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# Scientific Works by Women in Medieval Abbeys

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Presented by Lady Isobel of Carnewyth  
Known World Science Symposium &  
University of Atlantia Session 107 - June 12, 2021

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# *Scientia*

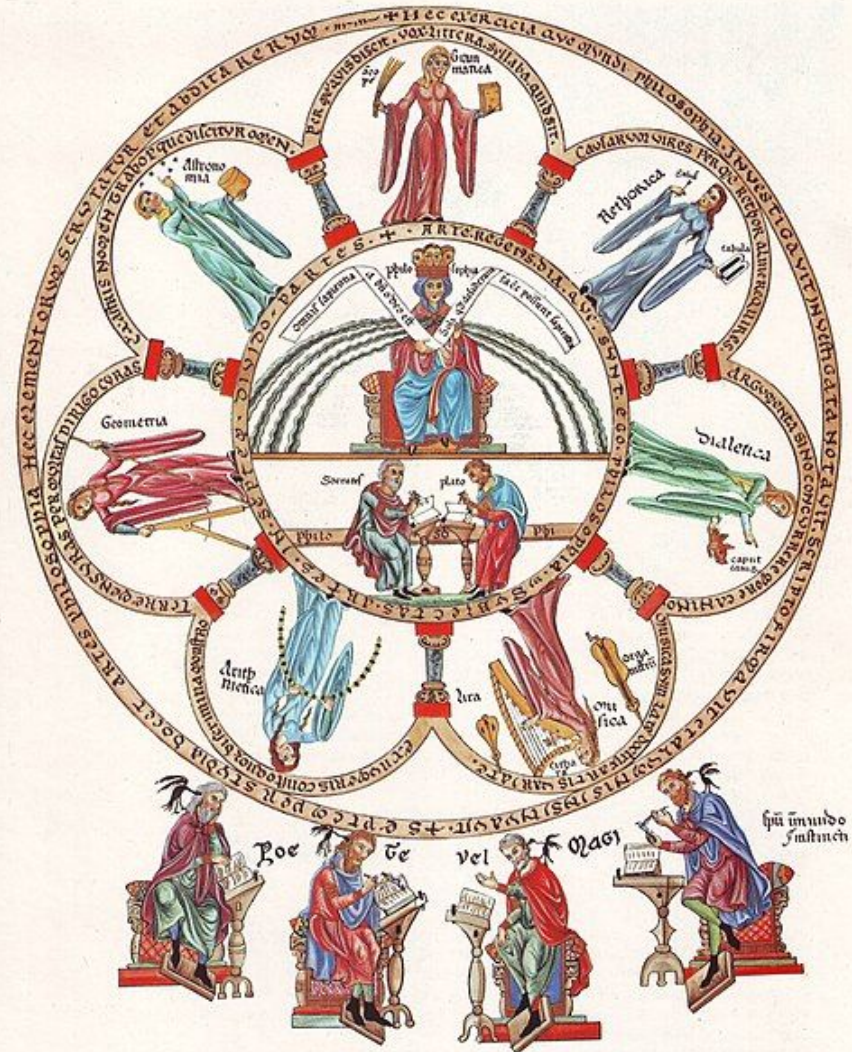
“...Aristotle’s Posterior Analytics, knowledge that conforms to this ideal must consist of propositions that are universally and necessarily true. This necessity can be demonstrated through syllogistic inferences that proceed from premises containing the cause of the conclusion. Accordingly, scientia consisted in a **systematic, demonstrative presentation of why things behave the way they do**, and not in the discovery of the causes from which demonstrations followed.”

# Philosophia et septem artes liberales

Holy Spirit inspires Philosophy which has streams of wisdom to grammar, rhetoric, and dialectic (the trivium) and music, arithmetic, geometry, and astronomy (the quadrivium), education as an essential part of salvation.

Socrates and Plato have places of honor, poets and magicians do not.

from *Hortus deliciarum*, c. 1180. Public domain via Wikimedia Commons



# High Middle Ages

## 1000 - 1250 CE

12th century Medieval Renaissance



# Three renaissances of the Middle Ages

1. Charlemagne's Carolingian  
(768- 814)

2. Otto I's (936-973)

Renaissance abbey schools: the rapid growth of monastic life gave opportunities for women scholars.

3. **12th century Medieval Renaissance:**

Translations centers



*Monastero di San Vincenzo al Volturno, Castel San Vincenzo, Molise, Italy photo by Abbazia de Vincenzo used under cc by 2.0 via Wikimedia Commons*

# Mediterranean Translation Centers: Preservation and continuation of knowledge

Greek and Latin medical knowledge moved geographically and was expanded on in Persia, Syria, and Arabic caliphates.

Toledo School of Translators returned many classic works and additional philosophical and scientific works from Arabic to Latin including Ibn Sina (Avicenna)'s Canon of Medicine.

Abbey library of Montecassino, School of Salerno key entry points.

Constantine the African Benedictine monk from Carthage, arrived in Salerno in 1077. Translated Galen's and Hippocrates' works into Latin, including anatomical studies from Galen's time in Alexandria in addition to masters of Arabic medicine.

# Scholarly Opportunities for Women

Medical school, court life, or abbeys



# Institutional Opportunities for Women

## **Studium Generale**

Medical schools- traditions of women treating women

Doctors in Italy and elsewhere began outsourcing to female nurses for the sick, barbers for surgery, and apothecaries for medicine.

Other Universities were structured by Canon Law and excluded women

## **Abbeys (Benedictine tradition)**

Sanctuary and Opportunity of Abbeys

- Escape from politics, (re-)marriages

Scholars, physicians, scribes

- Rule of Saint Benedict mandated care of the sick as a moral obligation
- Sin to harm a patient through ignorance or negligence
- Health of the soul

# *Schola Medica Salernitana*

Founded c.900 CE, Closed 1861

Golden period of 11th - 13th c., co-ed students and professors

Source of re-entry of the Greek-Latin knowledge base which had been maintained in Byzantine and Persian traditions, merged with Jewish and Arabic medical knowledge. (Founded by Pontus, Salernus, Helinus, Abdela)


Famous texts include the *Regimen Sanitatis Salernitanum*, *Antidotarium Nicolai* and the *Trotula* texts.

*Curriculum studiorum* consisted of 3 years of logic, 5 years of medicine



# 12th century Abbess Polymaths

diseases, cures, cosmology,  
astronomy, horology, physica



# Role of Abbeys

## Centers of Learning, Healing

- Kildare Abbey (metalwork, illumination)
- Clemence of Barking Abbey (poet translator)
- Cluny Abbey (library, reform movement)

## Political or other Sanctuary

- Abbess Matilda of Anjou (heir to Henry I), Fontevraud Abbey
- Queen Eleanor of Aquitaine, Fontevraud Abbey
- Princess Anna Comnena, Kecharitomene Monastery
- Abbess Héloïse, prioress of Argenteuil, prelate nullius of Paraclete (bishop)
- Prioress Christina of Markyate, hermitage near St. Alban's Abbey

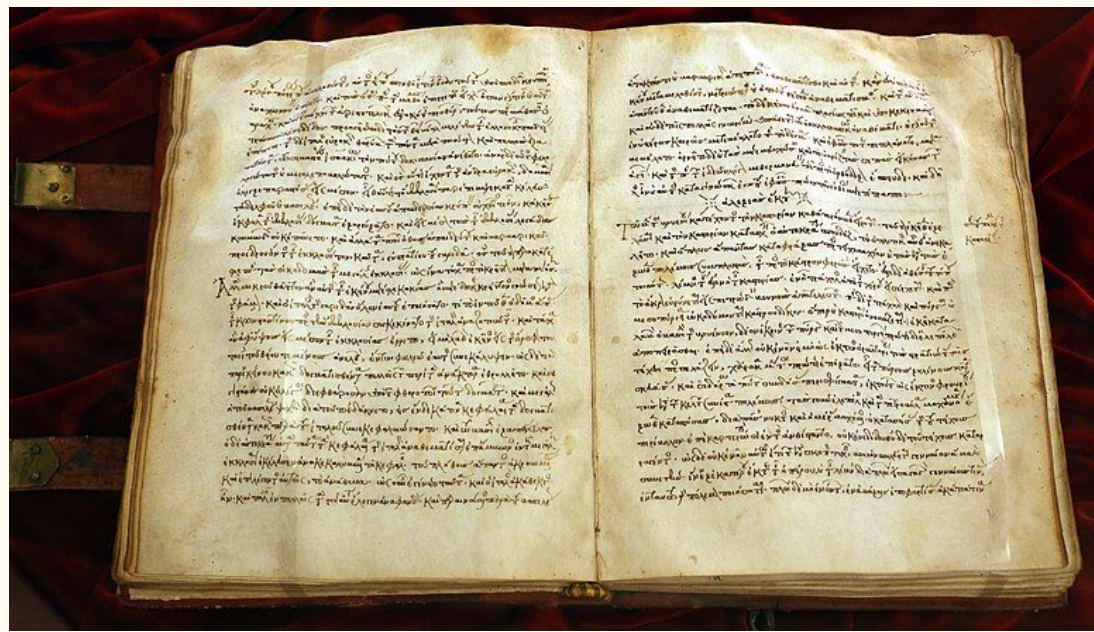


*Effigy of Eleanor of Aquitaine and Henry II in the church of Fontevraud Abbey  
CC-BY-3.0 via wikimedia.*

# Anna Comnena

Byzantium, 1083-1153

- Daughter of Emperor Alexius with broad learning
- Wrote on Psychosomatic disease
  - Connection between envy and gangrene
- Father built hospital in Constantinople 1081 and Anna became the administrator
  - 1096-99 First Crusade
- Kecharitomene Monastery



12th-century manuscript of the *Alexiad* in Biblioteca Medicea Laurenziana, Florence. CC-BY-3.0 via wikimedia.

Post-politicking for the throne, she was banished to a convent for 35 years where she was able to write *The Alexiad* which contained a first hand account of the crusade including documenting the presence of women and children.

# The Abbesses Hildegard, Héloïse, and Herrad

## **Benedictine communities**

Autonomous monasteries with emphasis on reading, stability (stay with the community).

Monastic scriptoria flourished from the ninth through the twelfth centuries.

Decline at end of the 12th c. with rise of Franciscans and Dominicans who were mendicants able to adjust to urban settings.

Abbesses had full control over their community including education but still had pastoral care fulfilled by monks or priests (confessor friend Volmar for Hildegard).

Disputes with Abbots in dual communities were common. E.g. Hildegard went over Abbot Kuno, to the Archbishop to form her own community. This meant a loss of income from pilgrims and new monks and nuns drawn by her reputation.

# Abbess Héloïse

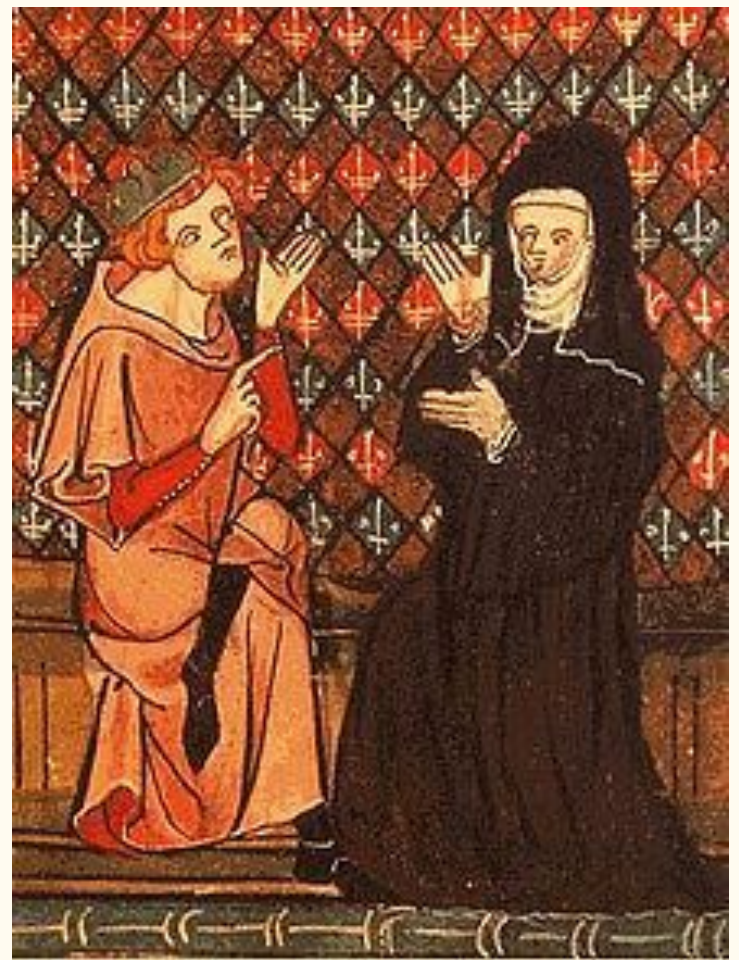
c.1100-1164

Scholar known for her correspondence and her secret marriage to her teacher, Peter Abelard.

She returned to the convent where she was raised for her safety (Abelard was then castrated in retaliation by her uncle) and she eventually worked as a physician while Abbess at Paraclete.

Wrote on philosophy and theology, critical discussion of marriage, child-bearing, and sex work.

*Problemata Heloissae* - 42 questions



*Abaelardus and Héloïse in the manuscript Roman de la Rose (14th century), public domain via Wikimedia Commons*



# St. Hildegard von Bingen

Mystic, composer, abbess, healer, 1098-1179



- Visions of divine inspiration
  - Doctor of the Church
- Invented a unique language and alphabet for her nuns (*Lingua Ignota*) and at Rupertsberg (Eibingen) the nuns wore tiaras or crowns in celebration of celestial divinity
- Wrote multiple biographies, religious texts *Scivias*, *Liber vitae meritorum*, and *Liber divinorum operum simplicis hominis*, compiled into the Riesenkode manuscript, which does not include her medical or natural history works.

Hildegard von Bingen receives divine inspiration. Miniature from the Rupertsberg Codex of *Liber Scivias*. Public Domain.

# Abbess Herrad of Landsberg

c.1130-1195

## *Hortus Deliciarum*

- Hohenburg Abbey in Alsace, lack of male oversight
- Calls for reform of pastoral care, education of women
  - Training of Augustine canonesses
- Latin and German
  - Used to teach the nuns Latin
- Salvation history and encyclopedia of religion, history, astronomy, geography, philosophy reflective of her own considerable learning and reading of texts.
- Computus table for determining festival days from 1175 to 1706
- Cosmos, man as microcosm



Herrad of Landsberg Self-portrait, from *Hortus deliciarum*, c. 1180. Public domain via Wikimedia Commons

# Hortus Deliciarum

Letter to community, “... make it known to your holiness, that, like a bee inspired by God, I collected from the diverse flowers of sacred scripture and philosophic writings this book, which is called the *Hortus deliciarum* (garden of delights), and I brought it together to the praise and honor of Christ and the church and for the sake of your love as if into a single sweet honeycomb. “

Outside sources interspersed with inspirational poetry and music.





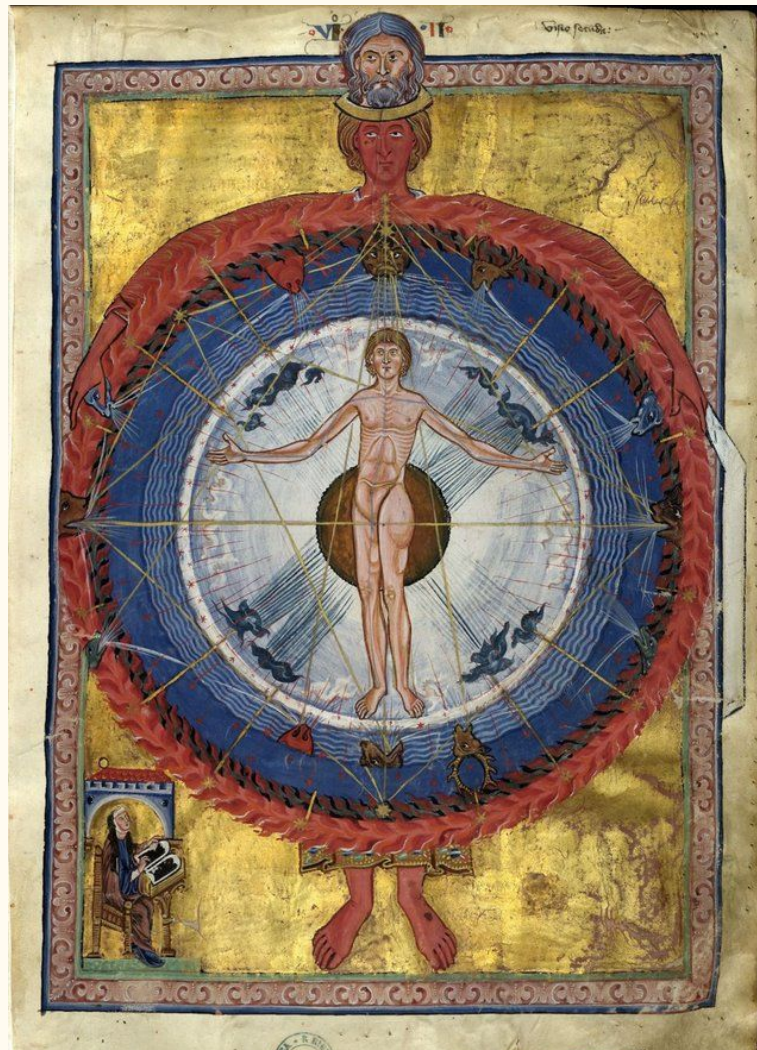
# Hildegard's *Scivias*

26 visions - 35 illuminations,  
completed ~1152

Third vision: cosmic “egg” with yonic  
representation

East at the top: Saturn, Jupiter, Mars,  
the sun, Venus, Mercury, the moon,  
Earth as a sphere

Writing embedded with justness and  
harmony, unity and relatedness



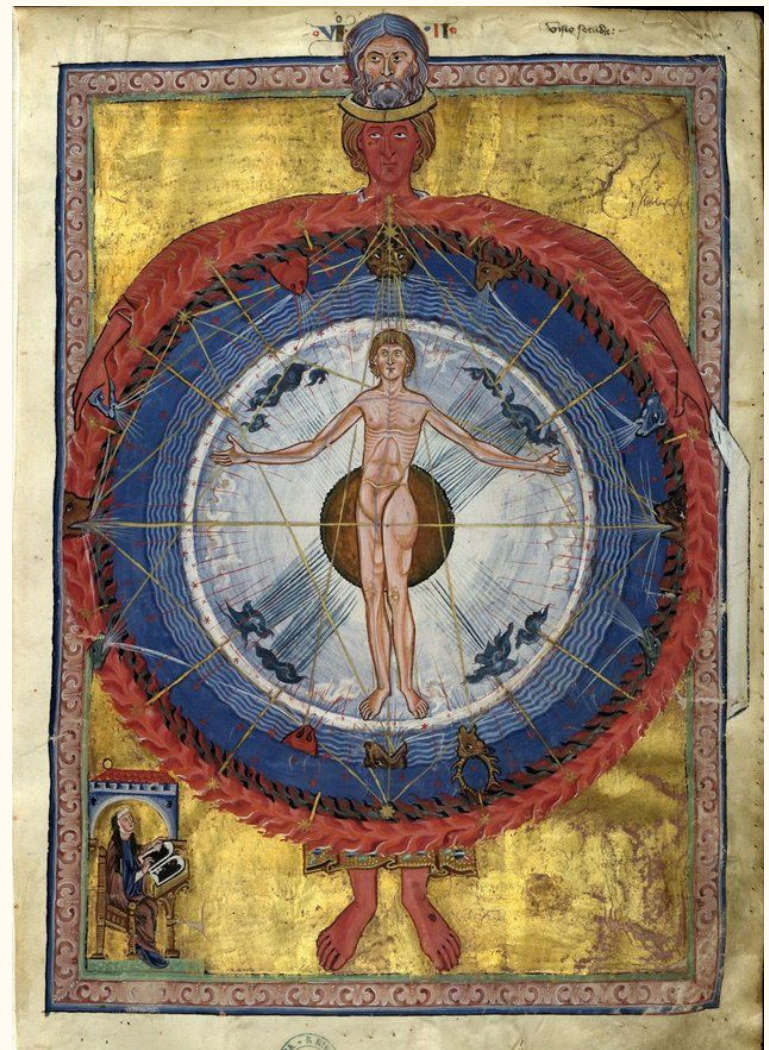
# *Liber Divinorum Operum*

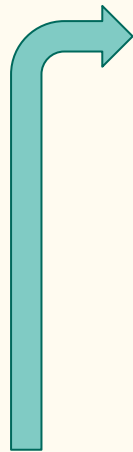
aka *De Operatione Dei*

1163-1173, ten visions

Part I, Vision 2: Cosmos revised to a “wheel” representation of cosmic spheres of celestial bodies, winds, on the breast of Theophany of Divine Love (Vision 1), increased metaphoric complexity.

*Cosmos from Liber Divinorum Operum, Hildegard von Bingen, retrieved from <https://www.wdl.org/en/item/21658/view/1/27/>*





*Theophany of Divine Love (Volmar and Hildegard detail) from Liber Divinorum Operum, Hildegard von Bingen, retrieved from <https://www.wdl.org/en/item/21658/view/1/11/>*

# *Liber Divinorum Operum:* man as microcosm

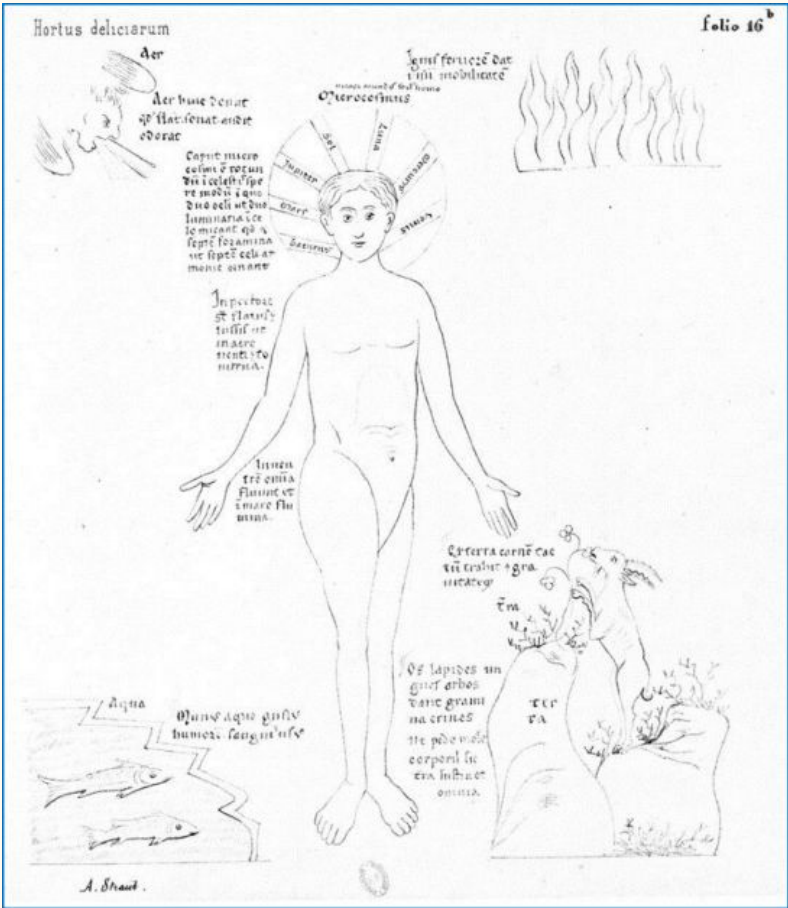
Vision 3: bodily humors influenced by the air and winds, connection to veins and inner organs, results in changing health.

Interspersed with references to biblical passages, evils corrupting the soul can cause illness.

*Man as microcosm, vision from Liber Divinorum Operum, Hildegard von Bingen, retrieved from <https://www.wdl.org/en/item/21658/view/1/65/>*



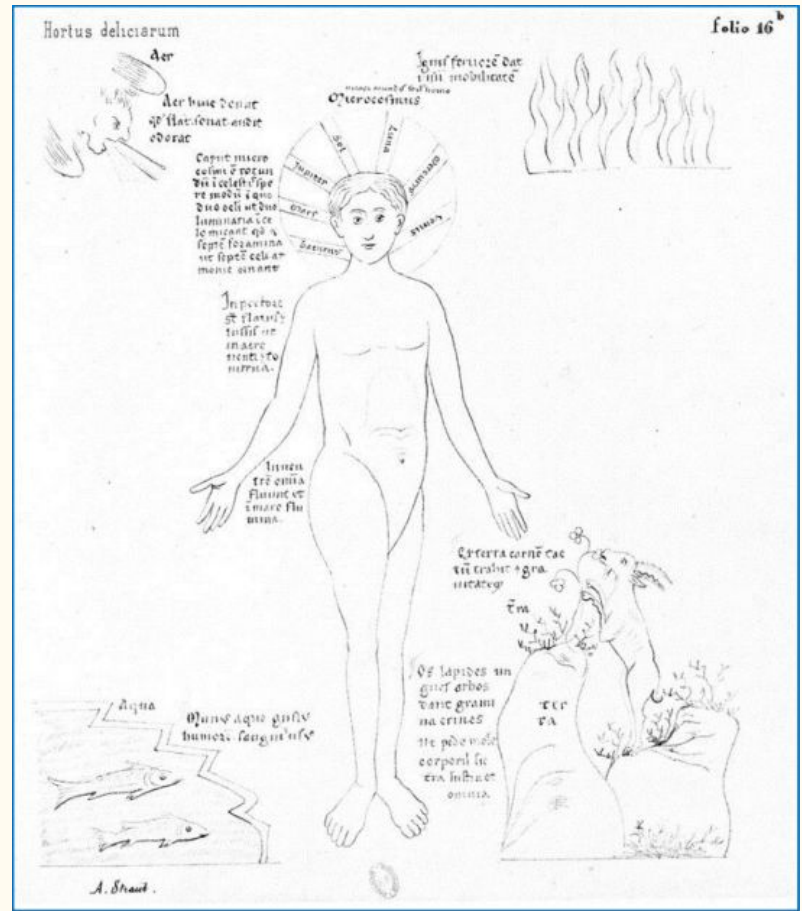
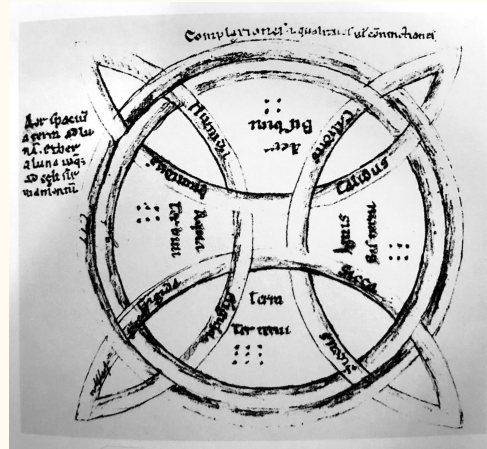




# Hortus Deliciarum

## Cosmos, man as microcosm of the elements

Endeavours to merge scientific and biblical accounts of Creation but does so by intermixing cosmological diagrams with iconography. The goal being to show the canonessees “to find visible remnants of the Trinity in the world”. Four Evangelists = four elements.



Planetary diagram (left), Microcosm diagram (center), and Man as Microcosm (right) from the Hortus deliciarum fol. 10r, 10v and 16v.

# Hortus Deliciarum

## Computus tables

Calculation of ecclesiastical days for the 532 year Paschal cycle in a perpetual calendar. Contains 35 possible dates for Easter with anchor dates of Christmas and Advent and then as defined by the 19 year lunar cycle and seven weekdays. The grid condensed the two tables further.

Consistent measurement of time still centuries away (Galileo's mechanical clock early 1300s).

Further translated into hexameter verse.

**Deccuovenalis cielus.**

Epactae	e	o	n	e	r	r	e	s	Annis
Nullae	S.	R.	C.	B.	A.	V.	T.		I
XI	L.	K.	I.	H.	G.	F.	M.		II
XXII	E.	L.	K.	I.	H.	G.	F.	M.	III
III	S.	R.	C.	B.	A.	V.	T.		III
XIII	P.	C.	B.	A.	V.	T.			V
XXV	E.	D.	C.	B.	A.	V.	T.		VI
VI	L.	R.	Q.	P.	O.	N.	M.		VII
XVII	M.	L.	K.	J.	I.	H.	G.	F.	VIII
XXVIII	E.	P.	C.	B.	A.	V.	T.		VIII
VIII	L.	K.	I.	H.	G.	F.	M.		X
XX	M.	L.	K.	J.	I.	H.	G.	F.	XI
I	S.	R.	Q.	P.	O.	N.	M.		XII
XII	L.	K.	I.	H.	G.	F.	E.		XIII
XXIII	E.	P.	K.	J.	I.	H.	G.	F.	XIV
III	S.	R.	Q.	P.	O.	N.	M.		XV
XV	P.	C.	B.	A.	V.	T.			XVI
XXVI	E.	P.	C.	B.	A.	V.	T.		XVII
VII	L.	K.	Q.	P.	O.	N.	M.		XVIII
XVIII	M.	L.	K.	J.	I.	H.	G.	F.	XVIII

**Paschalis littere**

	Ebd. cum diebus a natali domini usq. in XLIIII. m.	Dies paschas.	Ebd. ab oct. pent. usq. ad aduent. dnl.
H.	Ebd. VI. Dies III.	XI K. April.	XXVIII
C.	— VI — III	X —	XXVIII
D.	— VI — V	VIII —	XXVIII
E.	— VI — VI	VIII —	XXVIII
F.	— VII	VII —	XXVIII
G.	— VII — I	VI —	XXVII
H.	— VII — II	V —	XXVII
I.	— VII — III	III —	XXVII
K.	— VII — III	III —	XXVII
L.	— VII — V	II —	XXVII
M.	— VII — VI	Kal. April.	XXVII
N.	— VIII	III N. Ap.	XXVII
O.	— VIII — I	III —	XXVI
P.	— VIII — II	II —	XXVI
Q.	— VIII — III	Non. Ap.	XXVI
R.	— VIII — III	VIII Id. Ap.	XXVI
S.	— VIII — V	V —	XXVI
T.	— VIII — VI	VI —	XXVI
V.	— VIII	V —	XXVI
A.	— VIII — I	III	XXV
B.	— VIII — II	III —	XXV
C.	— VIII — III	II —	XXV
D.	— VIII — III	Idus Ap.	XXV
E.	— VIII — V	XVIII K. Mai.	XXV
F.	— VIII — VI	XVII —	XXV
G.	— X	XVI —	XXV
H.	— X — I	XV —	XXIII
I.	— X — II	XIII —	XXIII
K.	— X — III	XII —	XXIII
L.	— X — III	XII —	XXIII
M.	— X — V	XI —	XXIII
N.	— X — VI	X —	XXIII
O.	— XI	VIII —	XXIII
P.	— XI — I	VII —	XXIII
Q.	Ebd. XI. Dies II.	VII K. Mai.	XXIII

**Grid (fol. 319v)**

	P	P	P	P	P	P	P	P	P	P
1	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
2	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
3	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
4	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
5	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
6	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
7	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
8	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
9	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
10	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
11	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
12	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
13	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
14	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
15	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
16	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
17	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
18	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
19	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
20	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
21	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
22	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
23	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
24	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
25	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
26	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
27	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
28	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
29	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
30	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
31	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
32	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
33	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
34	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111
35	11111	11111	11111	11111	11111	11111	11111	11111	11111	11111

Computus tables (top) and grid (bottom) from the Hortus deliciarum fol. 319r and 319v.

# Hildegard's medicine and natural history

Humoral and theological frameworks

# Poll

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Guido Majno's book 'The Healing Hand: Man and Wound in the Ancient World' (1480)



**Flegmaticus,**  
Vnser complex ist mit wasser mee getan  
Darum̄t wir subtilheit mit mügen lan.



**Sanguineus,**  
Vnser complexion sind von lustes vil  
Darumb seÿ wir hochmütig one zÿl.



**Melencolicus,**  
Vnser complexion ist von erden wüch  
Darüb seÿ wir schwärmütigkeit gleich



**Colericus,**  
Vnser complexion ist gar von feüce  
Schlahē vñ häegen ist vnser abentreuer.

# Humoral balance

- Combination of warmth + wetness
- Correspondence with bodily fluids (blood, phlegm, yellow bile, black bile)
- Impact of natural causes on illness vs. spiritual
- Disturbance from food or drink, degree of physical exertion, or changes in environment
- Importance of observation of the patient (fever, urine, breathing, headache, posture, etc.)



Sloane 2435 f. 11v Bloodletting, British library, Creative Commons CC0 1.0 Universal Public Domain Dedication. Accessed via <https://www.bl.uk/catalogues/illuminatedmanuscripts/ILLUMIN.ASP?Size=mid&IlliD=1412>

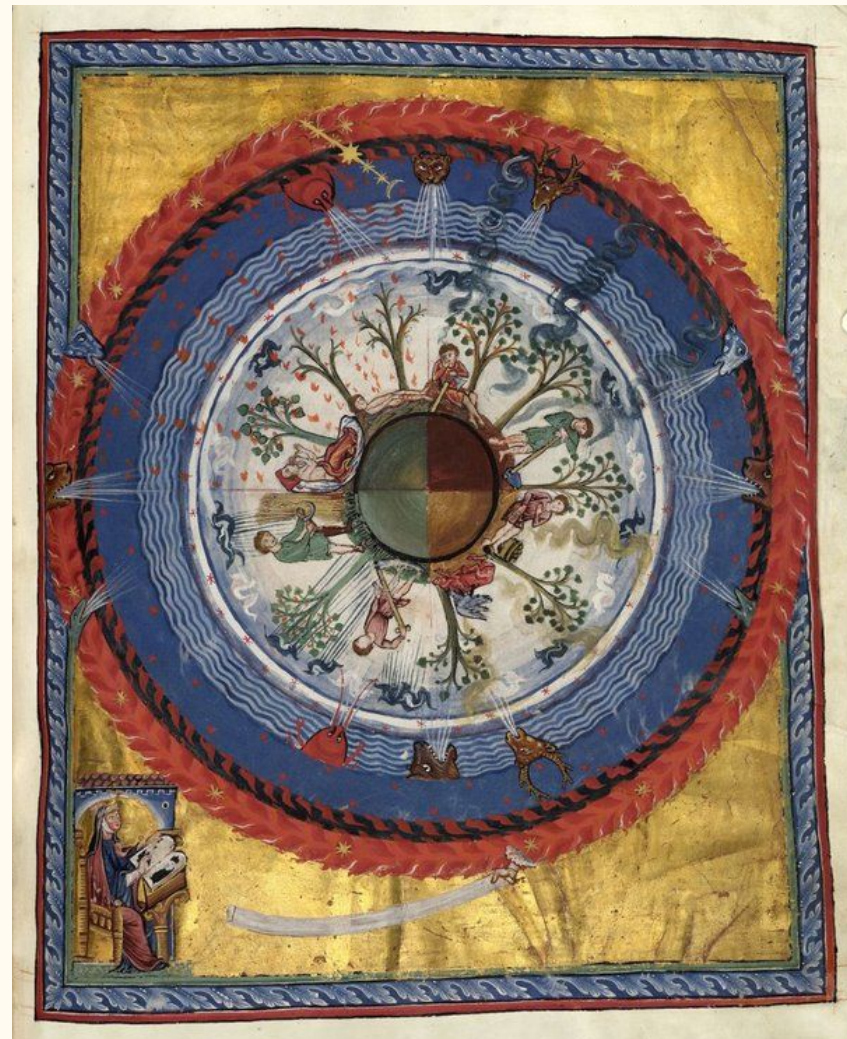
# Viriditas

## Greening to balance humors

Life giving force, spiritual, psychological and physical healing potential when microcosm and macrocosm are wedded. Value of each of the elements, renewal in balance.

“And how would God be known as the Eternal One if no brilliance emerged from God? For no creature exists that lacks a radiance- be it greenness or seed, buds or beauty. Otherwise it would not be a creature at all.”

*Translation from M. Fox's Illuminations of Hildegard of Bingen. Cultivating the Cosmic Tree (right), vision 4 from Liber Divinorum Operum, Hildegard von Bingen, retrieved from <https://www.wdl.org/en/item/21658/view/1/85/>*



# *Liber subtilitatum diversarum naturarum creaturarum*

## ***Physica***

Nine books, “Subtleties of the  
Diverse Qualities of Created Things”

1. Plants
2. Elements
3. Trees
4. Stones
5. Fish
6. Birds
7. Animals
8. Reptiles
9. Metals

## ***Causae et Curae***

Six books, much overlap in content  
with *Physica*

1. Order of the world
2. Origin and treatment of diseases
3. Natural remedies (gout, wounds, ulcers)
4. Natural remedies (less common conditions)
5. Symptoms and prognoses
6. Influence of the moon



# Disbalance and treatment

## Trotula On Treatments for Women

- “In order that we might make a concise summary of the treatment of women, it ought to be noted that certain women are hot, while some are cold.”
- “Because contraries are cured by contraries, let us place marshmallows, violets, and roses in water, and we fumigate her with a decoction of these things.”

## Hildegarde’s *Physica*

- “Peas are cold and a bit phlegmatic. They oppress the lungs a bit. Nevertheless, they are good for a warm-natured person to eat.”
- “Licorice is of moderate heat. No matter how it is eaten, it gives a person a clear voice. It makes one’s mind agreeable, and his eyes clear. It soothes his stomach for digestion. It is of great benefit to an insane person. If eaten frequently, it extinguishes the furor in his head.”

# *Causae et Curae*

## 1. **Order of the world**

Creation of the universe,  
descriptions of the cosmos and  
planet, man as microcosm

## 2. **Origin and treatment of diseases**

Original sin as origin of disease,  
humors, systems of the body,  
women's health including  
menstrual cycle relationship to  
lunar cycle, importance of  
discipline in emotions

## 3. **Remedies for health conditions** (gout, wounds, ulcers)

Infertility as both male and  
female issue

## 4. **Remedies for poison, parasites and less common conditions**

Health conditions of animals

## 5. **Symptoms and prognoses**

## 6. **Influence of the moon on constitution and disposition**

# *Causae et Curae*

Written in both German and Latin

Themes central to Hildegard's philosophy involving man's creation in nature as a primary healing force

- Recipes to counter “retention of the menses”
- Labor pains as curse of Eve
- Importance of hygiene and diet, rest, and exercise

Complimentary to *Physica*

Kidney Stone

Whoever has a stone in him should take fresh bile of a young bull and twice as much of its blood, and dry them. He should pulverize saxifrage, equal to the amount of bile and place it all, tied in a little cloth, in strong, good, clear wine and frequently drink it on an empty stomach and after he has eaten, but not while he is eating, for then it would be consumed by the food. The bitterness of the bile, with the heat of the blood, tempered by the coldness of the saxifrage, dissolves the stony coagulation in the person.

## Original Article

# Inhibition of calcium oxalate precipitation by bile salts

LUCIANO SASO, ELEONORA GRIPPA, MARIA TERESA GATTO AND  
BRUNO SILVESTRINI

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### Abstract

**Background:** Both urinary and biliary stones can contain calcium. Bile salts (BA), which are known to bind  $\text{Ca}^{2+}$ , are commonly used to dissolve the latter but not the former.

**Methods:** The effect of physiologic BA on calcium oxalate (CaOx) precipitation was evaluated by a recently developed method.

**Results:** The  $\text{Ca}^{2+}$  binding properties of BA were confirmed by small but significant decreases in pH observed following addition of  $\text{CaCl}_2$  to bile acids solutions. More importantly, BA inhibited CaOx precipitation with effective concentrations of approximately  $10^{-3}$  mol/L. The clinical relevance of the latter observation is presently unknown but it is of note that in the same *in vitro* assay, the activity of BA appeared comparable to that of citric acid, the most common drug for urolithiasis. Although BA do not reach mmol/L levels in urine, they are known to change the physico-chemical properties of this fluid, possibly slowing down the crystal growth process. However, the hypothetical therapeutic use of BA in former stone patients would present at least two major problems: (i) hepatotoxicity and (ii) lithogenic activity, due to hyperoxaluria subsequent to increased intestinal absorption of oxalate.

**Conclusion:** The ability of BA in effectively binding calcium ions and in inhibiting the precipitation of CaOx appears of interest from both a physiopathologic and a pharmacologic point of view, even if it does not currently seem exploitable for prophylactic or therapeutic purposes.

# *Physica* - humoral characteristics

## **Nine books**

1. **Plants**
2. **Elements**
3. **Trees**
4. **Stones**
5. **Fish**
6. **Birds**
7. **Animals**
8. **Reptiles**
9. **Metals**

### LXXXIX. Radish

Radish (retich) is more hot than cold. After it is dug up, it should be placed underground in a damp place for two or three days. This tempers its energy, so that it is much better for eating. When it is eaten it cleanses the brain and diminishes noxious humors in the intestines. If a strong and fat man eats radish, it cures him and cleanses him internally, but it will harm a sick, lean body. If a sick person wishes to eat it, he should first dry it over a hot tile and reduce it to a powder. He should add salt and fennel seed, and eat it thus with bread. It purges the foulness inside him and strengthens him. One who has much phlegm should pulverize radish in the same way. Then he should cook honey and wine and put the powder into it. When it has cooled a bit, he should drink this, with or without food. The powder purges the phlegm and the honey keeps him from becoming lean. It is thought that eating it expels a person's evil humors and stench. One who eats radish should eat galingale afterward. This checks the stench of his breath and does not harm him.

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Castro-Torres, I. et al. (2012). Antilithiasic and Hypolipidaemic Effects of *Raphanus sativus* L. var. *niger* on Mice Fed with a Lithogenic Diet. *J Biomed Biotechnol.* 2012: 161205. doi: 10.1155/2012/161205.

Ivanovics, G. and S. Hovarth. 1947. Isolation and Properties of Raphanin, an Antibacterial Substance from Radish Seed. *Experimental Biology and Medicine.* 66(3): 625-630.

N'jai, A. et al. (2012). Spanish Black Radish (*Raphanus Sativus* L. Var. *niger*) Diet Enhances Clearance of DMBA and Diminishes Toxic Effects on Bone Marrow Progenitor Cells. *Nutrition and Cancer* 64(7): 1038-1048.

Sipos, P. et al. 2002. Effects of black radish root (*Raphanus sativus* L. var *niger*) on the colon mucosa in rats fed a fat rich diet. *Phytother Res.* 2002 Nov;16(7):677-9.

# *Physica* - humoral characteristics

## **Nine books**

1. Plants
2. Elements
3. Trees
4. **Stones**
5. Fish
6. Birds
7. Animals
8. Reptiles
9. Metals

## XVII. Diamond

Diamond (adamas) is hot. It is born from mountains of southern shores, which are like glue and glassy as crystal....

Certain people are malicious, either by nature or because of the devil, and express nothing willingly..... But, one who is frenetic, a liar, or wrathful should always keep a diamond in his mouth. By its power are these evils dispelled.

One who is unable to fast should place this stone in his mouth. It will diminish his hunger, enabling him to fast for a longer period.

One who is vexed by Palsy or has apoplexy, the disease which take hold of the middle of the body so that it is unable to move, should place diamond in wine or water for a full day and drink it. The gicht (gout) will cease, even if it is so strong that his limbs threaten to break, and the apoplexy will diminish. Also, one with jaundice should put this stone in wine or water and drink it, and he will be cured....

# *Physica* - humoral characteristics

## **Nine books**

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## V. Unicorn

The unicorn (unicornus) is more hot than cold. Its strength is greater than its heat. It eats clean plants. In moving it has a leap, and it flees humans and other animals, except those that are of its kind, and so it cannot be captured. It especially fears a man, and shuns him. Just as the serpent in the first fall shunned the man and got to know the woman, so this animal avoids a man but follows a woman....

Pulverize the liver of a unicorn and put this powder in fat prepared from the yolk of an egg, making an ointment. There is no leprosy, of any kind, that will not be cured if you often anoint it with this ointment, unless death is present for the one who has it, or God does not wish to cure it. The liver of this animal has good heat and cleanliness in it, and the fat in the egg yolks is the most precious thing in an egg and is just like an unguent. Leprosy very often is from black bile, and from overabundant black blood....



# *Physica* - humoral characteristics

## Nine books

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### III. Lead

Lead (plumbum) is cold. It would harm a person if taken into the body in any way [and it would do this because of the cold it contains and because it is indigestible and just like the scum and refuse of other metals]. If a dead person begins to swell up and lead is placed on top of him, the lead will restrict that swelling a bit [since he does not have vital breath in him]. If, however, it is placed on top of a living person who is beginning to swell, he would completely split and be unable to live [since its coldness, being like the scum of other metals, going through him, would split him. Neither food nor drink in a leaden vessel is beneficial, because of lead's coldness].

*Bonus:* 1.CCXXII. St. John's Wort

St. John's wort (hartenauwe) is cold and is good in the fodder of herd animals. It is not used much as medicine because it is a small, uncultivated, and neglected herb.

Legacy

Challenges to Authorship

# Manuscript Authorship: loss, copies, modifications

**Herrad's** *Hortus Deliciarum* full manuscript destroyed in the Prussian siege of August 1870. (Strasbourg library), reconstructed by Warsburg Institute 1979. Compilation.

**Hildegard:** collaboration with scribes.

**Anna Comnena:** lack of reference to author's own gender used as proof that *Alexiad* was based on her husband's field notes but writing style has also been ascribed to her gender.

**Héloïse:** critics claim the letters are “anachronistic romanticism,” the controversy goes back to 1806, has been repeatedly disproven with verification of sources.

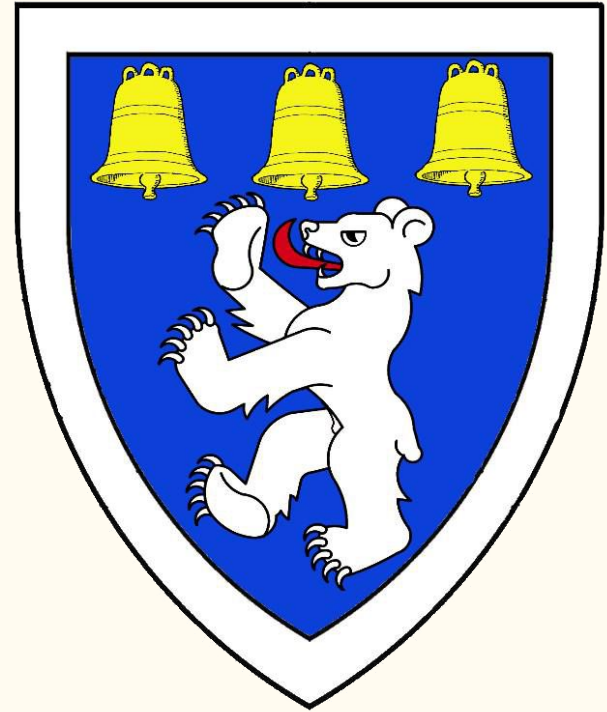
**Trota of Salerno:** comparison with known works *Practica secundum Trotam* and *De egritudinum curatione* indicates only *Treatments for Women* within the three books of the “*Trotula*” written by Trota (per M. Green).

# Contact information

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<https://carnewythapotheca.wordpress.com/>



# Recommended Resources

- Hildegard von Bingen's *Physica* translated by Priscilla Throop
- *Causes and Cures of Hildegard of Bingen* translated by Priscilla Throop
- *Hildegard of Bingen: On Natural Philosophy and Medicine Selections from Cause et Cure* translated by Margret Berger
- *Painting the Hortus deliciarum: Medieval Women, Wisdom, and Time* by Danielle B. Joyner
- *The Garden of Delights: Reform and Renaissance for Women in the Twelfth Century* by Fiona J. Griffiths
- *Illuminations of Hildegard of Bingen* by Matthew Fox
- *The Trotula: An English Translation of the Medieval Compendium of Women's Medicine* by Monica H. Green