

Theriac

A SELECTED ANNOTATED BIBLIOGRAPHY OF THE HISTORY OF THERIAC

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Origin

Theriac, also treacle in the English language, was a complex antidote and one of the most ancient medicaments which was already in use in the second century before Christ.

The French term for theriac is *thériaque*, the Latin *theriaca*, whilst in Greek it is known as *theriake*. *Theriake* was derived from *theriakos* (of wild or venomous beasts); hence theriac or *theriake* was an antidote which was primarily used against the bites of serpents, then against poisons in general.

The great antidote in Roman pharmacy was *Mithridatium*, a pompous formule, which, it was professed had been discovered among the papers of *Mithridates*, King of Pontus, in Asia Minor from 114-63 B.C. captured by Pompei. It is noteworthy that *Plutarch* in his 'Life of Pompei' mentions that certain love letters and documents helping to interpret dreams were among these papers, makes no allusion to the medical recipe; while *Samonicus* states explicitly that notwithstanding the many formulae which had got into circulation pretending to be that of the genuine confection, the only one that was found in the cabinet of *Methridates* was a trivial one, composed of 20 leaves of rue, 1 grain of salt, 2 nuts, and 2 dried figs.

The compound however was very popular. (14) Great physicians studied it with a view of improving it. The modified formula of *Andromachus* gained the highest reputation. *Andromachus*, a native of Crete and physician to Nero, in the first century, added the 'flesh of vipers' to the ingredients and named it *Galene* 'Tranquility'. (13) *Andromachus* described the virtues of his compound in Greek elegiac verses which he dedicated to Nero, and which were preserved by the Grecian *Galen*. (14) It was mostly through *Galen's* recommendation that Theriac rose to the level of internationally renowned panacea.

Theriaca Andromachus survived notwithstanding its absurdities and continued to be used through History up to the eighteenth century.

Composition of Theriac

In the composition of Theriac went herbs, animal substances, and minerals. Wine and

honey were included as valuable stimulants or restoratives. As A. & G. Bouchartat state in their *Formulaire Magistral* "this electuary incorporates the most different ingredients one can think about: stimulants, tonics, astringents, antispasmodics and above all opium. (2)

Theriaca Andromachus contains 65 odd ingredients. To these individual ingredients, *Galen* in his two books 'Antidotes and *Theriake*' ascribes certain qualities or powers. These fall under four descriptions: heating, chilling, drying and moistening. For example frankincense is in the second order of heating and the first for drying, while opium is of the fourth order of both heating and drying and is sharp and bitter. Crocus is slightly astringent, in the second order of heating and first in drying. As for animals, viper's flesh is drying, strongly diaphoretic and moderately heating while castoreum heats and dries. All earths and minerals chill. (7 & 6)

Under the heading 'Confectiones opiatae' in the Facsimile of the first edition of *The Pharmacopoeia Augustana* of 1564, we find *Theriaca Andromache* as written by *Galen*. In the numerous ingredients the following are present: Lozenges of theriac, long pepper, opium, dried red roses, iris, liquorice, vipers, cinammon, opobalsamun, myrrh, crocus, cassia, hard black pepper, rhubarb, ginger, cinqufoil, gentian, anise, fennel, cardamon, castoreum, aristolochia, lesser centaury, galbanum, honey and wine, wall germander, hartwort, frankincense, onion, wild rue, crocus, petroselinum, bitumen, opapanax, (11) lemnian earth and calx.

Towards the 19th century we find less and less ingredients, as can be seen by the less than 10 ingredients of *Theriaca Edinensis* as given in *P. Mac Ewen's Pharmaceutical Formulas*. (8)

Uses of Theriac

The enumeration of the medicinal properties of this antidote were numerous from the very first time it acquired its fame by the verses of the Greek elegiac written by *Andromachus*, to describe the virtues of this miraculous remedy. It was attributed the power to counteract all poisonous bites of venomous animals. Besides it could relieve all pain, weaknesses of the stomach, asthma, difficulty in breathing, phthises,

colic, jaundise, dropsy, weakness of sight, inflammation of the bladder, and of the kidneys and plague.

Galen in a letter to his friend Piso, praises the virtues and uses of Theriaca Andromachus. Galen writes that it is very good against the biting of all wild beasts and serpents, against poisoned medicines. . . It is also good against headaches, dizziness and hearing loss. It mends the dullness of the eyesight, helps the falling sickness and them that cast out blood. . . William Turner in his 'Book of Wines' ⁽¹²⁾ quoting Galen says 'This theriac is good also for them that are of perfect health, if they take it oft. With the use of this treacle, I have oft times helped those that had the disease called in Greek elophantiases (and now commonly called Lepre or leprosy). It is not only good for the body, but also for the mind or if it be oft drunken, it health melancholic diseases, and wasteth away black choler by reason whereof it is also good for the fever quartan which cometh of black choler, otherwise called melancholy'.

As a remedy against pestilence this is how Turner advocates the use of theriac. "As Hippocrates drove away the pestilence out of Athens with great fires made of spice woods and sweet flowers. . . even so this treacle like a scouring or purging fire will not suffer them that take it in before they be infected, to be infected at all, and delivereth them that are infected already, if they take it in afterwords, changing the malicious poison of the air which they have received by breath and suffereth not the disease to spread any further."

Of the treacle said, Turner writes out of Actuis "The treacle is good for all things that the great treacle is, it is chiefly commended in helping the diseases of the skin, as the white morphew, the 'Lepre' of the Grecians and Scriptures, the wild scurf. . . thinness and falling of hair."

Dosage, Administration and Price

Helias, Patriarch of Jerusalem had strong faith in Theriaca and gives minute directions for its administration. "Theriaca", he says, "is a good drink for all inward tenderness, and the man who so behaves himself as is here said, he may much help himself. On the day in which he will drink Triacle he shall fast until midday, (and not let wind blow on him that day); then let him go to the bath, let him sit there till he sweats, then let him take a cup, put a little warm water in it, then let him take a little bit

of triacle, and mingle with the water, and drain through some thin raiment, then drink it, and let him then go to bed and wrap himself up warm, and so lie till he sweat well; then let him arise and sit up and clothe himself and then take his meal at noon (three hours after midday), and protect himself earnestly against the wind that day. ⁽¹⁴⁾

Helias does not say what he meant by 'a little bit'. In Galen's letter to Piso however we find the dose as 'if it be taken in the weight of the bean of Egypt, with three ciathes (cyathus pleyathe which means ladle-measure) of warm water, that is, about the measure of four ounces and a half.' ⁽¹²⁾

Sometimes galene was drunk with wine. It was unadvisable to take it after a heavy meal and the amount varied from the size of an Egyptian bean to the size of an Avellan nut. If taken prophylactically a smaller dose was recommended. Full bodied persons and those in the prime of life were advised to take it seldom and sparingly but it was never given to children. Old people were to take it with wine instead of water. Again Galen advised his patients not to take it in summer or in a hot climate.

Regarding the cost of Theriaca, in Occo's Pharmacopoeia Augustana of 1581, we find an official list of prices for a number of drugs amongst them theriac. Prices refer to one-half ounce quantities:—

Theriaca Andromache	12Kr.
Theriaca Communis	4Kr.

This price is comparable to that of opium and Cassia pulp. It is 12 times the price of the common ointment which is listed at 1Kr and distilled water which is marked at $\frac{1}{4}$ Kr. ⁽¹¹⁾

Public preparation of theriaca

During certain periods and in certain countries, the composition of theriac was regarded as being of sufficient importance to have it made under the supervision of representatives of the medical faculty. Two reasons may be cited for the preparation under supervision: ⁽¹⁴⁾ because certain drugs were too complicated for the pharmacist to accomplish on his own and so were carried out in common ⁽⁵⁾ and ⁽¹³⁾ as a measure against the fraud in the manufacturing and preparation of medicaments and against adulteration. ⁽³⁾

As a measure against fraud and adulteration a commission called "Giustizia Vecchia" was nominated in Venice in 1172. This had to supervise the Druggists and Pharmacists who want-

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CONFECTIO
TIONES
Opiatæ

THERIACA ANA
dromachi senioris,
ex Galeno.

℞ Trochiscorū scilicetorum
drachmas quadraginta octo.
Trochiscorum theriacorum
Piperis longi
Opij
Magmatis hedychoi ana
drachmas viginti quatuor.
Rosarum rubearum siccarum
Iridis Illiricæ
Succi Glycyrrhizæ
Seminis buniadis (i. n. p. sylvestris)
Scordij
Opobalsami (vel elici charyophyllorū)
Cinamomi
Agarici ana drachmas duos
decim.

Myrrhæ
Coffi
Crocii Orientalis
Castæ lignæ vcræ
Nardi Indicæ
Schoenanthi
Thuris masculi
Piperis nigri
Foliorum dictamni Cretici
Comarum marrubij
Rhabarbari
Stæchadis
Seminis petroselin
Calaminthæ montanæ
Terebinthinæ Chiæ
Zingiberis
Radicum quinquefolij ana
drachmas sex.
Polij

73
Polij montani & albi
Chamepityos
Styracis Calamitæ
Meu
Amomi (pro eo Calami aromatici.)
Nardi celticæ (id est. Romæ.)
Terre Lemniæ, (aut boli Armeniarum.)
Phu
Chamedryos
Folij (eius loco Meu.)
Chalcididis tostæ
Radice gentianæ
Anisi
Succi hypocistidis
Carpobalsami, (vel eius succedanei.)
Gummi Vermiculati
Seminis sceniculi
Cardamomi minoris
Seselios
Acaciæ
Thlaspi
Hyperici comarum
Ammios
Sagapeni ana drachmas
quatuor.

Castorei
Aristolochiæ tenuis (id est. Romæ.)
Seminis Dauici Cretici (pro eo semine Pimpinellæ nostræ.)
Bituminis Iudaici (id est. Asphalti.)
Opopanax
Centaurij minoris
Galbani recentis ana drachmas
duas.
Mellis despumati. libras quatuordecim, vncias tres.
Vini optimi odorati, quantum
sufficit, pro dissoluendis liquoribus & succis.

Hic animaduertendum est, omnes theriacæ compositiones, quæ apud Galenum varijs locis reperiuntur, etiam diuersorum authorum, recipere in super.
K ij Acori

74
Acori drachmas quatuor.
Piperis albi drachmas sex.
Conficitur autem hoc modo secundum Galenum. Herbar, Flores, fructus, semina, radices, cortices, trochisci, terra lemnia, chalcitis & bitumen, diligentissimè conteruntur pistillo ferreo in mortario æneo, et crebro subtilissimè cribantur, semine thlaspi, napi sylvestris & croco exceptis, quæ per se teruntur, Vini rigantur, ne mortario interiori hæreant, & ut commodius cõterantur. Gummi, succi et castorium per se terantur, ad usum vino ut etiam commodius teri possint. In ipso compositionis tempore, omniumq; rerum mixtura, primò liquefit Terebinthina in duplici vase cum mellis pauxillo, deinde etiam opopanax galbanum, Sagapenū, bene antea per se trita ad usum paucum melle, vt facilius digitis explentur cõmiscanturq; atq; vniuntur. Postea coquantur in ipso duplici vase cum Terebinthina, donec ad iustam consistentiam redacta sint, his admiscetur pars aqua contritorum, tum etiam in vino dissolutorū, donec melis consistentiam consequantur, deinde in mortarium vase maius modis effunduntur in hunc modum. Primum pars aliorum quæ liquefacta sunt in duplici vase, eaque tepida, probe agitentur rudicula, & sic nequenter de residuo faciendum, donec omnia probe vnita sint, & hæc quidem ad solem, ut solius fiat, continuo agitanda, standendo pila ferrea inuncta olco

oleo charyophyllorū ut facilius agitari possint, & cõmiscatur etiã opobalsamū reliquis, aliorum qui facile adhaerent pistillo medicamentum et difficilior fieret agitatio. Hæc continuè per quatuor aut quinque dies agitanda sunt, & rursus elapsis sex aut septem diebus iteranda agitatio per duos menses, Deinde reponitur medicamentum vasculis plumbeis, aut terreis bene cõctis & vitreatis. Chalcitis quæ in hoc medicamen venit, sic preparanda est. Illius bona quantitas in olla cruda, succensis caribus bonibus coquitur, eaq; liquefacta vbi bullas emisserit, partem supernam in marmor effundes, atq; illic sines in vmbra donec frigeat. Hinc postea solummodo capies quod supernè spumatum fuerit, quodq; cinerici est coloris, aut prassij, non quod flauū est, theriacam enim colore flauo non nigro inficeret. Ea aut cum Vino trita & dissoluta medicamento admiscetur.

THERIACA DIA
tesaron, Mesuræ.

℞ Gentianæ
Baccarum lauri
Myrrhæ
Aristolochiæ rotundæ ana vncias
duas.
Mellis despumati libras duas.
Coquantur ut artis est.

THERIACA
communis.

K iij ℞ Radicū

Pharmacopœa Augustana — 1564: A facsimile of first edition published by the State Historical Society of Nisconson.

ed to be enrolled as "Aromatarci". In 1258 this supervisory committee was modified by the formation of a mother committee called "Capitolare Medicorium et Spetiariorum". The latter committee regulated mutual relations and ordered that "any compound which cost more than two pence, had to be presented to the board or had to be prepared in the presence of municipal authorities." The complicated compositum of theriac caused this preparation to be prepared in the presence of municipal authorities especially since at these times there were no means of detecting any falsifications.⁽³⁾

In Venice the public preparation of Theriac was a very important event. An account by the dairist Evenlyn who visited Italy in 1645-6 describes the preparation of theriac as having all the character of a great propitiatory ceremony, and public festival. All the public squares and the courtyards of hospitals and monasteries in Venice were transformed for the occasion into great open air theatres adorned with rich damasks, with busts of Hippocrates and Galen,

and with great majolica jars destined to receive the precious medicaments. Grave and important personages, moved to the applause of the crowds in an atmosphere of rejoicing and expectation.

In some cities of Italy, the ingredients for the preparation were exhibited for three days prior to the actual preparation. The actual making of theriac was preceded by an oration delivered by the leading physicians of the city. Only the leading pharmacists who were vested with the office of 'Triacante' were allowed to make the theriac and always under the supervision of the chief Physicians.⁽⁴⁾

To ensure that the principal ingredients for this medicament were brought from Venice, the Venitian druggists made their own herbals as well as viper-gardens for the production of vipers used in this medicament.⁽⁵⁾ Theriac and troches of vipers become such important drugs for export that they become called Venitian Treacle and Venetian troches of Vipers. The latter were exported for the local preparation of

Theriac and helped to enrich the commerce of Venice. ⁽⁵⁾

In Germany the first public manufacture of Theriac was celebrated solemnly at Nurnberg on November 9, 1594 to January 10, 1595 under the patronage of the Senate. ⁽⁸⁾

Perhaps nowhere more than in France was Theriaca so popular and its preparation celebrated with pomp. In the 14th century it was already known and Charles VI (1380-1422) used to carry theriac in a little golden casket as a safeguard. Antoine Colin, master Apothecary and Judge of Lyon, in 1519 prepared Theriac in the presence of lieutenants, magistrates and the Medical Profession. ^(13 & 8)

Around 1710, the society of the retailing apothecaries took the resolution that for the good of the people and for the honour of the community they should publicly prepare every year or on alternate years, Theriaca and Mithridatum in the large Garden Hall of the Community, so that no body will doubt the exact composition of this antidote. ⁽³⁾

In 1730 the public preparation of Theriaca was confined to a 'Theriac Society'. This 'Theriac Society' received its certification from the Faculty of Medicine in 1731.

When the society of Apothecaries or Theriac Society were in the process of publicly preparing Theriac of Andromachus, it was a big feast. The society first went to the Magistrates to ask them to assist in the opening ceremony, then they proceeded to the Universities to invite the dean to attend accompanied by a deputation of doctors. Two professors of pharmacy usually attended them. ^(3 & 13)

Such a pompous ceremony took place on October 1776 and September 1784. 6 years later on September 9, 1790 the Society made once more the Confection of Theriac. This was the last preparation made by the Society of Theriac which expired on July 2, 1792.

The decline of Theriac

In England with the spirit of scientific enquiry of the 18th century, the powers and universal remedies of theriac began to be doubted. In 1745 when a new London Pharmacopoeia was about to be issued, Dr William Heberden, a leading physician published a scholarly exposure of the absurdity of the compound. He argued that all the London shops differed from one another in the preparation of Theriac and doubts whether the compounding was being scrupulously

done. Furthermore, he said that "opiums or any powerful drug, mixed up into an electuary with so many other things, is against all rules of pharmacy".

However, it was in the Pharm. Londonensis of 1788 that Theraica together with Mithridatum was omitted. Edinburgh followed London's example and in the address to the Reader in the Edinburgh Pharmacopoeia of 1756, the college explains that certain prescriptions introduced by superstition or easy credibility of our ancestors had been banished. These included Theriaca and Mithridatum.

Theriac was omitted from the Austrian Pharmacopoeia of 1814 and was retained in abridged and altered forms in pharmacopoeias of Russia (1798), Prussia (1799), Sweden (1817), and Poland (1817). ⁽¹⁾ Only France, Spain and Germany continued to carry Theriaca Andromachus in their official comperdia in the mid-19th century. It was in 1908 that Theriac disappeared for good from the French Codex.

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