

## LAUDANUM IN THE WORKS OF PARACELSUS

HENRY E. SIGERIST

For centuries laudanum was the common name for an alcoholic tincture of opium. The prescription of Sydenham became the most famous and was in use until recently. In addition to opium it contained saffron, powder of cinnamon and of cloves.<sup>1</sup> Laudanum was used before Sydenham<sup>2</sup> in a great variety of compositions and the general view is that credit must be given to Paracelsus for having introduced the opiate laudanum into therapy and for having given it its name.

The Oxford Dictionary says:

Laudanum used by Paracelsus as the name of a medicament for which he gives a pretended prescription, the ingredients comprising leaf-gold, pearls not perforated, etc. (*Opera* 1658 I. 492/2). It was early suspected that opium was the real agent of the cures which Paracelsus professed to have effected by this costly means; hence the name was applied to certain opiate preparations which were sold as identical with his famous remedy.

It is doubtful whether the word as used by Paracelsus was a fanciful application of *laudamus* a med. L. variant of *Ladonum*, or was suggested by *laudare* to praise or by some other word, or was formed quite arbitrarily.

Haeser in his chapter on Paracelsus makes the following remark:<sup>3</sup>

Zu den heilkräftigsten Mitteln zählte Paracelsus die Opiate, besonders ein von ihm erfundenes "Laudanum."

Garrison repeats the statement quoting Haeser,<sup>4</sup> and once an assumption is accepted by authoritative text-books it goes a long way.

<sup>1</sup> Sydenham's recipe was:

Sherry wine .....	1 pound
Opium .....	2 ounces
Saffron .....	1 ounce
Powder of cinnamon .....	} all 1 ounce
" " cloves .....	

See *The Works of Thomas Sydenham*, Trans. by R. G. Latham, London (Sydenham Society), 1848, Vol. I, p. xxix.

<sup>2</sup> Testimonies from English literature from 1662 on are given in the Oxford Dictionary.

<sup>3</sup> Heinrich Haeser, *Lehrbuch der Geschichte der Medizin und der epidemischen Krankheiten*, Jena, 1881, Vol. II, p. 99.

<sup>4</sup> "Ich hab ein Arcanum, heiss ich Laudanum, ist über das alles, wo es man Tod reichen will." *Große Wundarznei*, I. Tr. 3.

<sup>5</sup> Fielding H. Garrison, *An Introduction to the History of Medicine*, Philadelphia and London, W. B. Saunders Company, 1929, p. 206.

I confess that I never felt quite convinced that Paracelsus had introduced this kind of laudanum—for two main reasons. Paracelsus uses opium very often. He describes it and gives a large number of prescriptions that contain it. Hence, it is hard to believe that he should have concealed in a secret remedy a drug that he openly used so very frequently. The other reason is that Paracelsus mentions laudanum very often as an ingredient of recipes where it cannot possibly have any connection with opium.

In an attempt to solve the question I have examined many passages in the works of Paracelsus where the word laudanum occurs. Such a study is difficult because the edition of Sudhoff cannot be used as long as it has no indices. I worked, therefore, mostly with the edition of Huser.<sup>8</sup> It has good indices, but they are far from being exhaustive; although I went through the ten volumes page by page I cannot guarantee that I did not overlook some significant passage. What I found, however, seems to give a well-rounded picture.

## I.

What did Paracelsus call laudanum in the many recipes where the word occurs? A clue is given by a passage (Huser VI, 250) of the book *De preparationibus*. In Book II, *De Nascentibus ex Terra*, Treatise I, *De preparationibus Terebinthinarum et Gummosorum* Paracelsus gives the following list:

Nomina sunt ista: Ex Gummis, Opopanaxum, Galbanum, Scapinum, Bœllium, Storax utraque, Laudanum, Mastix, Myrrha, Thus.

Ex Resinis: Balsamum, Terpentina, Resina.

In other words, laudanum was a gum like mastic, myrrh and the other gums mentioned in the list. The word laudanum is the mediæval form of ladanum<sup>9</sup> and Paracelsus, like other Renaissance

<sup>8</sup> Basel, 1588-1590, 10 vol. Unless indicated otherwise the references are all to this edition.

<sup>9</sup> Du Cange, *Glossarium: Recipie polycarlas, bedellii, mirras, laudani* (B. N. MS. Lat. 10272, p. 171).—Matthioli *Commentarii in libros Dioscoridis* (Venetiis 1570), p. 142: Ladanum, quod vulgo alii appellant Laudano, alii vero Ollano. P. 143: Quod vero Mithrae Graeci, Latini item Ladanum vocant: Mauritan, Ledon, sive Ladan: Itali, Laudano, et Ollano: Hispani, Xana.—Leonhard Fuchs, *Paradoxorum Medicinarum Libri tres* (Parisii, 1555), L. 3<sup>o</sup>: Ladanum, vel ut Barbari addita littera loquuntur, Laudanum.—Michael Tosites, *Onomastico II* (Argentorati 1574), p. 75: Ladan, Laldanum, ein Nig feuchte vom kruzte Lada inn Cypren. Gall. Ladan, ou hameur huileux de l'herbe Lade en Cypre. Ital. Laudano, adano, Hispan.

writers, very frequently used mediaeval terms, opopanax for opopanax, storax for styrax, etc. The word *ladanum* occurs in several Paracelsian recipes<sup>1</sup> but the different spelling may be due to the editor. As a rule Paracelsus called the drug *ladanum*.

*Ladanum* or *ledanum* was the resinous secretion of the leaves and flowers of several varieties of *Cistus*.<sup>2</sup> The drug is discussed very often in ancient pharmacological literature. Dioscorides has a long chapter on it.<sup>3</sup>

There is also an other kinde of *Cistus* called of somme *Ledum*, a shrub, growing after ye same manner that *Cistus* doth, but it hath longer, & blacker leaues, contracting somme fatnesse in the Spring. The strength of whose leaues is binding, making for all thinges that *Cistus* doth. Now, that which we call *Ladanum*, is made of this plant. For the Hee Goats, & shee goats, feeding on the leaues hereof, doe manifestly beare away the fatnesse of them on their beards and on their thighs, because it is of a viscosus nature, which taken off thence they strain, & having fashioned them into little balls, lay them vp in store. Somme also doe drawe little cordes across the shrubs, and taking off ye pinguous matter that cleaves to them, see forme it. The best of it is that which is of a sweet smell, somewhat green, easily made soft, fatt, vnpartaking of sand, or foulnesses, rosins. And such is that growing in Cyprus, but the Arabick & Lybick is of lesse esteem. It hath an astringent warming, mollifying facultie, as also of opening the *Oscula vasorum*. It stales the falling haire, being mixed with wine, & Myrrhe, & oile of Myrtle. It also makes scars looke ye handsomer being anointed on with wine. And it cureth the paines of ye eares, being dropt in with Hydromel, or Rosaceum. It is suffragigated for casting out of ye *Secundae*, & it doth cure the hardnesses that are in the wombe, being mixed in a *Pessum*. And it is profitably put in to *Anodyna*, & to cough-medicines, & into *Malagnata*. It stops the belly also, being drack with old wine, and it is also vtricall.

Galen also devotes a whole chapter to the description of the drug and its qualities.<sup>4</sup> He calls it hot in the first degree but so completely that it is almost in the second degree.<sup>5</sup> It is slightly astringent and

Xara, Aledana, Coefita rubra, Cincabath, Cithus, Edera, Laudanum, Aßhew, Aßhe, Aßhew, Ledum.

<sup>1</sup> V, 238, 239, 237, 242. The index refers to *ladanum*.

<sup>2</sup> G. Dragendorff, *Die Heilpflanzen der verschiedenen Völker und Zeiten*. Stuttgart, 1898, p. 446.

<sup>3</sup> Ed. Weilmann, Vol. I, p. 68 f. The translation is that of John Goodyer (1655), ed. by Robert T. Gunther, Oxford, 1934, p. 68.

<sup>4</sup> Ed. Kühn, XII, 28 f.

<sup>5</sup> About Galen's pharmacological theories see Henry E. Sigerist, *Studies and Texts zur frühmittelalterlichen Rezeptliteratur*, Leipzig, 1933, p. 11 ff.

has very subtle particles. Therefore it is moderately softening, driving and digestive. Hence it is indicated for diseases of the uterus and holds back the falling hair.

The drug was used throughout the Middle Ages and the Renaissance. Mathioli in his commentary to Dioscorides first published in 1544 complained that it was difficult to obtain the drug pure because it was frequently adulterated. The best he could buy was in Venice where it was sold by perfume makers.<sup>19</sup>

Let us now examine a number of Paracelsian passages where laudanum occurs. In *De Gradibus et Compositionibus Receptorum ac Naturalium*, Lib. II, Cap. VII (Huser VII, 13) laudanum is listed among the drugs *quae ex terra proveniant*, in other words, that consist of the element earth, and it is described as being hot in the first degree.

Laudanum occurs in many recipes without specification, so in the following:

*Descriptio pillularum de Laudano.*<sup>20</sup>

Rec. Laudani drach. semis

Rutae,

Abelrithii, ana drach. i.

Theriacae optima, quantum satis pro incorporatione. (Dosis grana quinque, nec ultra.)

Rec. Serapini,

*Contra hydroplem ex lacte.*<sup>21</sup>

Laudani,

Galbari, ana drach. i. semis

Lapidis heruli,

Hernodactylorum ana drach. semis.

Conservae rosarum, q. s. pro incorporatione:

Dosis aereis semis.

In a number of recipes the laudanum used is to be *laudanum purum*:

<sup>19</sup> Mathioli *Commentarii in sex libros Pedaci Dioscoridi Anazarbei de Medicis materia*. Venetiae, 1570, p. 142: *Ladana, quod vulgo alii appellant Laudano, alii vero Odano, tametsi plerumque impostorum malicia adeo abute, et alio adulteris sit vitiatum, ut nihil valoris praestet; ego tamen praestantissimum maxime Venetia cum ab unguentariis, qui odoramenta conficiunt. Verum apud pharmacopolas, qui medicamenta nobis parant, Ladana, quod syncrota, purumque sit, rarissime reperitur: cum eorum plerique potius curent, ut rem minoris erant, quam ut seligunt legitima ab adulteris, quod tamen iniquum est, inhumanum, ac detestabile crimen.*

<sup>20</sup> III, 208. The pills were used for fever originating from the stomach.

<sup>21</sup> III, 324, 327.

*Cura Pleurosis quae in regione Cerebri.<sup>16</sup>*

- Rec. Laudani puri, scrup. i.  
 Olei de musco, grana tria,  
 Camphorae, grana septem: Fiant pillulae cum aqua de spicula: Dosis  
 a granis sex usque ad septem, vel novem secundum coëhob.

*Compositio Diaprunellae.<sup>16</sup>*

- Accipe aquarum prunellae lb. i.  
 Laudani puri drach. ss. Misce, fiat haustus secundum coëhob, & gar-  
 garismus cum mundificatione linguae, & est ultimum medicamen  
 in prunella.

*Præservativus in rubra.<sup>17</sup>*

- Rec. Laudani puri scrup. i. ss.  
 Aquarum corallorum rubearum,  
 Spodii, ana drach. ss. Liguoris myrrhæ,  
 Theriæ, ana drach. iii.  
 Macis quantum satis est. Fiat massa pillularum.  
 Dosis grana quatuor.

*Descriptio ad Synochiam cerebri.<sup>18</sup>*

- Rec. Carabe ex asphalto,  
 Laudani puri,  
 Liguoris Lune, id est, argenti, an. hist. unam.  
 Vini essentificati per alcohol, ad pondus omnium.  
 Dosis secundum guttam per aurem.  
 Wann es ihnen ex cerebro kompt, muss man per aurem einschütten.  
 Cura prædicta in omnibus speciebus pleurosis valet, nisi in pleurosi  
 ex corde, ubi hæc descriptio administratur: <sup>19</sup>

- Rec. Laudani puri scrup. i.  
 Musci gr. v.  
 Camphorae gr. vi. fiant pillulae cum aqua de spicula, Dosis gr. vi.  
 vel vii.

*Gargarismus.<sup>20</sup>*

- Rec. Compositum diaprunellae, Aquarum prunellae lb. i.  
 Laudani puri drach. ss.  
 Misce, fiat haustus secundum Coëhob, cum mundificatione linguae: &  
 est ultimum medicamen in prunella: alternatim illa aqua iam in  
 potu, iam in gargarismo utere, prius frictione linguae præcedente.

From Matthiolus we know that it was difficult to obtain pure  
 iadamm and that it was frequently mixed with sand. We should

<sup>16</sup> III, 308.<sup>17</sup> III, 308.<sup>18</sup> A prescription for jaundice, III, 150.<sup>19</sup> III, 400.<sup>20</sup> V, 218.<sup>21</sup> V, 257.

assume, therefore, that laudanum purum was ladanum from which impurities had been removed. As a matter of fact there is a passage in the *Scholia in Libros de Tartaro* (V, 246) that indicates this:

Laudani puri id est liquoris separati puri ab impuro.

This purification was in all probability obtained through distillation. Leonhardt Thurneysser's *Oncomasticum* explains:<sup>21</sup>

LAUDANUM PURUM. Das ist von Laudano dissolvirt und per descensum distillirt, als dann ist der Saft am boden.

The *Oncomasticum* of Michael Toxicites holds the same view:<sup>22</sup>

Laudanum purum dicitur, non preparatum cum aliis, sed quando dissolutum distillatur in liquorem, wan der gummi so man Laudanum nennt, verlassen, und untersch in ein liquorem distillirt wirdt: Gallice Ladan solu et distillé en liqueur.

This all conforms with the scholia to the *Libri de Tartaro* (V, 230 and 242):

Laudanum per descensum destillatum, oleum reddit.

Si laudanum destillatur per descensum, manet liquor in fundo.

*Liquor laudani*, the pure ladanum obtained through distillation is mentioned as such in a number of recipes, for instance:

Rec. De liquoribus laudani scrup. i.<sup>23</sup>

Croci, gr. iii. (al. scrup. iii.)

Aloepatici, drach. iii.

Fiant pillulae communes, cum aqua absinthii.

Dosis grana septem.

Rec. Olei papaveris unc. ii.<sup>24</sup>

Olei hyoscyami unc. ss.

Laudani liquefacti in oleo amygdalarum amararum drach. ii.

Misceantur, fiat potio oleata, cuius dosis ab uncia una usque ad unciam unam & semis.

In another recipe *extractum laudani* is to be used, which is probably the same as *liquor laudani* (III, 351):

*Præservativum utriusque generis*<sup>25</sup> (res generale.)

Rec. Liqueoris myrrhæ,

Thuris ana drach. iii.

<sup>21</sup> *Keupels*. Das ist ein *Oncomasticum*, interpretatio oder erklärung Leonhardt Thurneyssers zum Fischen. Über die fremden und unbekanten Wörter, Character und Namen, welche in den schriften des Teuwen Philosophi, und Medici Theophrasti Paracelsi, von Hohenheim gefunden werden. Berlin, 1574.

<sup>22</sup> *L. c.*, p. 452.

<sup>23</sup> III, 258.

<sup>24</sup> III, 328. See also V, 321, 323.

<sup>25</sup> *Sc. rubrae et nigrae ictericæ.*

Laudani extracti,  
 Thassorum, ana scrup. ss.  
 Olei nucis muscatæ quantum sufficit, pro bolo. Dosis a scrup. i. ad  
 scrup. ii. ss.

Ladanium is also prescribed as *Ladanium præparatum*, thus in a recipe for black jaundice (III, 350) :

*Præparatum in Nigra.*

Recipe Lapidis lazuli,  
 Succu sileris montani, ana drach. i.  
 Laudani præparati scrup. iiii.  
 Olei de nucis muscatæ quantum sufficit pro incorporatione. Dosis a  
 drach. ii. ad drach. iii.

The same term occurs in a prescription for the treatment of compressiones thoracis (III, 263, 266, V, 231) :<sup>48</sup>

Rec. succi de suffo: id est, panis porcini unc. vi.  
 Laudani præparati, unc. semis.  
 Olei nucis muscatæ unc. semis.  
 Fiat mixtura.

Again the question arises what Paracelsus meant by *ladanium præparatum*. The Onomasticum of Toxicites says (p. 453) :

Ladanium præparatum, Wan man zu dem gummü andere species wie in apotheken der brauch ist, zusetzt.

The Onomasticum of Thurneysser is more explicit :

LAUDANUM præparatum. Ist wann zu reinem Laudano Ambræ und Muscaten blumen gethan wirdt, nemblich zu einem Quintlein rein Laudano iiii gran. Ambræ, und 6. gr. Muscaten Blumen, dann diese dinge præparieren in.

In Book II of *De Morbis ex Tartaro oriendis*, Chapter I, De Orezen, vulgo der Sodt, Paracelsus has the following Cura (III, 258) :

Cura.

Resolve in aquam uncam, impingesse locum, et sanabitur.

Descriptio Resolutionis est ista :

Rec. Laudani præparati drach. i.  
 Sacchari candi drach. i. semis.  
 Ambræ grana tria,  
 Macis grana sex.

Fiant pillulæ cum aqua menthæ : dosis, numero tres.

<sup>48</sup> Compressiones thoracis voco quod alii vocant debilitatem digestionis, frigiditatem stomachi, nauseam, appetitum caninum, ardorem stomachi, syncopein stomachi, vaporem foetum: quod hæc omnia ex vitio Tartari veniunt, et per Tartari curam curantur: ideo uno nomine complector, voce compressiones thoracis.

The Author's Notes add to this prescription (III, 261) :

*Laudanum est capitale in hoc Recepto. Zaccaram et ambra non multum proficiunt.*

The Scholia, however,—the authorship of which is uncertain—explain (V, 242) :

*Ambrae, macis, haec duo laudanum praeparant.*

This conforms with Thurneysser's interpretation but is probably not what Paracelsus meant. Indeed, he would not have added ambra and macis<sup>21</sup> to the recipe if laudanum praeparatum already contained the drugs. Another prescription seems to give the correct explanation (III, 316) :

*Mundificatio.*

*Rec. Laudani puri, id est, praeparati unc. semis.*

*Liquoris corallorum scrup. ii. fiat mistura in formula pillularum communium. Dosis a scrup. semis ad scrup. i.*

According to this prescription laudanum purum and laudanum praeparatum were one and the same. Laudanum was prepared by being purified through distillation. Hence I am inclined to believe that Paracelsus used both terms indiscriminately, meaning the same, and that it was only later that his disciples and followers made a distinction and declared that laudanum praeparatum was a composite remedy containing ambra and macis.

I think there can be no doubt that in all passages mentioned so far the laudanum of Paracelsus was nothing else than the gum laudanum used since antiquity. But now the question arises whether Paracelsus used the term laudanum also to designate something else, a composite remedy, and if so, what was this remedy?

## II.

In the *Große Wundartznei* of 1536, Book I, Treatise 3, in the chapter dealing with the treatment of snake bites Paracelsus after discussing several remedies says :

*ich hab ein archazum, heiss ich laudanum, ist uber das alles wo es zum tot reichen wil, das in seinem capitel verzeichnet wird.<sup>22</sup>*

<sup>21</sup> About macis see Matthiolus, *op. cit.*, p. 120.

<sup>22</sup> In the Sudhoff edition, Vol. X, p. 165. The edition Ulm 1536 does not contain the passage (Sudhoff, p. 666).



In other words, Paracelsus says that he has a remedy that he calls Laudanum which is superior to the others in cases of threatening death and which he will describe in its chapter. The chapter is not to be found but then we know that the *Groesse Wunderzwey* was to have five books of which only two were completed.

Paracelsus calls the remedy an arcanum<sup>19</sup> which does not help in identifying it. He has written a great deal about this concept.<sup>20</sup> Arcanum is the inherent virtue of a substance which nothing but experience reveals. It is totally different from the Galenic concept of elementary quality. In a recipe that contains the gum ladanum it is said (III, 266): In his rebus non considerantur gradus vel complexio, sed arcanum considerandum. Arcanum corresponds to a certain extent to our modern concept of the active principle of a drug. A drug has its arcanum and arcanum is also the designation of a drug or a compound remedy that has a marked effect on the body.

The *Groesse Wunderzwey* was never finished but Paracelsus had given the prescription of his laudanum previously while he was lecturing in Basel in the winter of 1527-1528. He gave a course on special pathology and therapy which he intended to publish some day as *Libri Paragraphorum*. In one of the note-books preserved we find the following prescription (V, 258):<sup>21</sup>

*Dissolutis*<sup>22</sup> iam deploratis utere isto laudano.

Rec. Orizci foliati (geschlagen Goldt) unc. semis.  
Margaritarum non perforatarum drach. ii.  
Asphalti, Florum antimonii ana drach. semis.  
Croci orientalis drach i. semis.  
Myrrhae Romanae, Aloes opatici ana ad pondus omnium.  
Redae ad formam, Dosis a gran. 4. vel 7. ad 10.

It was a prescription for cases where death was threatening

<sup>19</sup> Or archanum in the old spelling.

<sup>20</sup> See, for instance, *Archidoxae*, Lib. V (VI, 42 seq.). One of the best and simplest definitions is the one of Gerard Dorn in his *Divinarium Theophrasti Paracelsi*, Francofurti, 1584, p. 18: Arcanum in genere, ut occultissimum quid significat, Paracelso pariter occultum in rebus naturalibus virtutem incorporam, et cum vita perpetuae ac immortalis e caelo in eam derivatae participem, quae multiplicari possit arte spagyrica supra priorem conditionem.

<sup>21</sup> Seldhoff, V, 285.

<sup>22</sup> Dissoluti were patients suffering from diarrhoea, dysentery and similar diseases. The recipe is for *dissoluti iam deplorati*, that is for patients already given up.

containing the heroic drugs gold, pearls and antimony—but no opium.

The treatise *De vita longa* has also a chapter *De Dissolutis* (VI, 165). The remedies are again gold and laudanum perlatum. The latter may well be the prescription just mentioned that contained pearls as one of its chief ingredients. The treatise has a special chapter on pearls (VI, 174-175) in which is said nihil magis esse Auro propinquum Perla.

The treatise *Von der Bergsucht* has an interesting chapter in which Paracelsus expounds homeopathic principles (V, 17 ff.). Arcanum contains both, evil and good. What causes jaundice also cures it. He then continues:

So der particularis Medicus einem jeglichen sein sonder Diet und Recept suchen will, dasselbe suchen wirdt zu lang dem Kranken: dann nach art dieser Cur und Ordnung nimpt sich der ursprung Laudani, das ist materiae perlatae, das so viel ist, als wenn ein Perlin ausgezogen wirdt, und dasselbe Perlin heilet nun dieselbe Krankheit, so aus seinem bloem entsprungen.

There can be no doubt that laudanum is described here as a pearl remedy. The same is in all probability the case in a passage at the end of the book (V, 71-72) where it is said that certain serious diseases can not be cured by the usual prescriptions but require the great arcana such as laudanum or pearl remedies or similar arcana.<sup>44</sup>

The same laudanum is probably meant in a concilium of 1538 (V, 123):

Reliqua sunt, Olearum Benedictum, Laudanum, Perlarum arcanum, Balsamum, in uteris, ut dixi.

Laudanum was by no means the only Paracelsian pearl remedy. A great variety of them are described.<sup>45</sup> Pearls were ground or calcined, mixed with vinegar, alcohol or other substances and used in many combinations.

And now a seemingly dark passage becomes clear. In *De Gradibus et Compositionibus Receptorum ac Naturalium*, mentioned before, Paracelsus lists laudanum as being *ex terra, primum gradum coloris occupans* (VII, 13). This laudanum, as we saw, was the gum. But then, a few pages later (VII, 31) he lists materia laudani as being

<sup>44</sup> . . . sondern den grossen Arcanis subeiltet, als dem Laudano, oder den Materien Perlaten und dergleichen.

<sup>45</sup> See IV, 108. See the index of Huser.

*ex terra, frigida*. This obviously cannot be the same laudanum, since the same drug could not be both, hot and cold. Paracelsus in addition correlates this materia laudani with the heart. What does that mean?

According to Paracelsus certain drugs like certain diseases are not only characterized by their element and quality. Herbs that are cold and from earth are not universally good for diseases of hot quality. There are seven kinds of diseases and also seven kinds of heat and cold. Here Paracelsus reveals himself as a follower of the astrologists. The seven kinds are determined by the planets and their corresponding organs: Sun—heart, Moon—brain, Venus—kidneys, Saturn—spleen, Mercury—liver, Jupiter—lungs, Mars—gall bladder. Materia laudani refers in all probability to the pearl remedy. It is from earth and cold like Materia perlarum and Materia Saphyrorum with which it is listed together and they all correspond to the heart like the hot Essentia Melissa and Essentia quinta auri. Opium, however, belongs into a totally different category. The genera papaveris are not listed among the great arcana but among the drugs that are *ex terra, in primo gradu frigida* (VII, 15).

I think the texts discussed so far are sufficient to make evident that Paracelsus designated two different things by the term laudanum:

1. The gum laudanum of the classical pharmacopoeia.
2. A compound remedy—an arcanum in his own terminology—that contained pearls as one of its chief ingredients.

I cannot find any connection, however, between laudanum and opium. I repeat that Paracelsus used opium very frequently. The prescriptions that contain opium, succus, liquores or semen papaveris or oleum de papavere are innumerable. He never made a secret about his opiates. He was not the mystery man as whom he has been pictured so often. He had his own terminology because he was an independent thinker, but he explained it whenever he had a chance. If some of his concepts are sometimes dark it is largely due to the fact that many of his books were never written or remained mere fragments.

## III.

One last problem must be discussed. If the laudanum of Paracelsus had nothing to do with opium, who was responsible for using the term in designating an opium preparation?

I think this must be attributed to the Paracelsists, the disciples, followers and commentators of Paracelsus. When he died in Salzburg in 1541 only a few of his books had been printed. He left manuscripts finished and unfinished, originals written in a hand that was hard to decipher, and copies. But there was also an oral tradition. Many people had known him, physicians, laymen, adventurers. They claimed to have seen him treat patients, to have received secret recipes from him. They were inclined to attribute their own prescriptions to him in order to give them more authority. Wild legends arose and Paracelsus became the miracle doctor.

The article on Laudanum of Michael Toxites is most characteristic. In his *Onomasticum*<sup>48</sup> he mentions the gum laudanum as *laudanum purum* and *laudanum praeeparatum*. But then he has a two-page article on the *Laudanum Theophrasti* which is neither *laudanum* nor *opium* but simply a miracle drug. It cures every disease with the exception of leprosy and even resuscitates the dead. "It consists of two things and nothing greater than these can be found in the world." What these two things were is not said. It was a secret. The whole story is so typical of the formation of such legends that I am reprinting it. It reminds one of the *Legenda Aurea*, because it has all elements of style of the episodes that we are accustomed to find in the *Vita* of a saint:

*Laudanum Theophrasti, non laudanum, neque opium est, ut quidam alioqui vir doctus, et mihi amicus nimis iracunde, et imprudenter admodum de Theophrasto scripsit. Effectus enim longe aliud docuit, non enim summo hoc arcano homines occidit, sed iam iam mortuos in vitam revocavit: quod etiam Operinus noster, plae memoriae mihi condensus est: ipsum hac medicina miracula praestitisse: se etiam Theophrasti nomine multis exhibuisse: quorum quidam vitae omnino, alii vero qui serius usi sunt, rationi aliquot diebus restituti fuerunt: praesertim in peste. Dixit etiam mihi se ipsum aliquando summisae praecipitatum, cuiusque eum uxor ad iracundiam commovisset, unde nimis incaluerit: propeisse se ad fontem, bibisque liberalius aquam frigidam, inde venenum Mercurii ita fuisse excoctam, ut toto corpore intamaerit, medicique morti eum praesente uxore adhaesiverint. Quod cum ex astantibus,*

<sup>48</sup> Strassburg, 1574, pp. 450-453.

visu iam amisso, audisset, mox parum de laudano, quod secum adhaec a Theophrasto ipsi datum, habebat, in os imposuisse, inde in dulcissimum somnum per semihoram, aut paulo amplius incidisse, ubi evigilaverit, tumorem, morbumque omnem, quae peculiaris huius Medicamenti natura est, admirante uoxore, et ceteris qui praesentes erant, evanuisse. Haec non ab aliis sed ab ipomet Oporino, qui mihi fraterno amore iunctus fuit, in praeto ad Rhenam cum eo decumbens, cum Basilea Argentoratum una navigarem, audivi. Liberalius multa Andreas locutus in sua oratione recitavit: quaedam etiam falsa posuit: quin et Oporinum passitum Epistolae, quam ad D. Wierum de Theophrasto scripsit, dixitque eodem tempore mihi, ab ipso fuisse emendatam epistolam neque eam scripturam fuisse si scivisset, ita in vulgus profuturam. Quamquam praestat eam scripsisse, plura enim in ea sunt, quae ad laudem Theophrasti pertinent, quam ad vituperium, et quae ibi vituperat, longe aliter etiam intelligenda sunt, quam vel Oporinus vel alii interpretati sunt, quae brevitatis causa omitto. Est igitur Laudanum Theophrasti medicina laudatissima quae non ex rebus puerilibus, non venenosis, non opiatâ, sed omnium quas orbis habet praestantissimis quae vitam conservant, conficitur: et in omnibus morbis efficax est, praeterquam in Lepa. Ita appellata est a Theophrasto, quod omni laude dignissima esset. Duae enim saltem res sunt, ex quibus constat: maiora his inveniri in mundo non possunt. Quare vera esse scio, quae de hac medicina scribo, falsa et mentita, quae olim adversus hoc laudanum quidam ediderunt, qui ironice Laudanum sanctum appellaverunt. Vivit adhuc testis locuples, senex venerandus Georgius Vetus, qui adhuc hodie concionatorem agit Eberthâ, in ditione comitum ab Erpach: illum accedite vos Theophrasto mastigae tribus enim tantum miliaribus ab Haidelberga distat. Is tum temporis cum Theophrasto Basileae vixit, quando nobilem Canonicum, et alios multos curavit, is medicamenta Theophrasti nomine administravit. Si quid mentior, nolo mihi patrocinetur. Haec de Laudano Theophrasti propter ceteras nationes prolixius commemoravi, ut intelligant Theophrasto fieri iniuriam, dum nostri tanto illum odio, doctrina eius minime cognita, persequuntur: quod aliquando clarius innotescet.

In the Paracelsus Dictionary of Gerard Dorn<sup>22</sup> laudanum is not yet described as an opiate:

Laudanum, et non ledanum, est medicina Paracelsi ex auro, corallis, urionibus, etc. composita. Est etiam materia perlata.

Laudanum, est specificum remedium sive medicamentum Paracelsi ad febres.

But then from 1600 on the view was frequently held that the Laudanum of Paracelsus had been an opium remedy. Oswald Croll in his *Basiliæ Chymicae* first published in 1608 gives the following prescription:<sup>23</sup>

<sup>22</sup> Frankfurt, 1584.

<sup>23</sup> In the edition Frankfurt, 1607 (with the notes of J. Hartmann), p. 188 ff.

*Laudanum Paracelsi Laudationum.*

Rec. Opii Thebaici uncias tres.

Succi Hyoscyami debito tempore collecti, et in Sole prius inspissati unciam i. et semis.

Specierum Diambree et Dioscori fideliter dispensatorum ana uncias duas cum dimidia.

Mumiae Transmarinae selectae unciam semis.

Salis Perlarum.

Coralorum ana drachm. iii.

Liquoris Succini albi per Alcohol vini extracti.

Ossis de Corde Cervi ana drachmam i.

Lapidis Bezcartici.

Unicornu animalis vel mineralis ana drachmam i.

Mosch.

Ambrae ana scrupulum i.

In defectu gemini auri potabilis nullis corrosivis inquinati addantur Oleorum Anisi

Carui

Arantiorum

Citriorum

Nucistae

Caryophyllorum

Cinnamomi

Succini ana guttas 12

Fiat ex his secundum artem Chymicam massa seu Extractum, e quo ad necessarios usus possint pilulae efformari.

Croll also gives the prescription of an

*Electuarium Laudani.\**

Rec. Opii.

Succi e Rad. Hyoscyami Essentificatorum ana unciam unam.

Essentiae radice Mandragorae cum S. v. extractae drachmas sex.

Specierum Diambree sine Moscho et Ambra preparat. uncias quatuor.

Salis Perlarum.

Coralorum ana drachmas duas.

Carabe.

Mumiae ana scrupulos quatuor.

Croci Orientalis scrupulos duos.

Unicornu scrupulum unum.

Terrae Strigensis drachmam i.

Mellis despurati uncias duodecim.

\* *L. c.*, p. 194.

Dissolvatur Essentia Opii et Hyoscymia (si sit nimis liquida, fac ut Spiritus vini prius sufficienter lento calore ab illa evaporet) in melle supra ignem, postquam probe mixta fuerint, adde Salia Perlarum et Corallorum, postea reliquos pulveres tenuissime tritos, Carabe scilicet, Mumiam, Crocum, Unicornem, Terram sigillatam, cum speciebus Diambreas paulatim insperge tepide diligenter miscendo in formam Electuarii.

Johannes Hartmann in his *Praxis Chymiatrica* first published in 1633 has a considerable number of Laudanum recipes:

L. opiatum (p. 46)<sup>19</sup>

L. [opiatum] aliud (p. 47)

De extractione Nephenthes sive L. opiati vera et perfecta descriptio (p. 464)

De alia descriptione laudani, opiati, solis et lunae (p. 468)

None of these is attributed to Paracelsus. It might have been obvious at that time.

L. sine opio (p. 44)

L. antepilepticum (p. 77)

L. ad suffocationes matricis (p. 295)

Hartmann contributes to the Paracelsus legend by attributing to him

L. Mercurii Paracelsi (p. 490)

Theophrasti l. verum (p. 547)

Aliud l. Theophrasti (p. 548)

A careful investigation of the 17th century medical literature would without any doubt produce a great variety of laudanum recipes. I think, however, that for our present purposes these few hints will suffice. They show that *laudanum* became a generic term for praiseworthy remedies, some of which contained opium, some not. They also show that there was no unanimity of opinion as to what the real laudanum Paracelsi actually had been.

With Thomas Sydenham a new period begins. His laudanum became the laudanum of the pharmacopoeias where it was kept until very recently.

<sup>19</sup> The pages refer to the edition Geneva, 1633.