpretative news. It assumed itself as a popular newspaper, in which political neutrality combined with trivial news. Its main purpose was to eradicate long opinion articles, avoid discussions of political and polemic issues, leaving to the reader the task of forming his own opinion based on factual descriptions of events. These technical modifications were clearly associated with an increase in the number of copies per issue and in the importance of advertisements, with a concomitant decrease in copy price and a concern to reach as enlarged an audience as possible, offering a new style of journalism based on descriptive news by contrast to more literary news voicing specific opinions. José Eduardo Coelho (1835-1889), the founding editor of *Diário de Notícias*³, had also introduced "ardinas," newspaper boys, who moved around the city and announced sensational news⁴. On the contrary, the *Comércio do Porto* was four times more expensive and could only be bought in its offices (Tavares *et al* 2006). There was a marked emphasis on the useful character of scientific and technical knowledge, but also, in the case of *O Comércio*, on discussions of its contents, with several long opinion articles on the relevant subjects at the time. In this case, there was a propagandistic dimension in order to make ideas and practices adopted.

² *Diário de Notícias* was followed by Oporto's *O Primeiro de Janeiro*, founded in 1869, and they both remain in publication.

³ Together with Thomaz Quintino Antunes.

⁴ The famous appeal to the creation of cheaper newspapers was made by Eduardo Coelho, while president of the *Associação Typográfica* (Typographical Association). In effect, the price of newspapers with a higher output decreased successively from 30 to 20 and then to 10 réis (Portuguese currency). On the other hand the newspapers' boys were an innovation in Portugal introduced by Eduardo Coelho, who for each 10 réis gave 3 réis to them (Cunha 1904).

Collecting news on science and technology is part of a larger research project focused on producing a History of the Popularization of Science and Technology in Portugal, following a model already developed in the UK and the USA (Bauer 2007). Keeping in mind that “the process of knowledge making involves communication” (Topham 2009) and socially constructed concepts of “science” and “public” (Bensaude-Vincent 2009), and that these studies need to be integrated into a larger interdisciplinary history of public knowledge (Daum 2009), our main goal is to find out how scientific knowledge reached the common people in the nineteenth century, using newspapers as the main source of information. Considering the population’s limited access to written material, nevertheless each newspaper could be read daily by an estimate 30.000 people in Lisbon, which places this source as probably the most widespread vehicle to divulge the latest scientific news at the time to an unspecialised audience. Therefore we chose mainstream newspapers like Lisbon’s *O Século*⁵ and *Diário de Notícias* and Oporto’s *O Comércio*⁶ and *O Ecco Popular*⁷. Our research focuses on collecting news and advertisements that reveal the scientific knowledge of the time. A large database was built and the news and ads on science and technology were classified according to a classificatory grid, which includes the following themes: Science (Agronomy and Silviculture, Anthropology, Archaeology, Astronomy, Biology, Demography, Geography, Geology, History, Mathematics, Medicine, Meteorology, Physics and Chemistry, Statistics, Veterinary, Zoology); Scientific Education; Exhibits and Conventions; Museums; Personalities / Individuals; Publications on science; Accidents, risks and anomalies; Public health (Sanitary science, hygiene, medicine and pharmacy); Professional identity / Associations / Scientific Institutions / Societies; Technology / Innovation (Agriculture, Chemistry and Drugs, Communications, Energy, Engineering, Fine arts and performing arts, Industry, Medicine, Photography and cinema, Public works, Transport system, Urban Life, Veterinary, Weaponry, Others); Travels/ Scientific Expeditions (Geography, Medicine, New species).

“Discontinuity of competences is a historical phenomenon” (Shapin 1990) and the participation of the common people in the various fields of knowledge has always been limited. Regardless of that fact, since the early nineteenth century newspapers have played an important role in the formation of an interested audience. Together with

⁵ *O Século* was a Lisbon daily newspaper, published in 1855. It lasted only 9 months and it was interrupted. A new *O Século* was published daily from 1881 to 1977.

⁶ *O Comércio* was Oporto’s longest running newspaper, published daily since June 2nd 1854 until July 30th 2005. On 1856 its name was changed to *Comércio do Porto*.

⁷ *O Ecco Popular* was a daily newspaper published in Oporto from 1847 to 1860.

the formal education, which concerned European governments since the eighteenth century, and became a matter of Law in Portugal with the liberal revolution and the Constitutional Letter of 1826, and was better put into practice further to the end of the century, newspapers contributed to shape public representations of knowledge in general and to the formation of public opinion. Especially since 1834, when censorship was abolished and there was a surge of scientific and literary newspapers (Tengarrinha 1989). Contemporary to the introduction of science in school curricula, and the creation of technical schools in Lisbon and Oporto (Caraça 1999), new generalist newspapers were brought to the public with innovative purposes. This was a favourable environment for the press, which profited from the contribution of the best intellectuals of their time, either as translators of foreign newspapers and books, or as reporters and opinion makers. They were an educated elite group, and most of them belonged to scientific societies, such as the Royal Academy of Sciences or the Geographical Society of Lisbon. And they felt they had a mission: to educate people and to guide them into a new and better world, for they shared the belief that the press, together with the theatre, had a social role and were instruments of civilization. These instruments helped to spread knowledge and science to a larger audience than books did (Santos 1988). No doubt, in late nineteenth century Portugal, society's references, whether they were political, economic or scientific, originated in the media and in the people who wrote them (Ramos 1994). And all these authors shared a tendency for rational and clear thought (Marques 1981), as well as the same aversion for supernatural and metaphysics, the same emphasis on science and knowledge with practical utility, and the same optimism regarding mankind's capacity to dominate nature and understand the world (Espada 2004). Therefore, news on science and especially on public health showed an intention to educate their audience. And even if selling the product was the ads first goal, they could also educate as a side effect, which complied with the spirit of the newspaper's mission.

1. Public health ads in 19th Portugal

“The main function of an advertisement is to transmit a message which leads to buying a product or service” (*Basic Notions of Publicity* 1964).

Modern advertising developed with the rise of mass production in the late 19th and early 20th centuries. Since its origins as a persuasive tool in the French Revolution, and its consolidation as an economic tool from the time of the Industrial

Revolution, advertising has always been modern. It has used modernity as an important part of most of its messages, and it has acquired the role of speaker for the entire contemporary society. Advertising is attached to the social arrival of modernity and it has the capacity to generate change (Martín 1996).

Émile Girardin, in 1845, established in «La Presse» the first rationalization on advertising: he wrote that ads should be honest, short and simple. And his principles were mainly followed. Businessmen recognised the utility of the press as a highly profitable means of publicising their products (*Basic Notions of Publicity* 1964).

H. G. Wells, the author of *The War of the Worlds* and *The Island of Doctor Moreau*, defined advertising as the act of teaching people how to need things (Martín 1996). And this is an act of civilization (Gide 1909).

It is generally accepted that advertising is an element of progress, of economic and social development. It orients, it supplies information and, it spreads culture, hygiene habits, elegance and good taste. It generates markets, increases demand, intensifies production and lowers prices. Although it was only after World War II that advertising has found its true path, with serious and rational organization, studied and practiced by technicians and structured in scientific models, some advertisements in the nineteenth century had already an intentional commercial attitude. Regarding habit creation, there is, for instance, daily shaving. This habit was imposed by a razor blades manufacturer, who focused his ads on hygiene and man's elegance. He imposed a style and a habit which was generally adopted. Blades were expensive at first, but they ended up with a huge share of the market, which allowed prices to drop to a minimum. In the end, such products, which were too expensive for the general public, have become accessible, even if they were still classified as luxury goods. In view of this there is the extraordinary contribution given by the manufacturers of perfumes, soaps and beauty creams, and by the owners of fashion shops (*Basic Notions of Publicity* 1964).

The development of advertising is a mix of freedom and technology. Its consolidation was contemporary with the uprising of bourgeoisie as a dominant class, with mass production, with the development of transportations, with industrialization, with demographic explosion, in short, with the arrival of modernity. The first ads offered a priceless testimony about an era: they mirrored society and influenced their time (Aaker and Myers 1987, Martín 1996).

Mid-19th century Portuguese newspapers are a clear example of this, with a full page devoted to advertisements, sometime two. On a 4.156 science and technology news and ads database, gathered from 1854 to 1855 and in 1865, there are 67,9 per cent news and 32,1 per cent ads. Most of them with a clear intention to educate people.

Out of 1.334 ads, 51,35 per cent are on public health. In fact there was only a sum of 399 ads, with a frequency of 3,3 each, 35 per cent of them on public health. Therefore, not only does this area present the largest percentage of ads, but also it has the largest frequency of ads.

Table I: Ads in mid-19th century Portuguese newspapers

Themes	Total number of ads	%	Frequency / average	Ads	%
Science	191	14,32	2,3	84	21,05
Scientific Education	167	12,52	1,9	87	21,80
Exhibits and Conventions	1	0,07	1,0	1	0,25
Personalities / Individuals	1	0,07	1,0	1	0,25
Publications on science	135	10,12	2,5	53	13,28
Public health	685	51,35	4,9	139	34,84
Professional identity / Associations / Scientific Institutions / Societies	2	0,15	1,0	2	0,50
Technology / Innovation	152	11,39	4,8	32	8,02
Total	1334	100,00	3,3	399	100,00

Among public health ads, there are 553 on drugs / pharmacies / treatments (41,5 per cent of the total ads). These ads are in fact on 105 products, with a frequency

of 5,3, and a percentage of 26,3 out of a total of 399. Other than this category of drugs / pharmacies / treatments, in the area of public health there is also nourishment, hygiene and vaccines. There is a total of 404 ads on 71 different drugs, with a frequency of 5,7. One of the drugs paid for 64 ads in 1865.

Table II: Drugs in ads in mid-19th century Portuguese newspapers

Drugs for:	Total number of ads	%	Ads	%	Frequency / average
Chest	124	30,7	11	15,5	11,3
Cholera	19	4,7	10	14,1	1,9
Callus	23	5,7	9	12,7	2,6
Skin	58	14,4	9	12,7	6,4
General	28	6,9	7	9,9	4,0
Gonorrhoea	56	13,9	6	8,5	9,3
Digestion	48	11,9	5	7,0	9,6
Fevers	6	1,5	3	4,2	2,0
Syphilis	10	2,5	3	4,2	3,3
Teeth	11	2,7	2	2,8	5,5
Haemorrhoids	7	1,7	2	2,8	3,5
Holloway	7	1,7	2	2,8	3,5
Headaches	6	1,5	1	1,4	6,0
Cattle	1	0,2	1	1,4	1,0
Total	404	100,0	71	100,0	5,7

In view of these sources, apparently the most important concerns at the time were chest diseases, skin and gonorrhoea. In these newspapers, there were ads for 11 different chest drugs, with an average 11,3 publications each (total of 125, 30,7 per cent of 404 drug ads). Wakaka from the Indies, the chest powder, with 64 ads, inflates this number⁸, but there were also one chest jelly (7 ads); one anti-asthma and anti-

⁸ Wakaka from the Indies: the first add was published on February 5th 1865, and it contained a large text: "Restorative chest powder, imported directly by Mr. Belbeuf, a specialist. This aromatic powder serves as lunch to the great ones from the Orient. It is recognized as useful in every chest infections of the European people, and it is fortifying. It regulates the appetite in old people, in people with consumption and in convalescents. It is sold on Norberto's Pharmacy, Largo do Calhariz, 12 a 14, Lisbon". There were 10 of these, and then the ad was shortened to: "For coughing and chest pains. Wakaka from the Indies.

cough elixir (together with a “miraculous ointment” which also cures cancer, scrofula, anthrax and ulcerated wounds); 3 flavoured and aromatic pills, with a total of 13 ads, 6 of which for Finaz chest pills of Iceland concentrated moss, prized in the great Paris exhibition; and two syrups, both certified by the best doctors and sold in the best pharmacies (14 ads). There was yet another syrup, certified by a Paris doctor, made of iodized turnip, with 11 ads. It cured chest disease, scrofula, pale skin, loss of appetite. Later it was forbidden, because its producer, Dr. Grimault, was arrested in France for forgery. The Portuguese Pharmaceutical Society of Lisbon gathered against this doctor’s products and asked the government to forbid their import. A professional class acted together and used this fraud case to assert strongly its competence and exclusiveness on the drug market and control imports of foreign drugs.

There was also the case of Helicina, a drug for chest disease, especially tuberculosis, with 12 ads, which raised a huge discussion. It was produced by the French doctor De Lamare. In April 1855 he had presented this drug at the French Academy of Sciences, saying it cured tuberculosis of the lungs. Helicina is a type of snail and the drug was made with it. One week later, two Portuguese newspapers, one in Lisbon and another in Oporto, printed an article denouncing this “quackery”:

“Throwing the public news without criticism is death. If this discovery was true, should it not be presented with more authenticity? It is not enough to invoke the name of the academies, nor the supposed discoverer, to accept any discovery as real. Helicina is a substance taken from a plant of the salix type. Therefore, salix helix gave a chemist salicyne, and to another it gave helicina, which are synonymous substances, known as antipyretic. For the preparation of helicina, check Mr. Raspail’s Organic Chemistry Treaty, ed. 1839, Brussels, p. 399. In our country there are plenty willows, and it’s from these trees’ bark that helicina may be obtained”⁹.

This writer had a point, and he showed us his knowledge of the aspirin predecessor, but he was not referring to the same drug. Although Aspirin was not patented until 1899, several doctors already used salicylate drugs as analgesic, antipyretic and anti-inflammatory medication. Raspail has already written about it, and in Portugal it was also used. But Dr. De Lamare was advertising another Helicina,

Restorative chest powder. Norberto’s Pharmacy, Largo do Calhariz, 12 a 14, Lisbon”. There were another 12 of these, and then there were 42 with the reduced text: “For coughing and chest pains. Wakaka from the Indies. Norberto’s Pharmacy, Largo do Calhariz, 12 a 14, Lisbon.” The producer knew he had conquered the market.

⁹ *O Século* n. 23, 29/04/1855.

made with snails, and it was well received by an Oporto chemist, who defended it and started preparing it and selling it in his own pharmacy. And the following month, a series of 12 ads started to be printed in the same newspaper.

Skin diseases were also quite a problem, considering hygiene conditions: there were 20 ads for dr. Queiroz unguent, used to cure rushes and skin eruptions; 5 more for two similar unguents and another one for scabies. And apparently, like today, women were targets for beauty ads: 17 of them for the Cosmetic Elixir: “for skin diseases, it makes your skin white, soft and shinny. Good for pregnancy spots and freckles...”. There was also another elixir called Mariembourg Water, with the same effect, and it was so soft it could be ingested without a problem.

There were also 7 ads for a very modern and infallible soap, discovered in the USA, which cured chilblain. Finally there were 4 ads for a deposit (not a pharmacy, neither a drugstore) where multiple drugs were sold: an injection to end gonorrhoea, an unguent to make hair grow and another to stop hair from turning gray and make it soft.

Definitely gonorrhoea was a hot subject: 6 products were advertised, with an average 9,3 each and a total of 56. Other than that injection, sold outside the pharmacies, there was another deposit in Lisbon where an injection was sold. Invented and prepared by a Dr. M. de Bernardini, it was supposed to be both a treatment and a prophylactic. But these were exceptional cases: most drugs were sold in pharmacies: there are 50 more gonorrhoea treatment ads, 33 of them for an injection prepared in a pharmacy and distributed to the main cities in Portugal. Four other ads were for an injection and vegetable capsules prepared by the same Grimault who produced the turnip syrup. This treatment was made with Matico leaves, from a Peruvian tree, and it was supposed to provide a quick and infallible cure for gonorrhoea. These ads also stopped after his arrest.

There were also 48 ads for digestion drugs, 33 of them for Pepsina Digestive Elixir, according to Dr. L. Corvisart’s formula, prepared in a pharmacy in Lisbon. It gave an appetite, helped digestion, cured stomach diseases and strengthened feeble intestines. It was sold in other pharmacies in Lisbon and Coimbra and it was guaranteed by a brand. There were four more drugs for digestion:

- 7 ads for Iron Phosphate, by Dr. Leras, a Doctor in Sciences and Inspector of the Paris Academy. It was approved by Medical Academies from all over the world. It cured white jaundice, paleness, stomach aches, painful digestions, nervous affections, loss of strength and appetite, menstrual losses.

- 4 ads for Castor Oil Jelly, prepared by Dr. Luz, a Pharmacist. It is known that castor oil is the sole true laxative, even though it tastes and smells nauseously. It purges softly, without provoking intestine irritation, and in the form of a jelly it has a soft and nice taste. Sold exclusively in pharmacies.
- Lithinés du Dr. Gustin, to avoid liver, bladder and kidney disease, kidney stones, rheumatism. Sold in pharmacies.
- Ginger liqueur, good for stomach aches and also used in England as an antidote for cholera¹⁰.

There were two syphilis drugs advertised: one of them had 6 ads, and it was a concentrated essence of sarsaparilla prepared in vapour. Very tasteful and sold in a Lisbon Pharmacy. The other was the “True Anti-syphilitic by Rob de Laffecteur, arrived directly from France” and not sold in pharmacies.

There were 3 drugs for intermittent fever (6 ads), 2 for haemorrhoids (7 ads) both by a German chemist who prepared a ointment (not sold in pharmacies), 2 for tooth pain (11 ads), sold in drugstores and perfume shops, 10 for cholera (19 ads), not only during the 1855 cholera morbus epidemic, but also ten years later, when there was a cholera threat from Spain, which arrived to the frontier town of Elvas.

During the epidemic there were also many news and government instructions, issued by the health department, and there were a set of sanitary measures which caused a lot of controversy and discussion, such as closing the harbours, and interdiction of fairs and markets. It was considered that poverty and poor hygiene were the most probable causes for cholera (Tomes 2006), but the question of whether it was contagious or not still raised quite a lot of discussion (Baldwin 2005), particularly in the International Sanitary Conferences which took place in 1851, 1866, 1874, 1881, 1885, 1892, 1893 and 1897. The ads on cholera drugs reveal the exact state of the art at the time: the only known remedy for cholera at the time was the spirit of camphor, sold in pharmacies and hospital dispensaries. During the 1855 epidemic, this medicine was free for poor people. The ads could be very explicit and had a clear intention of educating people regarding this disease: for instance, one of them, published in Lisbon in 1855, had a long description of all the symptoms and instructions for the entire treatment and diet as long as the disease lasted.

¹⁰ *O Comércio* n. 221, 27/09/1855.

Title: "Infallible remedy". Text: "Instructions for a quick treatment of cholera. Spirit of camphor, with sulphur, prepared according to doctors Quinn and Feldman formulas. Instructions: As soon as someone goes down with the first symptoms of cholera, such as vomits, diarrhoea, sudden prostrations, chills, chest spasms, legs' tremors, etc., he/she should immediately get into bed, with covers, but not too many; he/she should be given, with no longer delays, two drops of spirit of camphor, in a spoon full of cold water with some sugar; five minutes past, another dose, and successively every half an hour. This is for as long as the disease lasts. He/she should only eat chicken, lamb or beef broth, with some rice on it. Green or overripe fruits, acids, green vegetables, salads, fatty substances, all indigestive foods, and all sorts of excessive behaviours should be avoided. The healthiest foods are beef broth, roast meat, and rice, all with moderation. Tee, even with milk and sugar, can be drunk without fear, as well as a good wine, but always moderately..."¹¹.

Other treatments were available, such as scrubbing the patients with warm salt water, to activate circulation on dying patients¹². Spirit drinks were also advertised as an antidote. An official report listed the following cholera treatments: "friction on the extremities, hot water, tea, chicken broth, gum Arabic syrup, egg and laudanum"¹³. Other drugs were developed and tested for the same purpose, mostly in Spain, based on the following substances (6 news): spearmint¹⁴, iodine¹⁵, rhatany extract (or krameria), Arabic mucilage and cider peel syrup¹⁶. Brandy was distributed as medicine to the troops based on the Spanish border¹⁷. And a doctor from Braga (a northern town) wrote to the newspaper about his experience during the epidemic: he treated 46 cases, and tried the spirit of camphor and the spearmint, with poor results. Then a colleague from Lisbon sent him his secret formula, which he tried, achieving "wonderful results"¹⁸. Ten years later, this colleague from Lisbon, Lourenço António Correia, a surgeon in the royal hospital and director of one of its infirmaries, and a knight, announced in the *Diário de Notícias* his intention to give away his Preservative Liquor to every Portuguese doctor who should like to try it on his patients and confirm its virtues. All they needed was to write a letter, signed and confirmed by a notary, and

¹¹ *O Século* n. 103, 07/08/1855. The ad ends with the price of each bottle of the drug, which was sold in an Oporto hospital.

¹² *O Século* n. 119, 28/08/1855, n. 122, 31/08/1855, n. 125, 04/09/1855, n. 132, 12/09/1855.

¹³ *O Século* n. 45, 26/05/1855.

¹⁴ *O Comércio* n. 191, 21/08/1855.

¹⁵ *O Século* n. 122, 31/08/1855 and *O Comércio* n. 197, 28/8/1855.

¹⁶ *O Século* n. 174, 03/11/1855. The patient should remain in bed, with a diet and no liquids.

¹⁷ *Diário de Notícias* n. 234, 15/10/1865.

¹⁸ *O Século* n. 159, 16/10/1855.

then, after experimenting, they should publish their results¹⁹. Anyway, the formula remained secret.

Considering the geographic origin of the epidemic, the following news was published as a serious advice, from someone with important experience on the subject:

“A Portuguese man, who lived in the East Indies for 36 years, in countries where cholera is endemic, sent the newspaper a recipe for a very simple cholera medicine, very much in use against such a damaging plague: Two fifths absinth, one fifth elder-tree flowers, one fifth mint leaves, and one fifth liquorices. All these vegetables are to be boiled (...) Cholera is an internal disease which requires perspiration. As soon as someone goes down, this broth should be taken abundantly, even if the patient vomits. It should always be repeated. If the patient wants a drink of cold water, it should be given, because it is a good symptom, and cold water also causes perspiration. For prevention, half a glass of water with absinth, brandy or cologne water should be taken in the morning, followed by putting a clove in your mouth, which should be replaced when its juice is exhausted”²⁰.

Leeches were also applied on patients' stomachs²¹. There were also other recommended treatments: fireplaces, gunpowder and sulphur flower combustion, to keep away the disease, as well as walking herds of cows through the streets, because their breath would purify the air. And, of course, masses and prayers, which were reported in the news, but not entirely approved by the newspapermen.

In the end, cold weather was considered to be the best treatment, for cholera seemed to be less prevalent during the winter. But then, when the cold and the snow arrived, and cholera patients continued to show up in the hospitals, there was always some surprise associated²².

Other drugs: 23 callus ads, for 9 different products, such as chemical files, plasters and gums. In this case, as well as for deafness treatments, there were several ads written by thankful patients, saying that these products saved their lives and ended their suffering. There was one ad for a bovine foot-and-mouth disease homeopathic treatment. There was a surge in Europe in 1865, but there was no drug for it. It reached Portugal and there was a tight control on the slaughter houses and markets. But nothing like in Great Britain.

¹⁹ *Diário de Notícias* n. 247, 31/10/1865.

²⁰ *O Século* n. 182, 13/11/1855.

²¹ *O Comércio* n. 218, 24/09/1855.

²² *O Comércio* n. 276, 01/12/1855.

There were 28 ads for 7 different generalist drugs: two of them simply indicated that they were meant for contagious disease patients (Copahiba – Mège with 9 and Raquim Capsules with 6 ads). Both were sold in pharmacies and said to be approved by the French Medical Academy and recommended by French and English doctors and used in hospitals in Paris and London. Cod-liver-oil also published 3 ads and it was sold in a drugstore. 3 ads were for drugs that simply made people stronger and happier (not sold in pharmacies). For instance there was a chest syrup with 2 ads that was “indispensible for healthy people, it cures the following diseases: sadness, care, passion, cowardice, fatigue, loss of appetite, seasickness and nervous breakdowns”. Another one was simply a wine ad, said to cure all diseases and melancholy.

And finally, the Holloway pills and ointments. Thomas Holloway (1800-1883) was an English advertising genius and visionary. The son of a baker, he worked in London as a secretary and interpreter for a firm of importers and exporters. In 1836, he set himself up as a foreign and commercial agent in London. Holloway had business connections with an Italian, Felix Albinolo, who manufactured and sold a general purpose ointment. This gave Holloway the idea to set up a similar business himself in 1837. He began by using his mother's pots and pans to manufacture his ointment in the family kitchen. Observing the potential in patent medicines, Holloway soon added pills to his range of products. Holloway's business was extremely successful, due to advertising exclusively. Holloway's first newspaper announcements appeared in 1837, and by 1842 his yearly expenses for publicity had reached over £5,000 (GBP). By the time of his death, he was spending over £50,000 a year on advertising his products. The sales of his products made Holloway a multi-millionaire, and one of the richest men in Britain at the time. Holloway's products were said to be able to cure a whole host of ailments, though scientific evaluation of them after his death showed that none of them contained any ingredients which would be considered to be of significant medicinal value. In later life he became a philanthropist: he built a sanatorium and a college for the University of London.

In Portugal, ads for his drugs were published in an Oporto newspaper, *O Ecco Popular* in 1855, and they occupied half a column, and had pictures with doctors and patients and the symbol of medicine, with the snake. The ads were as follows (a resume):

Title: “Incomparable Remedy. Holloway Ointment”. Text: “Thousands of individuals from every nation can witness the virtues of this incomparable remedy that heals

everything. The ointment is useful on the following cases:..." There is a list of about 30 diseases, including: cramps, callus, cancer, headaches, backaches, limp aches, general skin infections, sore gums, chilblain, leprosy, snakebites, scabies, twisted veins...

Title: "Holloway Medical System. Holloway Pills". Text: "This priceless specific, produced entirely out of medicinal herbs, does not contain mercury, neither any noxious substance. Benign to the youngest and to the frailest, it is equally safe and ready to remove every discomfort within the strongest. It is entirely innocent in its effects, because it searches and removes diseases of any kind and degree, however old and fierce they are. Among thousands of people cured with this drug, many of them in their deathbeds, by persevering in its use they could regain their health and strength, after having tried uselessly all the other drugs. It is useful on any of the following diseases:..." There is a list of about 50 diseases, including: epilepsy, asthma, cramps, convulsions, fatigue, dysenteries, throat ache, stomach ache, kidney ache, migraine, fevers, gout, haemorrhoids, jaundice, indigestion, menstrual irregularities, worms, liver spots, tuberculosis, lung consumption, urine retention, rheumatism, tumours, ulcers, and so on.

It is said to be a specific, but then it cures 50 or so diseases... They are both sold at an Oporto drugstore and taken to the public for the general knowledge of doctors and pharmacists. *O Comércio*, *Ecco Popular's* rival Oporto newspaper, had denounced a year earlier the exaggerated production of these pills and ointments, and others produced by charlatans, or quacks of the same kind, such as Morrison, another pill manufacturer, who paid the British government 20.000 pounds per year in taxes. This was beneficial for the state, regardless of the effects of the drugs. This news had been quoted from a British newspaper²³. This is an old discussion, still very contemporary...

In short, within the pharmaceutical community there was clearly an intention to advertise its own products, prepared by the Portuguese chemists themselves. Other drugs, sold usually outside the pharmacies, advertised they were prepared abroad, by the best French doctors. Also, the pharmacist's drugs were mostly specific, and all the others were generalist. This was also used by this class to assert seriousness and allege that they sold drugs that were supposed to be more scientific.

²³ *O Comércio* n. 24, 28/07/1854.

Public health ads on nourishment, hygiene and vaccines also reveal educational and informative intentions: there are 32 of them, with a frequency of 4,1 (total 132). Special concerns: in hygiene, tooth washing powder; and in nourishment fortifying food, such as calves foot jelly, produced in two separate and competing bakeries. It was supposed to be good for feeble persons or chest disease convalescents. It seemed like any fortifying nourishment was good for tuberculosis, or other diseases:

Title: "Central Confectioner's Shop": "Just arrived from Paris, the excellent chocolate with gum Arabic, produced by a French company, very useful to chest patients."

Title: "Chinese Gourok": "It is a nourishing product that is prepared like coffee, but it should be boiled in water. The portion is the same as for a cup of coffee. You can take it at any time, with milk, bread or butter. This product avoids colds and any other illness, and it fortifies your stomach. Sold in Lisbon, Gold Street, 282 e 284".

Regarding hygiene: D. de Vitry placed his ads in French and he always mentioned that he was Their Majesty's surgeon-dentist. In the *Diário de Notícias* in 1865 he placed 16 ads for his dental powder and elixir:

"Grand choix de dentifrices, d'une renommée justement acquise; poudre et élixirs très efficaces pour la conservation des dents et des gencives. D. de Vitry, chirurgien-dentiste de Leurs Majestés, 292, rua Aurea, au coin de la place de D. Pedro (Rocio) Lisbonne."

"La poudre d'arec aromatique nettoie parfaitement les dents, blanchit l'émail, arrête la carie et toute autre maladie des dents; elle fortifie les gencives, rend l'haleine fraîche et suave, et entretient les autres parties de la bouche, dans l'état de santé le plus parfait, jusqu'à l'âge le plus avancé. L'eau dentifrice d'arec aromatique est préparé avec le même discernement que la poudre, par conséquent elle possède toutes les propriétés de faire disparaître la mauvaise haleine, et sous ce rapport aucune préparation ne peut lui être comparée. D. de Vitry, chirurgien-dentiste de Leurs Majestés, 292, rua Aurea, au coin de la place de D. Pedro (Rocio) Lisbonne."

He also placed 10 ads for his consults and 3 more on artificial teeth. There were another 10 dental powder and elixir ads, named "Wonderful powders and balsamic water", or, on another title: "Daily hygiene". These ads have probably taught a lot of people that teeth had to be cleaned daily.

Text: “With the wonderful powders and balsamic water, you avoid tooth ache, caries, and other mouth sufferance...”

Hygiene ads also included 9 for a soap factory and 7 for insect-powder. This insecticide ad described all the bugs it destroyed, and it pointed out the brand, with an anchor and a signature: Oliveira. This was also quite modern for the time, when most drugs and pharmaceuticals were still produced in the pharmacy, by the chemist. This one had a brand, a name, and it advertised it. It was produced and sold by a prestigious pharmacy in downtown Lisbon.

Then there are several different ads by two perfumer’s shops in Rossio, Lisbon’s central square. One of them, called “À la Corbeille de Fleurs” placed 22 successive ads, upon receiving new beauty and hygiene products. Seven of them were on “perfume and beauty products just arrived from the best Paris factories, sold at very reasonable prices”. Among others, they describe the “Fluide Transmetatif de Bleuze – lladancourt de Paris, the best and most effective product to dye your gray hair in six colours, ranging from blond do black. Extrait de Roses de Provins, the best to wash your hair and prevent hair loss. Eau de France – This perfumed and balmy water is excellent for your toilette if you dissolve it in your bath; it softens your skin and it is incomparable for shaving. Florid Water – The quality of this water is recommendable, not only for its perfume, softness and vigour for your nerves, but also because it clears your wrinkles and skin stains. There can also be found cologne water, substances, oils and ointments sold by weight”.

There were other 10 different ads on soaps (total 39), which included glycerine soap, perfumed tar soap (good for skin diseases) and “savon léger à la neige”, prepared especially for the bath; it had the advantages of whitening and perfuming the skin and it floated of bath water.

Vaccines: there were two different ads, both institutional. One of them was published 4 times in *O Comércio*, telling people to use this free service every Wednesday at 11, in a municipality’s department at Oporto. The other from the Royal Humanitarian Society that announces free smallpox vaccines every Tuesdays and Saturdays from 9 to 10 am, also at Oporto. The smallpox vaccine had been around since the end of the 18th century, after Edward Jenner’s studies with milkmaids. But it was not until 1885 that Louis Pasteur generalized Jenner's idea by developing what he called a rabies vaccine (now termed an antitoxin), and by the late 19th century vaccines were considered a matter of national prestige, and compulsory vaccination laws were

passed. In 1855 it was already considered important, but not yet compulsory. Anyway they raised interesting discussions: there are 10 news on the subject. Certainly the most controversial ones are the ones from 1855 that advice against vaccination. Commenting on Dr. Verdá de Lisle's book, a Portuguese scientist, J. A. d'Oliveira, describes the degeneration of the human race caused by the influence of the vaccine. According to Lisle, smallpox was necessary for people as a natural fortifier of the immune system, indispensable for children to grow into adulthood²⁴. Following the same line of thought, in Germany there was a crusade against vaccines²⁵. Later, in 1865 there is several news that shows a better acceptance of the vaccine. For instance in Rouen, Dr. Paulo Lavasseur discovered cowpox, the natural cow vaccine²⁶. Others describe the statistics of vaccination in Lisbon²⁷ and the statistics of smallpox in Portugal: in 1863 there were 1.765 deaths. The news ends with the sentence: "This is to show the people the need for vaccines!"²⁸. Yet another tells of the use of a magnetized needle being more effective for the vaccine than a normal one, for the fast absorption of the virus²⁹. And finally Dr. Sartorio, from Napoli, tried a cholera vaccine. He sent a paper on this subject to the Medical Institute of Paris³⁰, but the news doesn't tell the results.

Regarding treatments and consultations: 33 ads, with an average of 4,2 in a total of 138. There were ads on spas, dental offices and magnetic electricity treatments (good for chronic diseases, such as paralysis, neuralgia, neurosis, aneurism, gout, bronchitis, rheumatism, ear buzz, deafness, old ulcers, uterus, sprains, sciatica, epilepsy), among others. There was also a leeches' rental and sale ad. And several doctors offices, who all gave free consults for the poor. Homeopathic consults were very much in fashion those days in mid-19th century, after it was established at the end of the 18th century by Samuel Hahnemann. And there were at least two competing Raspail followers in Lisbon. They both claimed to be the real Raspail specialists. François-Vincent Raspail (1794-1878) was a French doctor, a chemist, naturalist, physiologist and a free-thinking politician. He wrote two important chemistry treatises, and several other medical manuals. He was one of the first hygienists and defendant of the poor. His motto: "Never the cause of one man, always mankind". The Portuguese

²⁴ *O Comércio* n. 169, 25/07/1855.

²⁵ *O Comércio* n. 184, 11/08/1855.

²⁶ *Diário de Notícias* n. 13, 17/01/1865.

²⁷ *Diário de Notícias* n. 27, 02/02/1865.

²⁸ *Diário de Notícias* n. 283, 14/12/1865.

²⁹ *Diário de Notícias* n. 142, 28/06/1865.

³⁰ *Diário de Notícias* n. 239, 21/10/1865.

“Raspalhistas” published 20 ads all together, both claiming that they were the real ones. Poor people were consulted for free, according to Raspail’s humanitarian prescriptions. They also made operations and they sold Dr. Raspail’s manuals, with instructions to cure cholera cases.

Regarding medical manuals and treaties, there were 37 ads on science publications (with a total of 135 and an average 3,7), 8 of them from a Scientific and Literary Journal (6%), 38 from a medical journal called “Escholiaste Medico” (28,1%), published in Lisbon every two months under the protection of the army’s health department (no description of the summary), and another Lisbon medical journal titled “The medical needle”, with 4 ads (3%). There were also 2 pharmaceutical journal ads, both published in Lisbon, one from the Portuguese Pharmaceutical Society, with 8 ads (5,9%), which includes a formulary of chemical products, and the other titled “Lisbon’s Journal of Pharmacy and Accessory Sciences”, with only one ad and a full list of contents, such as: The means to recognize ointment falsifications, strychnine sulphate syrup, surgical operations, cholera morbus, and others. 12 homeopathy books ads (8,9%), all of them about the treatment of cholera, precisely during the 1855 cholera morbus epidemic. They all provide instructions on how to prevent cholera and first treatments before the doctor arrives. 27 medical books ads (20%), 16 of them on 4 books with instructions to prevent and treat cholera morbus before the doctor arrives, all of them during the 1855 cholera epidemic. The others were: 2 ads for a book by a Raspail follower, 2 ads on a “General Formulary for doctors, surgeons and Pharmacists”, 2 ads for a book titled: “The secret diseases doctor”, and 5 for a “Medical Treaty on generation organ diseases”. There is also one ad on the subject of horses, by a veterinary school professor.

Then there were 15 ads asking for a doctor to go on a ship to Brazil. There was a law requesting every merchant ship to take a medical doctor in its crew. But, apparently, there were not enough doctors in Portugal to go to small rural towns neither to go on ships. This brought about an interesting discussion about the license to practice medicine and the public and private investment on medical schools. There were a few opinion articles about how expensive it was to put a son through medical school, and then these young doctors only wanted to stay in big cities and earn a lot of money (which is quite a contemporary discussion) and about the need to create medical intermediate schools to license medical officers, with enough knowledge of medicine to be put to use on small villages and ships. These officers would not need to get a full medical license, but they would be useful to the people and less expensive to

graduate, both to the state and their parents. Because the argument was that paying medical professors was really expensive for the state³¹.

There were also 7 ads on reading cabinets, on bookshops. These were clearly meant on the creation of reading habits.

The nineteenth century was an empirical time: advertisements used intuition and craftsmanship, imagination and enthusiasm. Professional experience was the only tool for the job. Very much like the journalist's job. The first ads were very rational: they appealed to good sense and logic, to the qualities of the product, and they were highly demonstrative (Martín 1996).

2. The news

2.822 News was gathered on science and technology, 54,5 per cent of them on public health.

Table III: News on science and technology

Themes	Nº	%
Science	419	14,85
Scientific Education	147	5,21
Exhibits and Conventions	57	2,02
Museums	16	0,57
Personalities / Individuals	52	1,84
Publications on science	59	2,09
Accidents, risks and anomalies	18	0,64
Public health	1537	54,46
Professional identity / Associations / Scientific Institutions / Societies	40	1,42
Technology / Innovation	447	15,84
Travels/ Scientific Expeditions	30	1,06
Total	2822	100,00

The largest percentage of news on the area of public health are on diseases, 40,7 per cent, because this work was done mostly on sources from 1855, in the middle

³¹ *O Comércio* n. 180, 07/08/1855.

of a huge cholera morbus epidemic throughout Europe, and yellow fever epidemic in the United States.

There were 59 news (2,1 per cent) on publications on science, and most of them published the index of the book of journal, with a clear intention to attract interest on the subject. For instance, the news on the Lisbon Medical Gazette n. 69 transcribes its index: “On the supposed antagonism between consumption and malaria; On the application of iron perchlorate in aneurism treatment; Lupus; Eclampsia and albuminuria; Foreign journals review; Medicine and Surgery; Epidemic news”.

On the sub-area of medicine and pharmacy there were 66 news (2,34 per cent of the total news), 8 of them on homeopathy: these news are either disguised ads (news could be paid for) or they simply revealed the editor’s preferences. One of them is quite interesting: it is about a collection of homeopathic pharmacies in leader boxes filled with little glass bottles of homeopathic doses, prepared according to D. Cesario Martin Somolinos’ homeopathic manual, and sold at a Spanish bookstore. “Samuel Hahnemann’s followers can find there all the necessary drugs at low prices and take home both a doctor and a pharmacy”³².

Other than the above mentioned news on drug frauds and the professional claims of the Portuguese pharmacists, there is news on the organization of pharmacy schedules during the cholera epidemic crisis and giving away drugs to poor patients. The health department was supposed to return this money, but a few pharmacists did not take it. Of course these charitable acts were advertised, both in ads and news.

Regarding drugs, with 71 ads and only 17 news, there are 4 times more ads than news on this subject, which establishes not only an educational function for ads, but especially an interest in establishing a market and demand habits. Considering ads repetition, on a total of 404, then there are 23,8 ads for each news.

Most of the 17 news are on cholera drugs, during the 1855 epidemic: the above mentioned spirit of camphor, and one about how the excessive use of this drug to prevent cholera caused mental alienation and led 8 people to an insane asylum³³. This is clearly informative news, with an intention to educate people in what not to do.

³² *Diário de Notícias* n. 6, 08/01/1865.

³³ “Some of these people had camphor in their pockets, and ate little pieces from time to time; other dissolved it in brandy. Taken in strong doses, camphor always provokes mental alienation. It is known that only a small amount can drive a dog insane, and soon the animal shall die”, *O Comércio* n. 47, 20/09/1854.

Other than cholera medicine, there were other drugs described in these mid-nineteenth century newspapers. There were two news on drugs for intestinal parasites: one with a secret formula³⁴, and the other, a transcript from a medical journal, with a full description by a doctor, on sulphuric ether followed by castor oil, as a means to expel tapeworms (taenia)³⁵. Three more news on chloroform, which had been discovered three decades earlier: after the works of Samuel Guthrie, Eugène Soubeiran and Justus von Liebig in the 1830s, chloroform use expanded in Europe. In 1847, the Edinburgh obstetrician James Young Simpson first used chloroform for general anaesthesia during childbirth. In 1854 the “distinguished” Dr. Robert de Lambelle announced that an electric shock given to a person in danger because of chloroform overuse should immediately neutralize the effects of the substance and give life back to the dying person³⁶. And in 1865, in a session of the French Academy of Sciences, M. Fourens exposed chloroform’s use since the 1855 Crimea campaign: it had been applied over 25 thousand times, always successfully, proving to be beneficial and helpful to mankind³⁷. Other uses were also discovered for this new drug: dissolved in water it would end nausea and seasickness. The news on this matter was ironic: after describing the successful experiences of an Athens doctor, Dr. Landerer, with over 20 passengers on a trip, in the middle of a storm, the writer ends the story stating that the best medicine for seasickness is staying ashore³⁸. And in England chloroform was being used to rob people in the streets³⁹.

Finally, 5 more news:

- Ointments for smallpox prevention: according to a medical journal, a German doctor recommended this use because the fatty substance should keep debris diffusion of pustules into the atmosphere⁴⁰.
- Arsenic as an antidote for strychnine, an experience on three dogs on New South Wales, Australia⁴¹.
- Quinine in the coffee for malaria prevention (marsh fevers), tested on the electrical telegraph construction workers in the South of Portugal⁴².

³⁴ *O Século* n. 169, 27/10/1855.

³⁵ *Diário de Notícias* n. 62, 17/03/1865.

³⁶ *O Comércio* n. 35, 23/08/1854.

³⁷ *Diário de Notícias* n. 137, 20/06/1865.

³⁸ *Diário de Notícias* n. 151, 09/07/1865.

³⁹ *Diário de Notícias* n. 153, 12/07/1865.

⁴⁰ *Diário de Notícias* n. 149, 07/07/1865.

⁴¹ *Diário de Notícias* n. 128, 07/06/1865.

⁴² *Diário de Notícias* n. 207, 14/09/1865.

- Applying salt on cod-liver-oil for better taste and digestion⁴³.
- Petroleum for scabies. This last one was a transcript from a medical journal and it describes the application of petroleum topically, without rubbing, which kills the “animal” instantly, not only on your skin, but also on clothes. It was also good to kill mites⁴⁴.

Regarding treatments, in mid-nineteenth century spas regained life, as doctors have begun analyzing the chemical composition of mineral waters and recommending their use for the treatment of several diseases. In these newspapers there were 6 news on this subject.

And three interesting ones on rabies (Hydrophobia), also supposed to educate people on how to treat people immediately after being bitten by a sick animal (the rabies vaccine was developed only in 1885 by Pasteur and Roux): two on washing the bite with water, which was considered the most effective elixir to save the bitten one, and one on cauterizing (burning) the wound immediately.

The big bad wolf stories in those days and our European traditions can be tied to wolves eating little children, but I suppose there were more dangers in rabies transmission than actually wolves eating the children. The same applied to rats and bats.

On hygiene: there are 215 news on this subject (7,62 per cent), most of them sanitary alerts to the authorities. There was awareness that hygiene was important to avoid contagious diseases, and there were several campaigns in these years to clean the houses of poor people and to divulge cleaning methods for houses and clothes. In this news, they showed the importance of opening windows and getting fresh air into the sick person’s room and getting rid of putrid miasmas⁴⁵. For instance, the health department issued official reports on cholera prevention, describing the organization of hospitals in each parish and the distribution of doctors and other sanitary workers, who were supposed to visit patients and poor people in their homes, together with private assistance institutions, and also instructions on how to clean the body and the houses, avoid excess, unruly and depraved life, violent passion, terror and fright, food in excess. And some recipes and medicine that people should have at home, such as

⁴³ *Diário de Notícias* n. 220, 29/09/1865.

⁴⁴ *Diário de Notícias* n. 62, 17/03/1865. And n. 21, 26/01/1865.

⁴⁵ *O Comércio* n. 130, 06/06/1855.

deer horn scrapings, gum Arabic, mustard, turpentine essence, sulphuric acid, laudanum...⁴⁶

Bugs were a problem, and the solution looked simple enough: soap and boiling water:

“Recipe to kill those inopportune bugs. The wise French chemist, Mr. Thenard, has just divulged to the Academy of Sciences the use of soap to kill bugs. He has dissolved soap in boiling water and applied it to the bugs. Total success: they all died instantly, as if struck by lightning. Not happy with these results, he also wanted to kill their seeds. So he had the wall, the beds and all the furniture washed with the same formula. The enemy never showed up again. We recommend this easy recipe to our readers”⁴⁷.

Regarding nourishment, there are 15 news on this subject: the history of sugar; the properties of tea, advantages or horse meat, the importance of hospital diet for patients. This one was intent on educating people not to take food when visiting patients in the hospital, for “clearly this barbaric costume of the wife smuggling bottles of wine, fried fish and cherries for her sick husband can kill him...”⁴⁸. In 1865 the Baron of Liebig published in a London newspaper the description of a new formula to replace mother’s milk for children. This was quoted from a medical journal, and it refers that in Munich every pharmacist sells this flour mixture⁴⁹.

Conclusion:

With this research we’ve come to realise what prevention measures were taken during the cholera epidemic, and what were the known treatments at the time. We’ve also noticed that Portuguese pharmacists in the mid-nineteenth century were already organized as a professional class that stood for their rights and exclusive competence, against foreign generalist drugs and the people who sold them, especially foreign doctors, whose references they did not trust.

The question of how scientific knowledge on diseases and treatments reached consumers cannot be answered simply by analysing the news and ads on mid-19th century newspapers, but this research can provide some contribution on the subject. It is known that the news reached only an elite group, due to low levels of literacy.

⁴⁶ *Diário de Notícias* n. 230, 11/10/1865.

⁴⁷ *O Comércio* n. 246, 26/10/1855; *O Século* n. 159, 16/10/1855.

⁴⁸ *O Comércio* n. 135, 13/06/1855.

⁴⁹ *Diário de Notícias* n. 75, 02/04/1865.

Nevertheless, there were some ways to divulge information through the streets, either by the boys who shouted the news when distributing newspapers, or by means of collective readings on taverns and other public and private spaces. Generalist newspapers were written by journalists who had access to many international publications, both generalist newspapers and specialized journals, particularly from European countries and the United States. This way, they were able to provide their readers with the state of the art of science and most every other cultural aspect of their time. And they all showed a clear intention to educate the readers and to improve their lives, using a type of language and scientific and pedagogical rhetoric inherited from the eighteenth century. Taking into consideration these newspapers' educational mission, clearly they had an important role as educators and divulgators of scientific knowledge.

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