

THE LAST PHARMACOPOEIAS OF THE ITALIAN STATES PRIOR TO UNIFICATION (1853-1858)

Antonio Corvi

As I think I have demonstrated in my previous work comparing the pharmacopoeias of four Italian states prior to unification that were published in the 1830s, these differed from one another not only in terms of their medical content but also, and more dramatically in their regulations⁽¹⁾.

In addition to impeding Italian pharmacy from progressing in a uniform manner, this unfortunate state of affairs made it impossible for a prescription to be dispensed in the same way in different places, for example in Milan and Naples. The most serious discrepancies were in the weights used and the lists of products it was obligatory to keep in stock in pharmacies.

This situation was considered unsustainable by the scientists and professors of the various universities and in the 1840s numerous conferences were held at which there was a general culture in favour of unity and a conviction that one nation must inevitably arise founded on Italian traditions and language.

In the report on the eighth congress held in Genoa in 1846, the following motion was put forward.

“The multiplicity and diversity of pharmacopoeias, weights and measures used for medicaments in use in Italy frequently give rise to a lack of order and difficulties in the practice of medicine. Indeed, it is well known that pharmaceutical preparations not only acquire different degrees of efficacy depending on the preparation methods, but they can also take on different properties and deliver decidedly different actions”⁽²⁾. The medical practitioners then went on to deplore the different weights used in places not particularly far apart, especially in central Italy, and they exhorted the conference delegates to arrive at the most appropriate means to bring uniformity to the pharmacopoeias. Among those signing the motion were Dr Calderini⁽³⁾ and the great medical historian De Renzi. Next, Professor Gioacchino Taddei⁽⁴⁾, Chairman of the chemistry section took up the initiative,

⁽¹⁾ CORVI A. “Le Farmacopee negli Stati italiani pre-unitari (1830-1840)” Atti e Memorie A.I.S.F. XXVIII n. 1

⁽²⁾ LURATI C. “Dei lavori scientifici dell’VIII Congresso Italiano in Genova nel settembre 1846” Lugano 1846.

VERDA A. “Per la storia delle Farmacopee nazionali” in *Jurnal Suisse de Pharmacie* del 21 Dec. 1935 pp. 713-716.

⁽³⁾ *Dizionario Storico Biografico dei Farmacisti Italiani* Padova Veneta Ed. 1990. Isidoro Calderini, hospital pharmacist in Milan, published in 1834 the “*Manuale pratico di Farmacia*”, with a second edition issued in 1855.

⁽⁴⁾ Gioacchino Taddei, professor of Pharmacological Chemistry at the University of Florence, the author of works such as *Farmacopea Generale* published by L. Pezzati Florence 1826 in three volumes. Essential reading is his introduction to setting up a pharmacy and its own laboratory.

appointing a committee to make a study of a standard Italian pharmacopoeia, made up of representatives from all the states including the Swiss Canton of Ticino.

Among the most notable members were Targioni and Puccinelli for Tuscany, Professor Cantù and the pharmacist Abbene, as well as Professor Tavella and Professor Zucca of Cagliari for the State of Sardinia, Giuseppe and Ottavio Ferrario and Cenedella for Lombardy-Venetia⁽⁵⁾. Professor Lurati was the appointed Chairman for the Canton of Ticino, and Venice was represented by Dr. Trois and Professor Ragazzini, chemist from the University of Padua.

Two relatively famous names represented the duchies of Emilia: Tommasini of Parma and the future Professor of Bologna, Selmi⁽⁶⁾. The latter city was represented by Professor Medici, as Chairman, accompanied by Professor Sgarzi. The Papal State was represented by Professor Folchi and by the chemist and pharmacist from Perugia Professor Purgotti⁽⁷⁾. Naples was represented by Salvatore De Renzi with the assistance of Mamone Capria, pharmacist and patriot⁽⁸⁾.

All these academics and their colleagues, who met in great number (at the Genoa congress there were over a thousand), were all advocates of political unification, something that while it could not be openly proclaimed, nonetheless held together a network of relationships extending over the entire Italian peninsula and, coming as it did from this elite, the word soon spread and was listened to.

Professor Taddei worked extremely hard to collect together all the pharmacopoeias already in use and to set medical practitioners, pharmacists and veterinarians to work with the appointed chairmen. Unfortunately nothing had been completed by 1848 when the movement for independence sent many of these men onto the battlefield.

Defeat in the War of Independence dampened enthusiasm for a project that was to prove extremely difficult, even after 1860.

The governing bodies of the various states took control of the various texts which were in dire need of updating but they did nothing to seek a common line, as we will see with the publication of the four pharmacopoeias that were issued in Italy between 1853 and 1858.

The Austrian pharmacopoeia *PHARMACOPOEA AUSTRIACA*, 5th Edition Viennae Caes. Reg. Aulae et Imperii Tip. 1855, pp. 272.

This was extremely different from the previous edition of 1835, although it offered very little innovation in terms of medical knowledge. Published by the Ministry of the Interior on 20 October, it was destined for all the lands under Austrian rule.

A preface in Latin recalls the original features and purpose of the text, but there is no longer any trace of the authors or any input from the Guild. It was perhaps intended as a more rational reordering of the content.

The medical content is listed in strict alphabetical order, with no distinction being made between individual ingredients of plant origin and chemical products and preparations. Each item is numbered, for example no. 867 is *Zincum valerianicum*.

⁽⁵⁾ Father Ottavio Ferrario (1787-1867), for 25 years Director of the pharmacy of the Ospedale Fatebenefratelli in Milan, author of many studies, including two on the production of quinine and iodoform. Author of an encyclopaedia "Corso di Chimica Generale" published by Pirola in Milano from 1837 to 1846. See also il *Dizionario*. o.c.

⁽⁶⁾ *Dizionario biografico* o.c., Selmi Francesco pp. 220-221

⁽⁷⁾ *Dizionario...* o.c., Purgotti Sebastiano, pp. 198-199

⁽⁸⁾ *Dizionario...* o.c., Mamone Capria Domenico, pp. 149-150

The previous edition did not quite reach a total of 500, but the extracts, for example, were more numerous since they were not included as a single item when the preparation method was not identical. There are more salts, acids and syrups. Strangely there is only one pill preparation (P. Augustine with aloe and scammony). Salicin appears in place of willow bark powder. New items include 10% liquid ammonia and amyllum marantae. Rectified ethyl alcohol is raised to 60 degrees.

The composition of simple syrup is fixed at 3lbs of sugar to 15oz of water.

Appendices with new, non-compulsory individual ingredients and compounds have disappeared, including meadow saffron, nux vomica, iodine, morphine and its salts and prussic and phosphoric acid. However, those items that required a medical prescription are indicated as such.

There are some variations in the valuable tables in that number 1, with mercury and antimony toxicology, and number 2, the solubility of salts, have disappeared, but the volume still contains the tables for reagents for biological analysis (no. 3) and for the specific weights of liquids (no. 4).

Additions were a table of the Austrian territories, one relating the weights used in the various countries to the metric system and a table of the poisons to be kept under lock and key by the owner: atropine, strychnine, Fowler's solution and veratrine.

In the example I was able to see, originating from an Austrian pharmacy, no fees are shown.

The twenty-page, two-column final index does not differ greatly from the 4th edition, still containing some 1,400 items.

Before the index is another table giving the antidotes to use in the event of overdose, and how to prepare them.

PHARMACOPOEA

AUSTRIACA.

EDITIO QUINTA.



VIENNÆ.

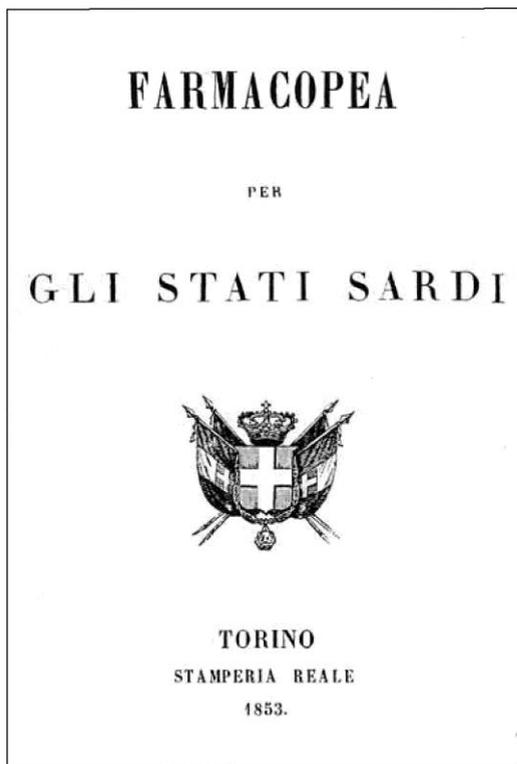
CÆS. REG. AULÆ ET IMPERII TYPOGRAPHIA.

1855.

FARMACOPEA PER GLI STATI SARDI (PHARMACOPOEIA FOR THE SARDINIAN STATES)

Torino Stamperia Reale 1853 pp. 375. Part one, part two and appendix.

Victor Emmanuel II, by the grace of God, King of Sardinia, Cyprus and Jerusalem,



Duke of Savoy and Genoa, Prince of Piedmont, as proposed by the Ministry of the Interior, having seen the previous pharmacopoeias and the laws passed from 1831 onward, approves this pharmacopoeia compiled under the supervision of the Higher Health Council. All pharmacists must be provided with it.

The weights must be written out in full in letters and the permitted languages are Italian and French. No ingredients in the compounds may be substituted. The Ministry of the Interior is appointed as executor of this decree; signed Victor Emmanuel, 1 June 1853.

The preface, drawn up by members of the Committee whose members included members of the college of medical practitioners, university professors and three pharmacists (Luciano, Prior of the College, Borsarelli and Schiapparelli), explains the reasons why this new edition was necessary, these being the need to keep abreast of progress in medical science and also to bring

together all the remedies used in the various provinces of the state, since this was the first official and compulsory pharmacopoeia to be used throughout the kingdom.

The first two tables give comparisons of the weights used for medicaments in Piedmont and Genoa and those used in the metric system, which are to be expressed in all the formulae in the text.

The first part contains a list of the individual ingredients and those that are on sale, recognising the existence of a chemical industry that made preparations using constant parameters and methods. A single alphabetical list contains a mixture of animal (including the new cod-liver oil), vegetable and mineral products with acids and salts. No medicaments are indicated as compulsory for all pharmacies. The plant nomenclature is that used by Linnaeus with translations in French and Italian. Those compounds that must be dispensed with a medical prescription are indicated with a cross and those to be kept in a locked cabinet are indicated with an asterisk. The first part contains some 490 items. The second part presents 622 formulae for the same number of compounds, with numerous active ingredients isolated, such as atropine, codeine, digitalis, nicotine and from opium both morphine and narcotine are isolated. The chemical preparations are a particular feature of this edition, with many cyanurates, citrates, iodides and the salts of the new lactic, valerian and tannic acids. However, all these new items are still accompanied by the more archaic Arab compositions with corals, crab eyes, and broths made from earthworm and viper. The theriac has 62 ingredients including viper flesh and troches and there is also a "diatesseron" with only five plant ingredients in honey. Clearly the intention was to appeal to everyone to a certain extent but without ignoring all the scientific progress made in all scientific fields in

the Piedmont of that era. At that time thermal springs were also a tourist attraction, as well as the consumption of 37 mineral waters that had been given official approval, some from Sardinia. These, together with some tables, make up the appendix instead of the more useful scale of fees.

The first table gives liquid density according to Baumé, the second, the Baumè, Gay Lussac and Cartier weight to alcohol volume and the third gives the variation in degree of alcohol according to temperature.

A concluding observation is that the volume preserved in the Corvi pharmacy still has a great many uncut pages, indicating that this pharmacopoeia was not greatly consulted before the advent of the volume from the Kingdom of Italy.

There are some 1,270 entries in the index as a result of the number of synonyms used to describe the various compounds.

CODICE FARMACEUTICO PER GLI STATI PARMENSI 1858,
(PHARMACEUTICAL CODE FOR THE PARMESAN STATES) Parma Tipografia Reale, pp. 36 + 328.

This code is preceded by a “Scale of Fees for the Medicaments for the Parmesan States 1858” published by the same printers. Its 36 pages include no fewer than 17 explanatory articles giving the price in lire and cents on a sliding scale when used from 0.1g to 1000g. The price changes for quantities of 1g, 10g and 100g. There are some 850 entries followed by the handling duty ranging from unguents to poultices, of which there are 23.

The rates for the handling duty were calculated by four pharmacists from the pharmaceutical department of the Protomedicato (health authority) and the commissioning body, which signed the document together with the Secretary, is the Protomedico (chief medical officer) of the state L. Caggiati.

The code itself was commissioned by Decree no. 449 of 1850 addressed to the Protomedicato Council and it also involved the Department of Mercy and Justice which was required to administer the penalties for any violations. The commissioner was Louise Marie Thérèse of Bourbon, then regent for her son Robert I.

The instructions issued by the compilers of the code make reference to the *Codex Medicamentarius Parmensis* of 1822 «...that for the excellence of its doctrines and the elegance of its text is worthy of representing the pharmacological knowledge of our nation» that was the first published in Italy following the Restoration. The primacy of this work was confirmed in that, as well as adopting the Italian and Latin names of the medicaments, it used the symbols for the chemical compound formulae «...as were given by Piria and Taddei for both organic and inorganic remedies».

By opting for the French nomenclature this clearly indicated cultural dependence, a sensitive issue in any field, since it came from Paris.

The *Distribuzione della Materia*, giving information about all the substances, is divided into three parts. The first part lists the individual ingredients, mainly of plant origin, with some information about their appearance and their possible adulteration. The entry on opium describes the method of extracting morphine. In all there are about 350 entries, most of them marked with an asterisk indicating that they must be kept in stock by every pharmacy, as is also the case for compounds.

The second part deals with chemical medicaments and these are not listed in alphabetical order but divided into nine chapters. Chapter 1 includes simple or



non-decomposed ingredients, metals or metalloidal substances. Chapter 2 lists binary substances, oxides, hydrates, acids and halogen salts. Chapter 3 lists mineral salts, Chapter 4 organic acids and their salts including the more recent alkaloids and urea. Chapter 6 lists neutral or indifferent organic substances such as sugars and salicin. Chapter 7 is dedicated to alcohols and ethers, Chapter 8 to some pyrogenic substances such as creosote and benzene, that are synthesised by mixing benzoic acid with lime hydrate. Finally, Chapter 9 lists some mineral waters, such as Seidlitz powder, that are made up in the pharmacy.

Each item has an ample explanation of how to use it and there is a useful table of equivalent element weights. There are some 100 products in total. Part three is preceded by a list of the necessary reagents for testing the medicaments, and this part lists those medicaments for which no well defined chemical action appears during preparation.

This work therefore, includes both old and new Galenic remedies, illustrated according to an innovative principle, in seven chapters, each divided into sections on the basis of the type of processes needed to prepare them. Chapter 1 gives the results of simple mixing of powders, juices and

the content of pills including Brera and S. Fosca pills, once a speciality of the apothecaries of Venice and Milan. Chapter 2 deals with medicaments obtained using solvents, emulsions, tinctures and infusions. Chapter 3 deals with the extracts obtained from plant juices using a percolator. Chapter 4 deals with hydrolates and alcoholates, Chapter 5 with saccharolytes from soaking in liquids (syrups) (electuaries, with an opiate theriac with 26 components), and dry processed preparations such as tablets and sweets. Chapter 6 lists the "fatty substances" such as oils, liniments, unguents, poultices and soaps. Chapter 7 groups together those medicaments that are usually prepared to order such as poultices, fomentations, collyriums, suppositories and also various cosmetic formulae such as depilatories, caustic pastes, etc.

There is no information about the uses and dosages of these products, but those to be kept in stock in all pharmacies are marked as such. Any pharmacists contravening the code or who have not replaced the old weights with the metric system would attract the following penalties: for the first offence an official warning in the presence of the health authority, for the second the business would be closed down for a minimum period of one month and no longer than six months.

The number of products in the vital general index, without which it would be impossible to find particular items, amounts to about 1,200, only slightly fewer than those in the pharmacopoeia of the Sardinian States. The latest alkaloids which were very new at the time are not listed nor are some ancient remedies such as viper and

earthworm broths. The compilers of the code were the four pharmacists who drew up the scale of fees (Mantovani, Cavezzali, Gibertini, Bevilacqua) in addition to Gianni Passerini, Professor of botany at the university and Professor Luigi Caggiati, of therapy and clinical medicine. The medical, surgical and veterinary section of the medical authority gave its final approval before its general meeting of 4 August 1857.

THE RICETTARIO FARMACEUTICO NAPOLITANO (THE PHARMACEUTICAL PRESCRIPTION BOOK OF NAPLES) with fees for the medicaments was published in Naples in 1857 following its approval by the Minister and Royal Secretary of State for Ecclesiastical and Educational Affairs, under the auspices of the medical authority committee presided over by Cavaliere D. Franco Rosati, and printed by Agrelli.

Mr Rosati who was also physician to the royal chamber, in compliance with a decree of 1850, according to which the book of prescriptions had to be renewed every two years, provided a list of preparations to the College of Pharmacy in order for these to be described to its members. The format of the text used the same blank paper as twenty years earlier but enlarged to octavo (26.5 x 20.5cm) and, at the end, there are two new approvals for publication signed by the General Committee for Education and the Committee of Archbishops for the revision of the books.

This seems a clear indication of the growth of the bureaucracy and the censorship of the Church.

The text begins with a list of the medicaments that were compulsory for every pharmacy, numbering 239, listed in alphabetical order with no distinctions made between such old formulae as theriacs, Acqua della Regina and morphine acetate, the only alkaloid. It continues with a list of the preparations chosen by the medical authority, but the selection criteria are not clear. In place of the acetate preparation is borate of morphine, while sulphate is replaced by quinine antimonate. The features and medicinal properties of each product are followed by a description of its use. There are a number of formulae from foreign authors of varying fame (Bouchet, Lopez, Pineiro, Coindet, Ricord, Rosseau, Tronchin), and some exotic foreign ingredients of plant origin: musenna, jacea and cainca.

Some preparations are very strange such as syrup of cod-liver oil and camphor cigarettes, in the form of goose feathers filled with powder.

These 187 preparations seem basically the result of the personal choice of the chief medical officer and it seem rather unlikely that they would be delivered to other cities.

RICETTARIO FARMACEUTICO NAPOLITANO

GGGG

TARIFFA DE' MEDICINALI

PUBBLICATO IN NAPOLI NELL' ANNO 1857

IN SEGUITO D' APPROVAZIONE DEL SIG. DIRETTORE DEL MINISTERO E REAL SEGRETARIA DI STATO DEGLI AFFARI ECCLESIASTICI E DELL' ISTRUZIONE PUBBLICA

SOTTO GLI AUSPICI DELLA COMMISSIONE PROTOMEDICALE

PRESEDUTA DAL CAVALIERE

D. FRANCO ROSATI



NAPOLI
DALLA TIPOGRAFIA AGRELLI
Strada S. Teresa degli Scalzi n. 63

1857.

The available medical information appears in the subsequent scale of fees with almost double the number of items compared to twenty years earlier (1837), amounting to some 1,570 with a large number of prepared waters (68), pastilles (30), syrups (84) in addition to four types of skinned viper.

The text consists of 115 pages overall and there are no tables, not even one comparing older weights with the metric system, which has been completely ignored.

It is most strange that, after the conferences of the 1840s attended by Neapolitan medical practitioners and pharmacists, the health authority continued in isolation.

Finally, another symptom of the weakness of a state on the eve of its demise is represented by the fact that it was able to set a scale of fees which only Neapolitan pharmacies had to abide by.

Antonio Corvi

via Nova, 15 - Piacenza

COMPARATIVE TABLE

Pharmacopoeia	Commissioners	Executors	Individual ingredients -Compounds	Obligatory items	Total items
PHARMACOPEA AUSTRIACA V. Ed. 1855 Viennae 272 pages no fees	Ministry of the Interior		Formulae 867	185 with Rx only	1,400
FARMACOPEA per gli STATI SARDI 1853 Turin 375 pages no fees	Victor Emmanuel II	Ministry of the Interior	490 + 622	300 with Rx only	1,270
CODICE FARMAC. per gli STATI PARMENSI 1858 Parma 364 pages with fees	Maria Luisa of Bourbon	Chief medical officer	450 + 310	191 ready in pharmacy	1,200
RICETTARIO FARMACEUTICO NAPOLITANO 1857 Naples 115 pages with fees	Chief medical officer	Pharmaceutical College	239 + 187	239 ready	1,570

ABSTRACT

THE LAST PHARMACOPOEIAS OF THE ITALIAN STATES BEFORE UNIFICATION (1853-1858)

The report of Medical Department at the 8th Congress of Italian Scientists held in Genoa in 1846 pointed out how the differences between and the multiplicity of pharmacopoeias and of medicinal weights and measures information was causing confusion in the practice of medicine.

Despite the appointment of the committee of medical practitioners and pharmacologists representing every Italian State, coordinated by Professor Taddei, in order to study the possible unification of the pharmacopoeias, this was unsuccessful.

The defeat of the independence movement in 1848, strengthened the various Protomedicati (chief medical officers), encouraging them to continue following the policies of their own governments and to ignore any connection with the neighbouring States.

The four pharmacopoeias that we have examined, which were official from 1853 to 1858 in Piedmont, Lombardy-Venetia, the Duchy of Parma and Piacenza and in the Kingdom of the Two Sicilies show the same discrepancies observed in those of twenty years earlier.

Above all, there was considerable variation in the way the conduct of pharmacists was regulated, and the new medical knowledge still left room for mediaeval formulations based on superstition, the result of wildly differing traditions.



