

Earth, Air, Water and Fire:
The Context of Hildegard of Bingen's "Medicine"

by

Victoria Sweet

THESIS

Submitted in partial satisfaction of the requirements for the degree of

MASTER OF ARTS

in

History of Health Sciences

in the

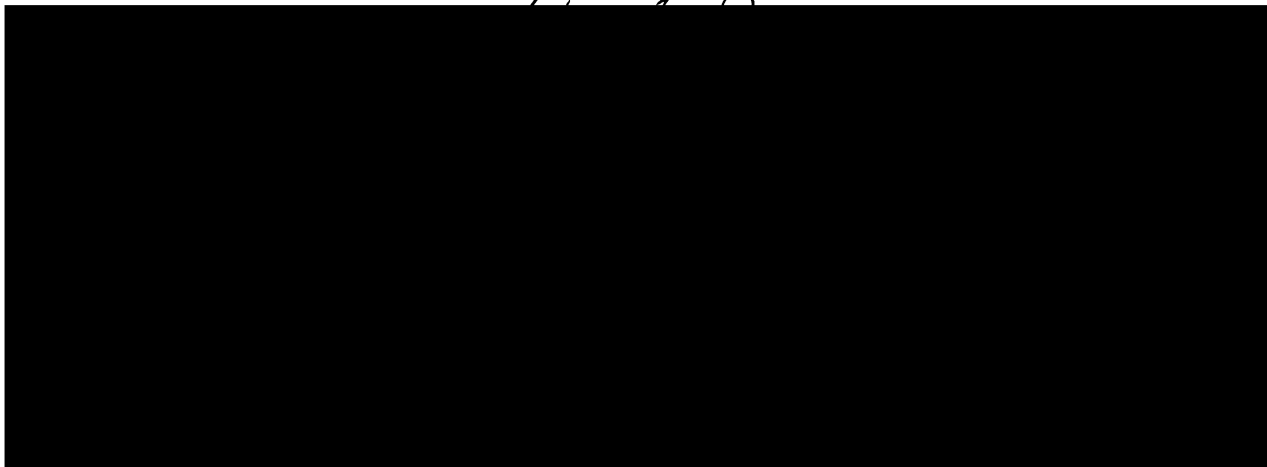
GRADUATE DIVISION

of the

UNIVERSITY OF CALIFORNIA

San Francisco

[Handwritten signature]



Date

University Librarian

Degree Conferred:

Copyright (1995)

by

Victoria Sweet

*Drinking Song*¹

*Four elements,
Interrelated
Structure the world.*

*Start with the lemon's
Juicy heart
Bitter is life's essence.*

*Add sugar to oppose
Its bitter, burning power.
And all-embracing
All-dissolving
Water.*

*Now add fire
Drops of spirit
Life of life
And drink quickly.
Only if it burns
Is the source of life restored.*

Friedrich von Schiller

¹ "Vier elemente/Innig gesellt/Bilden das Leben/Bauen die Welt./ Prest der Zitrone/Saftigen Stern!/Herb ist des Lebens/Innerster Kern./ Jetzt mit des Zuckers/Linderndem Saft/Zähmet die herbe/Brennende Kraft!/Giesst des Wassers/Sprudelnden Schwall!/Wasser umfängt/Ruhig das All./Tropfen des Geistes/Giesset hinein!/Leben dem Leben/Gibt er allein./Eh es verduftet,/Schöpfet es schnell!/Nur wenn er glühet,/Labet der Quell." "Punschlied," by Friedrich von Schiller, quoted in Sue Spencer Cannon, The Medicine of Hildegard of Bingen: her Twelfth-Century theories and their twentieth-century appeal as a form of alternative medicine. Unpublished Dissertation, 1993, p. 65. My translation.

CONTENTS

Preface	vii
Introduction	
General Remarks	2
A Brief Biography of Hildegard of Bingen (1098-1179)	2
Previous Approaches to Hildegard's Medicine	4
The Socio-Political Context for Hildegard's Medicine	9
Earth, Air, Water, and Fire: Hildegard's Physical Context	
Mainz	12
Bingen	19
Some Historiographical Problems in Medieval Medicine	
Sources	20
Terminology: "Doctors" and "Hospitals"	22
Latin Medical Practice	
Practitioners--Lay	27
Practitioners--Monastic	28
Latin Medical Practice: the Texts	30
The Latin Tradition in Practice: Medicine in the Monastery	34
Medicine in the <i>Hospitium</i>	37
German Folk Medicine	
Practitioners	40
German Folk Practice: the Texts	42
The German Medical Tradition in Practice	45
The German Tradition in the Home	46
Jewish Medical Practice	
Jewish Practitioners	48
Hebrew Texts	50

Jewish Medicine in Practice	51
Hildegard's Medicine	
The Practice	53
The Text	
History of the Manuscript	56
Summary of the Text	58
Analysis of the Text	64
Hildegard's Medicine in the Context of Latin Practice	65
Hildegard and German Folk Practice	68
Hildegard and the Jewish Medical Tradition	71
Conclusion	75
Bibliography	77
Appendix: Sources for Illustrations	91

LIST OF ILLUSTRATIONS

Map of Bingen and surrounding area	1
Map of the Rhineland	10
Map of Mainz	12a.
The Medieval City of Mainz	13a.
The Rhineland--Earth, Air, Water and Fire	18a.
The Town of Bingen	19a.
A Male Practitioner of the Twelfth-Century	27a.
A Woman Practitioner of the Twelfth-Century	27b.
Twelfth-Century Methods:	
Treatment: Cupping (earth)	42a.
Inhalation (air)	47a.
Cauterization points (fire)	47 b, c., d.
Diagnosis: the persistence of uroscopy	51a.

PREFACE

When I first discovered Hildegard of Bingen ten years ago, I was immediately intrigued by the life and work of this twelfth-century woman, famous in her own time, yet completely left out of history. Her theology did not influence thinking about the history of theology; her music did not affect the history of music; her medicine did not make its way into the history of medicine; her life had no influence on the history of women. Her work had never been translated into English; there were no biographies available in English.

Ten years has remedied this situation, to an extent. Some of her theological texts and letters have been translated; a biography, several dissertations, and some serious studies have been written; her musical work has been edited and even performed. An English edition of her medical text, Causae et Curae, has just become available, albeit from a German translation of the 1903 Latin edition.

Her life and work, however, have not yet begun to affect our understanding of medieval theology, music, medicine, or women in the Middle Ages. Hildegard—as a woman—has generally been presented *sui generis*, taken on her own terms as a "poor little woman" who was merely a conduit for the deep voice of the Almighty, a "feather on the breath of God." In this approach, the spiritual gifts which were so highly valued in her own time are what allowed her to achieve a position which was completely out of the realm of other women. Hildegard is, therefore, ahistorical. Her achievements are interpreted as she suggested they be, as messages from an altered state of consciousness, that of "genius" or that of "saint" which *ipso facto* throws no light on the consciousness and experience of ordinary medieval women.

The more familiar I became with Hildegard's life and work and its twelfth-century context, the less this approach made sense. She was certainly not the only woman in her time to know Latin, compose encyclopediac works, preach and travel; indeed, through her biography alone we run into many active, vibrant, although historically silent, women.² A review of her medical text made clear that her medical practice should not be seen as the mystical perceptions of a saint, nor as a book of medico-magical formulas with no practical significance; but rather as an encyclopedia of well-known methods and techniques.

The approach which isolates Hildegard from her context negates any changes that her work could provoke in our understanding of the history of women or of medicine, of theology or of music. Yet her work provides us with the first chance in history to gain access to the life and thoughts of an historical woman, a woman whose work includes three books of theology, a book on natural history, and one on medical practice; commentaries on the Gospels, the Athanasian Creed, and the Benedictine Rule; two biographies; two "musical dramas;" seventy hymns; and over 300 letters, many still unedited, including letters to the Emperor Frederick Barbarossa, to King Henry II of England, to the

²Many of Hildegard's letters in Latin were written in response to other women, both religious and lay, which suggest that that they, too, could read and write Latin, see the *Patrologia Latinae* (henceforth PL) vol. 197 for a partial list of Hildegard's women correspondents. There were many powerful and intellectual German abbesses. The most interesting parallel to Hildegard is probably Relindis, "extraordinarily well-educated in Latin, in literature, a wonder. ("Latine eximiie docta...litteris ornatissima") PL.195, 1538. Her life parallels Hildegard's to a remarkable extent. Like Hildegard, she left her convent around 1140 with thirty-three nuns and re-established it according to a stricter rule. She began work on an encyclopediac text, the famous "Garden of Delights," in 1150, which was finished by her student, Herrad of Landsberg in 1192. Unlike Hildegard, however, Relindis was unlucky with her documentation; the only copy of the text was destroyed during the Siege of Strasbourg in 1872. see PL 195, p. 1538, and Gerard Cames, *Allegoires et Symboles dans l'"Hortus Deliciarum"*. Leiden: Brill, 1971, for a review of what is known about Herrad and the text. According to Abelard, Heloise knew Hebrew and Greek, as well as Latin; and Cathar and Waldensian women preached publicly. As far as travel, many thousands of women walked on pilgrimages to Spain, to Rome, and even to Jerusalem. Much scholarship in the past few years has gone into researching some of these women, see for example, Margaret Wade Labarge, *A Small Sound of the Trumpet: Women in Medieval Life*, Boston: Beacon Press, 1986.

Empress of Byzantium, to popes and bishops, abbots, abbesses, and lay people. Contemporary biographies as well as interviews with nuns who knew her are available. Such a vast amount of material, available for few men and no women prior to her, gives us a remarkable opportunity to ask questions about medieval women--about their position, education, constraints, knowledge, and worldview--if Hildegard, when placed in context, turns out to be a representative, rather than a completely exceptional, woman.

An understanding of the context of Hildegard of Bingen's medicine will not only allow it to begin to affect medical historiography and the history of women, but also, as secondary gain, permit a reassessment of the relevance of medieval medicine for the late twentieth-century. In the last twenty-five years, as the technological, reductive approach to medicine formulated by the Enlightenment has become increasingly successful, an acute dissatisfaction and frustration with that very approach has also become evident. The search for an alternative has been conducted in Asia and in America, and the medical practices of China, India, and Pre-Conquest America have been investigated. All three are moderately successful in providing a different way of looking at healing and disease, but, due to the strangeness of language and concepts, have remained clearly on the fringe of medical thought. Medieval-- native European--medicine has not yet been looked at, although as an indigenous European mode of understanding the body which is intrinsically "holistic," it can provide the piece which has been lacking in Western medicine. Its closest living cousin is modern Chinese medicine and it is by analogy with Chinese medicine, which is more familiar to American readers, that medieval medicine can be understood. While modern Chinese medicine has been difficult to integrate into Western medical practice, medieval European medicine--the legitimate ancestor of modern Western medicine--is not. In contemporary Europe, its main tenets are still part

of common thought and its techniques and recipes are still taught to medical students, used by physicians, and reimbursed by insurance companies.

In the United States, however, since the late nineteenth century, such ideas and techniques have been relegated to the domain of quacks, homeopaths, naturopaths, and chiropractors. The American physician and patient consequently lack traditional concepts like temperament to explain inborn predispositions to disease, lack deep-rooted ideas regarding the use and misuse of diet, climate, sex, and emotions for explaining and understanding illness. This philosophical gap has been filled in by the reassuringly technical, but emotionally unsatisfying notions of "DNA," "Cholesterol," and "AIDS," in order to explain the self-evident role of heredity, dietary indiscretion, or sexual excess in creating illness. Some understanding of the conceptual structure of medieval European medicine through a review of the context of Hildegard of Bingen's medicine, can re-acquaint Americans with concepts which, as part of the English language³ continue to be active and influential in our unconscious understandings and expectations of modern medicine.

³ For example, we still use such concepts as "melancholic," "choleric," "phlegmatic," "sanguine," and "humorous," although we reject the medieval assumption that such moods are organic and physical, not psychological. We have also retained the medieval adjectives of "sunny," "earthy," "fiery," and "airy," but again, as psychological, not organic, descriptors.



Bacharach Lorch

Ohligs B. Mitten Rheinsteine Schweibert

Assmannshausen Jagdschloss

Niederwald

Assmannshausen

Assmannshausen

Assmannshausen

Assmannshausen

Assmannshausen

Assmannshausen

Assmannshausen

Assmannshausen

Assmannshausen

Assmannshausen

Assmannshausen

Assmannshausen

Assmannshausen

Assmannshausen

Assmannshausen

Assmannshausen

Assmannshausen

Assmannshausen

Assmannshausen

Assmannshausen

Assmannshausen

Assmannshausen

Assmannshausen

Assmannshausen

Assmannshausen

Assmannshausen

Wiesbaden

Hindenburg Brücke

Maintz

Kreuznach

Dietersheim

Geogr Anst v

Kilom. 1 : 50 000

0 1/2 1 2

INTRODUCTION

General Remarks

This thesis will provide the background for one piece of Hildegard's achievement: her medical work. It will review her life and times, establish the physical context for her work, and then review the three contemporary medical traditions to which Hildegard would have had access: the Latin, German, and Hebrew traditions as they were practiced in her twelfth-century Rhineland. Representative texts which are known to have been available in the Rhineland during the mid-twelfth century, when Hildegard would have been writing, will be summarized and reviewed; and secondary material on medical practitioners, places, and methods of practice also will be presented. A final chapter will be devoted to what is known about her practice, including records about her patients and her medical text, the Causae et Curae, and this information will be placed in the context of twelfth-century Rhenish medicine.

A Brief Biography of Hildegard of Bingen (1098-1179)

Hildegard was born in 1098 in Bermersheim, near Alzey in the Rhineland, into a family of the minor nobility.⁴ Her father, Hildebert, and her mother,

⁴The best source for a biography of Hildegard is the contemporary material contained in the Patrologia Latina, v. 197; especially the co-authored biography by Gottfried of St. Disibod, who lived with Hildegard at Rupertsberg, and Dieter of Echternach, "Vita Sancta Hildegardis," ed. J.P. Migne, Patrologia Latinae 197:91-130. In English, see Sabina Flanagan, Hildegard of Bingen. A Visionary Life, p. 2-15 for a life; Barbara Newman, Sister of Wisdom, Berkeley: University of California Press, 1987, 1-42, and Peter Dronke, "Hildegard of Bingen" in Women Writers of the Middle Ages, Cambridge: Cambridge University Press, 1984, 144-202. For an interesting review of the life of Jutta, who must have been another strong-willed twelfth-century woman, see Miriam Schmitt, "Blessed Jutta," American Benedictine Review, 40:2 1989, 170-189. Jutta's brother, Meginarius, married Mecthild, and together they had constructed the Benedictine monastery at Spanheim, which was finished in 1129, and located just twelve kilometers north of Disibodenberg. Their daughter, Hiltrudis (1098-1177) was, according to Schmitt, a "lifelong companion of Hildegard," apparently entering the monastery with her aunt Jutta at about the

Mecthild, had nine other children; and although Gottfried and Theodoric tell us that she was given as a "tith" to the monastery at Disibodenberg, in actual fact several of her brothers and sisters also entered the Church, including Drutwin, who became a monk at Sponheim; Hugo who became the cantor of the cathedral at Mainz, and acted as Hildegard's secretary in the last year of her life and her brother Ronich and sister Clementia, who both lived with Hildegard as monastics in the monastery at Rupertsberg. When she was eight, she entered the newly re-established male monastery of Disibodenberg, at the junction of the rivers Glan and Nahe, under the supervision of Jutta, the daughter of Count Stephan of Sponheim. Although theoretically women living in a male monastery were separated from the men, and, in fact, Hildegard was formally "immured" with Jutta when she was thirteen, apparently the separation from men was not rigid. Her personal secretary was one of the monks, and even before she left Disibodenberg for Rupertsberg near Bingen, she had travelled as far as Mainz in order to witness a land contract. Later, as a theologian, she voyaged all over Germany and Northern France on preaching trips. Consequently, although it is unclear whether she had any formal medical training, she would have had access to the contemporary medicine of the Rhineland, including written medical texts, as well as oral material of both men and women, lay and cleric.

same time as Hildegard. When in 1114, Jutta inherited land, the women moved to a more spacious home, and in 1128, there was a formal transfer of her property to the women's monastery. Jutta died on December 22, 1136, and Hildegard was elected "magistra" in her place; when Hildegard left Disibodenberg for Rupertsberg, she took Jutta's bones with her. No evidence remains of the content of either the library of the monastery at Disibodenberg or of the library at Rupertsberg, but the library of the Bishop of Hildesheim, whose brother sold her Rupertsberg, is known, see below, n. 105. Indeed her nuns requested an "inquisition"—that is, an investigation, into the circumstances of her life and death in the generation immediately following her death, whose findings, including interviews with nuns who know her, can be found PL 194, "Acta Inquisitionis." No evidence remains of the content of either the library of the monastery at Disibodenberg or of the library at Rupertsberg, but the library of the Bishop of Hildesheim, whose brother sold her Rupertsberg, is known, see below, n.

After the death of Jutta, Hildegard was elected "magistra" by the Disibodenberg nuns and she finished her first book, *Scivias*, a theological work, when she was forty-three. In 1150, against the wishes of her abbot, she insisted on leaving Disibodenberg with twenty other women, and moving twenty kilometers north to Rupertsberg, where she established a new monastery. After the move, Hildegard continued to write, as well as compose music, preach, travel, and practice medicine. In the 1158 preface to a second book of theology, she mentioned a medical book which had taken her ten years to complete. By the time of her death in 1179, she was one of the most famous women in Europe, with a reputation which had spread as far as Jerusalem.⁵

Previous Approaches to Hildegard's Medicine

This is not the first time that interest in Hildegard's life and work has revived--that has happened several times in the eight hundred years since her death, each time accompanied by an associated socio-political agenda. The first wave of interest immediately following her death had to do with the popular judgment that she had been in intimate, mystical contact with God and would soon be officially declared a saint;⁶ this sparked the thirteenth-century publication of a collection of a number of her prophecies which was apparently used as a divination book.

Subsequently, though, Hildegard and her work fell into obscurity until rediscovered in the mid-fifteenth century by the Benedictine Abbot of Sponheim,

⁵In a letter to Hildegard, Amalricus, the Bishop of Jerusalem (1157-1173), noted that "from those many people who come from far distant places into our land...we have frequently heard that divine power is at work through you and in you..." see the *Letters of Hildegard of Bingen*, tr. J. Baird, New York: Oxford University Press, 1994, p. 101.

⁶Indeed her nuns requested an inquiry into the circumstances of Hildegard's life and death in the generation immediately following her death. Personal interviews with nuns who, as young women, had known Hildegard, were done at Rupertsberg and Eibingen; the text can be found in Petrus Bruder, *Analecta Bollandiana*, 2, 1883, 118-129.

Trithemius, one of Paracelsus's teachers; he was deeply interested in Kabbalah, and interpreted Hildegard as a transmitter of this kind of esoteric theory.

Not until the rise of German nationalism in the nineteenth-century did interest in Hildegard once again awake. Desperately trying to catch up to the centuries-long achievement of England and France as nation-states, the scholars and proponents of a unified German nation searched for symbols of a "German" national spirit. The rediscovery by Carl Jessen in 1859 of Hildegard's long-lost Causae et Curae, last seen by Trithemius at her monastery in Rupertsberg in 1487, helped create a "true German heroine." Hildegard is always included in subsequent late-nineteenth century articles on German medicine, either as an expositor of indigenous German medicine in its original purity or, less commonly, as one of the last practitioners of a pure, monastic (Catholic) medicine before the onslaught of Semitic (Arabic and Hebrew) translations invaded Europe. Not surprisingly, Anglo-Saxon (English and American) historians of medicine discounted these claims, by ignoring Hildegard completely in their histories of medicine, by denying her authorship of the Causae et Curae, or by portraying the work as barbaric and magical.⁷

⁷see Cannon, 47-55, for an excellent review of the nineteenth-century German historiography. Examples of the German approach: "With Hildegard of Bingen's Physica, we are standing in the presence of an independent presentation of German natural science, borrowed from the Volk." Heinrich Haeser. Lehrbuch der Geschichte der Medicin Jena: Dufft, 1875, p. 640, my translation, or M. Hofler, "Altgermanische Heilkunde," in Handbuch der Geschichte der Medizin, ed. by Max Neuburger and Julius Pagel, Jen: Fisher, 1902, 453-477, where Hildegard's Physica is seen as a popular folk German encyclopedia: "One should see Odo [of Meung] and Hildegard as the literary highpoint of clerical medicine...even if here and there the work of the Salernitan doctors does appear in Northern Europe." Th. Meyer-Steineg and K. Sudhoff. Geschichte der Medizin. Jena: Gustave Fisher, 1921, p. 177. On the other hand, see Charles Singer, "The Scientific Views and Visions of Saint Hildegard," in Studies in the History and Method of Science. Oxford: Oxford University, 1917, 1-55, for a good argument on why Hildegard could not have written the medical text ascribed to her. This tradition has continued throughout the century. For example, Edward Withington, in his Medical History from the Earliest Times, London: Holland Press, 1964, mentions Hildegard only to explain that her "...own patients required no nursing for she cured them in the miraculous manner appropriate to her saintly character..."p. 241, and Erwin Ackerknecht, in his A Short History of Medicine, New York: Ronald Press, 1955, dismisses her work by observing that, "...the therapeutic writings of St. Hildegard differ from Cherokee curing spells mainly in the substitution of the names of saints for those of nature spiritis..."p. 76.

With the rise of National Socialism and its idealization of the *volkgeist*, German scholarship on Hildegard developed remarkably, including the classic 1928 book by Hermann Fischer: Die Heilige Hildegard von Bingen: Die Erste Deutsche Naturforscherin und Artzin Ihr Leben und Werk. Paul Diepgen's work during the 1930's and 1940's developed the theme of a German approach to medicine which would be found in the earliest works of Germans like Hildegard.⁸

Following the war, this approach fell into disrepute, and the mantle of Hildegardian scholarship was taken up by historians with a more religious attitude, particularly by Heinrich Schipperges, who published his dissertation, "Krankheitsursache, Krankheitswesen und Heilung in der Klostermedizin, dargestellt am Weltbild Hildegards von Bingen," in 1951. Schipperges subscribes to a Catholic interpretation of Hildegard in which she represents the best of the monastic ideal of spiritual healing.⁹ An Austrian physician, Gottfried Hertzka, discovered Hildegard's medicine during World War II and began using it in his practice as a prison doctor in a Russian POW camp. He was so impressed with

⁸Fischer, Hermann. Die heilige Hildegard von Bingen: erst deutsche Naturforscherin und Artzin ihr Leben und Werk. Munchen: Munchner Drucke, 1927. Fischer analyzes her work extensively as to its sources and concludes that, although she should be seen in the Benedictine tradition, her recipes, which can be found in both Greco-Roman and in twelfth-century German recipe books, must come from pre-historic "indo-germanic" knowledge. p. 40. The perils of such an approach are demonstrated in Paul Diepgen's "Die Volkstumlichen und die Wissenschaftlichen grundlagen der therapie in der geschichte der medizin" in Medizin und Kultur. Verlag Stuttgart, 1938, pp. 61-75. In his opening address to a symposium in Berlin on April 10, 1935, Diepgen suggests that scientific medicine should learn from empiric folk ideas, which, he believed, were the root of all true science. Furthermore, "the contradiction between popular and scientific medicine is a false one. Science should seek to learn from the Volk. The Third Reich looks for a compromise between the two; and thus the historian can now pursue his task with even greater joy...Folk medicine is the mother of scientific medicine... and in the future, when we are sick, we will depend in our community on both the medicine of the Volk and also that of the scholars of science..." p. 61-62 and p. 75. My translation.

⁹Schipperges has an elaborate explanation of Hildegard's essentially Christian approach, summarized by Ruth Marie Moskop in her dissertation "Health and Cosmic Continuity in Hildegard of Bingen," 1984, and by Schipperges himself, in a few pages, in his chapter in Pero Lain Entralgo, Historia Universal de la Medicina, Spain, Salvat Editora, 1972, p. 220-224. Basically, "Hildegard's worldview...is elaborated within the sacramental ordering of the life of primitive Christianity." p. 220.

its effects that he continued to use and study it for the next forty years, publishing his interpretation as So Heilt Gott in 1970. Hertzka, apparently a devout Catholic, presents a more-or-less ahistorical version of Hildegard's medicine, arguing that it is best interpreted as a pure gift of God to the twentieth-century.

Not until the late seventies and the rediscovery of Hildegard by feminist theorists did interest in Hildegard as a historical figure begin to grow. During the 1980's, a number of books in English were published, including a biography, a serious theological treatment of her writings, several dissertations, and the first readily available edition of the illumination of her visions.¹⁰ Most notably, in 1988, Wighard Strehlow and Gottfried Hertzka came out with Hildegard of Bingen's Medicine in the Folk Wisdom Series, which is an English abridgment of Hertzka's 1987 Handbuch der Hildegard-Medizin.¹¹ In the 1990's, this interest has done nothing but increase, provoked, no doubt, by the unexpected commercial success of medieval music. Just published is the very first attempt to translate into English the Latin text of Causae et Curae titled, significantly, Holistic Healing.¹²

Characteristic of this new wave of interest, once again, is the divorcement of Hildegard from her own time. Peter Dronke, for example, one of the most serious of Hildegard scholars, while including her in an important chapter in his book Women Writers of the Middle Ages, presents her achievements in the end as being those of a genius, of a woman who is *sui generis*: "her approach to every problem—human, scientific, artistic, or theological—was her own."¹³

¹⁰see Flanagan, op. cit., Barbara Newman, op. cit., Matthew Fox, Illuminations of Hildegard of Bingen, New Mexico: Bear and Company, 1985.

¹¹Strehlow Wighard and Gottfried Hertzka. Hildegard of Bingen's Medicine, Santa Fe: Bear and Co., 1988.

¹²Hildegard, St. Holistic Healing, tr. Manfred Pawlik tr. Patick Madigan. John Kulas, Foreword. Collegetown, Minnesota: Liturgical Press, 1994. Not yet available.

¹³Dronke, op.cit., p. 201.

Sabina Flanagan does provide some background for her work, but insists on seeing Hildegard as unique; while Barbara Newman locates Hildegard in an all-male "sapiential" literary tradition. These writers accept Hildegard as an uneducated woman in a sexist society whose unheard-of achievements can only be explained by viewing her as "extraordinary,"¹⁴ although there is little about Hildegard that cannot be paralleled in the lives of contemporary women; and while Hildegard is unique as a woman in having combined an exceptional talent and energy for many endeavors, such capacity was also unusual for men.¹⁵

For the current wave of interest in so-called "Hildegardian medicine," contextualization is even more important. Wighard Strehlow, Gottfried Hertzka, and Heinrich Schipperges believe that her medicine, as presented in her medical and natural science works is imbued with a unique understanding of humans given to Hildegard by God. "Hildegard produced all of her works, as she has said, through her heavenly or spiritual vision. She did not rely on medical experience or upon traditional learning..."¹⁶In this interpretation, contextualization of Hildegard's medicine is unnecessary.

The following account will try to remedy this lack of contextualization by providing the medical-historical background for Hildegard's medicine. After looking briefly at the broad socio-political context and the narrow physical context of Hildegard's life, we will examine what is actually known about the

¹⁴Pagel's article on Hildegard in the Dictionary of Scientific Biography, speaks for many when he says that "Hildegard was a 'simple' woman, typical of the unlearned mystic who wrote down what she 'saw and heard,' ...she is therefore basically original in both her spiritual and her naturalistic and medical work." Walter Pagel. "Hildegard of Bingen" Dictionary of Scientific Biography. New York: Charles Scribners and Sons, 1972, p. 396-398. Peter Dronke agrees: "her approach to every problem—human, scientific, artistic, or theological, was her own." Women Writers, p. 201.

¹⁵Of many examples which could be given, Peter Abelard (1078-1142), a near contemporary, is one of many men who wrote, taught, and travelled, in addition to forming his own school, constructing a new abbey with its own rule, and composing secular and liturgical songs. It may be anachronistic to regard Hildegard's life and work as in need of an explanation simply because she was a female.

¹⁶Strehlow, p. x.

practice and theory of medicine in the Rhineland and then examine Hildegard's medicine with a view to seeing how it fits into its context.

The Socio-Political Context of Hildegard's Medicine

Hildegard was born in the summer of the year 1098 and died on September 17, at dawn, just as the constellation Virgo was rising over the monastery she had founded at Bingen on the Rhine. Her life thus spans the "Renaissance of the Twelfth Century," a formative period of Western Europe.

The twelfth-century can best be thought as beginning with the First Crusade--the only successful European war in the Middle East--which began in 1096 and ended in 1099 with the conquest of Jerusalem and the establishment of the Kingdom of Jerusalem under Baldwin I. Islamic culture had been at its height for three hundred years with an extraordinary richness of creativity in science, religion and literature; its achievements had included creating and maintaining universities and medical schools for both women and men, funding state-run hospitals, and encouraging religious tolerance in practice if not in theory. The Western victory in 1099 marks an important acceleration of an earlier, tentative introduction of this high culture into Europe.¹⁷

At the same time, within Europe, there were remarkably few formal structures for containing thought and activity. At the beginning of the twelfth-century, France and Germany were kingdoms only in name and throughout Europe there were no means of identification, no regular forms of taxation, no standing armies and no police forces. Only gradually during the century did formal means of containing dissent and rebellion, such as the Inquisition and legal courts, develop. Perhaps not surprisingly, the century is known for its

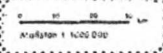
¹⁷Although many authors use the term "Arabic" interchangeably with "Islamic" and "Muslim," in fact, both Jewish and Nestorian Christian writers wrote in Arabic and were important contributors to the development and transfer of Islamic learning.

914 301-3
Rhe

30

RHEINLAND-PFALZ

und die Saar



ANSCHLUSSBAND:
Nordrhein-
Westfalen

ANSCHLUSSBAND:
Hessen

Westerwald

Taunus

Eifel

Hunsrück

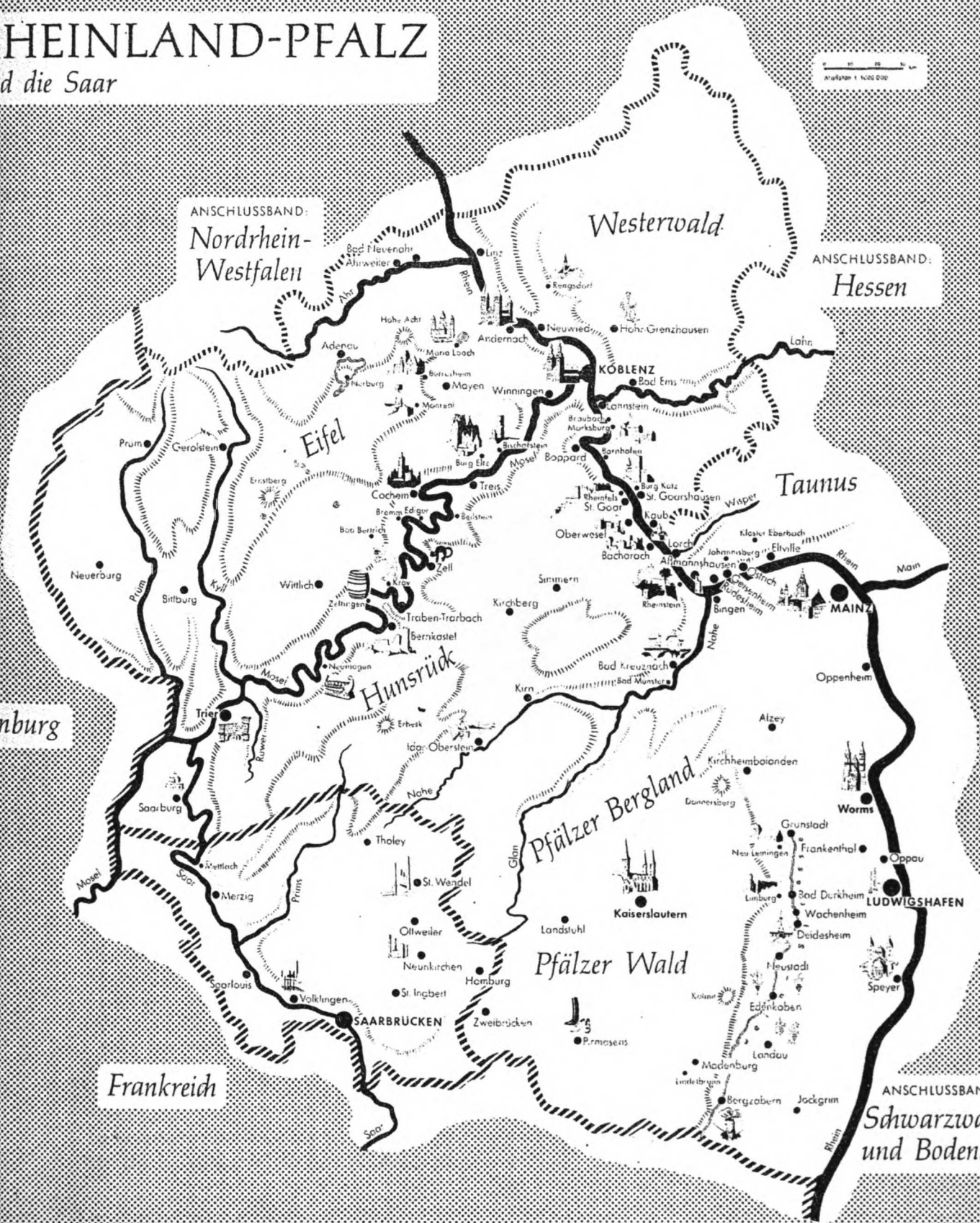
Pfälzer Bergland

Pfälzer Wald

Luxemburg

Frankreich

ANSCHLUSSBAND:
Schwarzwald
und Bodensee



fiery, unusual characters--Abelard and St. Bernard of Clairvaux, Henry II and Thomas Becket, Eleanor of Aquitaine, and Frederick Barbarossa, to speak only of its best known figures--and the introduction of many new ideas, including the concepts of algebra, alcoholic distillation, romantic love, and autobiography.¹⁸

Intellectually, the achievements of Islamic culture included advances in optics, mathematics and medicine; and hundreds of translated texts began appearing in Europe at the end of the eleventh century primarily in the border areas of Spain, especially in Toledo, where Arabic-Spanish speaking Jews could collaborate in translating texts with Spanish-Latin writing Christians; and at Cassino, under the supervision of Constantine Africanus. Remarkably such translations (and often re-working of whole texts) rapidly found their way into Europe. By 1161 the bishop of Hildesheim's medical library contained several manuscript of the new material.¹⁹

The year of Hildegard's birth also marks the beginning of a "good century" for Europe, perhaps similar to the situation of nineteenth-century America. The "mini-climactic optimum," a two-century period of global warming in Western Europe, created a climate much warmer and drier than today. Greenland was green; Iceland grew grapes; and even England could produce saffron and wine.²⁰

¹⁸For the working out of the idea that the twelfth-century marked the development of European state structures the results of which were to inhibit and contain dissent, see R.I. Moore, The Formation of a Persecuting Society. Oxford: Basil Blackwell, 1987; and for a detailed treatment on its effects for one group, see John Boswell, Christianity, Social Tolerance, and Homosexuality. Chicago: University of Chicago Press, 1980.

¹⁹see Lynn Thorndike, A History of Magic and Experimental Science, vol. 2-5, New York, 1923-58; George Sarton, Introduction to the History of Science. Baltimore, 1927-1948, 3 vols., for useful reviews of many of the different scholars and scientists both in the East and West. See David C. Lindberg, Science in the Middle Ages. Chicago: University of Chicago Press, 1978 for a good review of the various contributions of Islamic learning and D'Alverney, Marie-Therese.

"Translators and Translations," in Renaissance and Renewal in the Twelfth Century, ed. R.L. Benson and G. Constable, 421-462. Cambridge, Mass., 1982 for the classic discussion on the spread of Islamic culture by means of translations.

²⁰see Linda Voigts, "Anglo-Saxon Plant Remedies and the Anglo-Saxons." Isis 70: 250-268. She associates the decline of Byzantium and Southern Europe during the 9th-13th century, as well as the rise in Northern Europe with this "second climatic optimum" which brought drought to the

The population became large enough to extend cultivation into formerly waste areas and to increase the foundation and growth of cities, but it was not yet large enough to engender a poverty class. There were no significant epidemics during the century and surprisingly few periods of prolonged famine.²¹

Politically, the period of Hildegard's life can be thought of as a period of consolidation, particularly in France and in England, and for the Papacy in Italy; by the end of the century, the concepts of England and France as distinct nations, headed by powerful monarchs and identified with certain geographic locations, had become much more solidified. In Germany, the main political issue was the struggle between Church and State, Pope and Emperor for authority. On the side of the Emperor was everything which tended towards "modernity,"--the new towns, the new religious orders, the Jews, and the intellectual forces of secularity; on the side of the Pope, the structures of the past--the local counts, bishops, and monastic foundations--and intellectually, the forces of "tradition" however that was construed.

Earth, Air, Water and Fire: Hildegard's Physical Context

Mainz

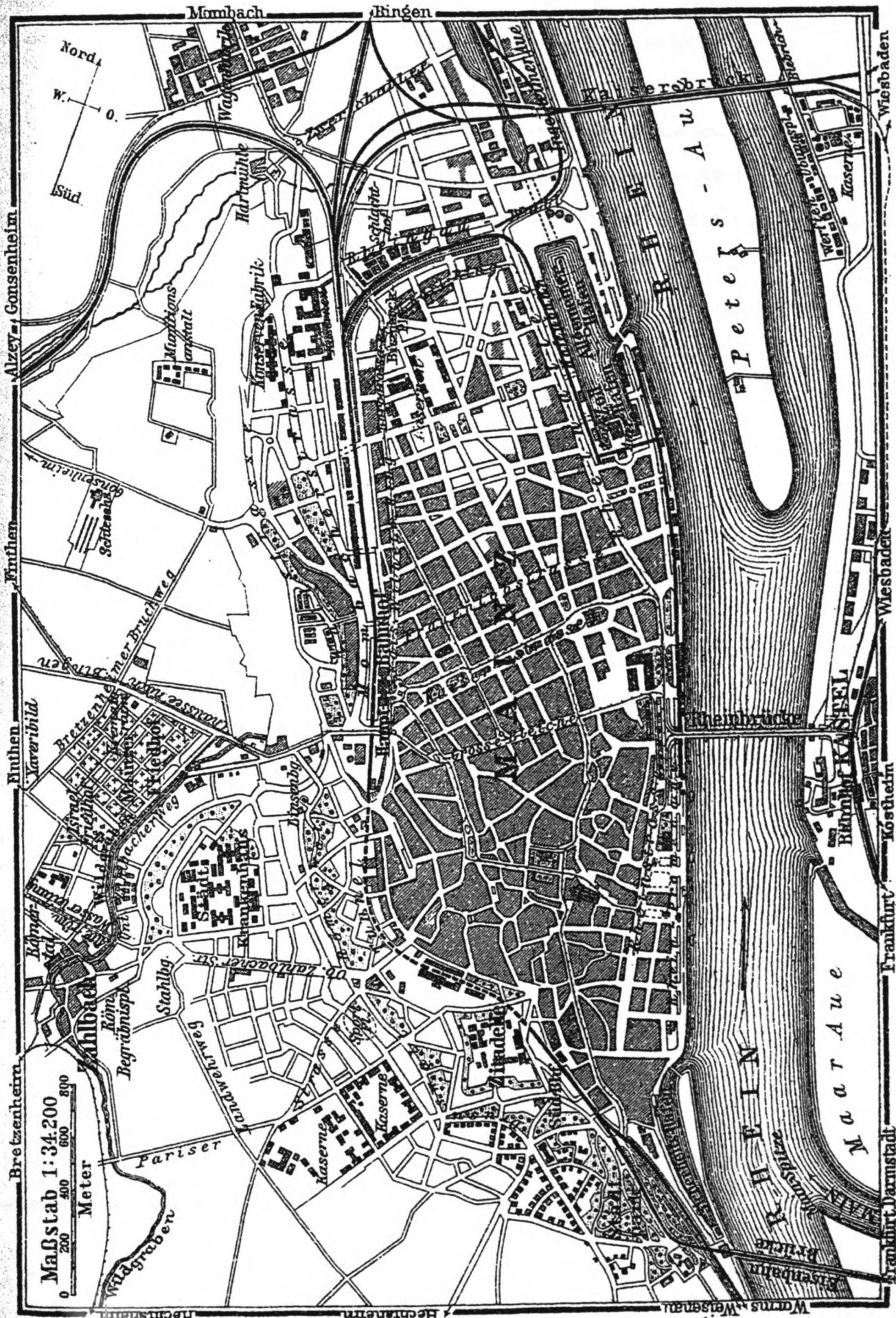
Hildegard was born about fifteen miles southwest of Mainz and died at the monastery she had built on the Rupertsberg, just across from the small town of Bingen which was about fifteen miles northwest of Mainz (see the map of the

former, as it did prosperity to the latter. See Brian Stock, "Science, Technology, and Economic Progress," in *Science in the Middle Ages*, pp. 25-29.

²¹"Leprosy," of course, became a problem during the twelfth-century, see Moore, 50-65, who points out that "leprosy" must have been a generic name for any chronic skin disease, and was probably not the same thing as our microscopic diagnosis of "Hansen's disease." He attributes its increase during the twelfth-century to the discovery and isolation of "deviance," rather than to an increase in the disease. Epidemics of the plague and of other diseases of crowding and malnutrition began to occur to a large extent only during the thirteenth-century.

5
(betwe
ed bo
provir
terrae
haus,
& Gri
24 R.
near 1
riede
Hessi
gauer
privat
Vi
Barns
M.
St
and w
spring
Schla
longis
to S.
nervoi
organ
built
Landg
dates
1865
drinki
W
via th
Chaus
Fraue
Frau,
the R

B:
lines i
station
of Ma
(1805 y
trafic.
H:
list, a
Statio
from 4
Bahn
F, 2), 1
Taanu
Rheinu
(Pl. f;
Eisenb
(Pl. r;



Rhineland, ill. 2) Although she travelled during several preaching tours as far away as Liege in Belgium and into what is today Switzerland,²² most of her life was spent in the rural surroundings of the Rhineland, where the largest and most cosmopolitan town was Mainz (ill. 3). Hildegard did have an acquaintance with the city. Her brother, Hugo, was cantor of the Mainz cathedral; and several visits to Mainz by Hildegard are actually documented. She visited the Emperor in Mainz during one of his visits²³ and probably attended the wedding of the English princess, Matilda to Henry V in 1114. In 1129, she signed a deed in Mainz and in later years even preached in the impressive cathedral of Mainz. Mainz was described in 1150 by Otto of Freising:

The famous, large, and powerful town of Mainz on the Rhine is on the one bank thickly built and populated, while on the other bank empty with few inhabitants. A wall with many towers surrounds the town, which is long rather than wide. This is due to the fact that on the French side, there is a hill and on the German side, there is a river. Thus it is along the river that many beautiful religious houses and also worldly buildings can be found spread out along the Rhine, towards the mountains, surrounded by fields...²⁴

An engraving of Mainz in 1572 (ill. 4) probably gives some idea of how the town looked to Hildegard, since up until the nineteenth-century industrialization of Germany, it remained a medieval river town. Long and narrow, Mainz abutted the Rhine at the confluence of the Main, and had a skyline which included the imposing castle of the Archbishop, the college of St. Peter Gundolf,

²²Flanagan, op. cit., p. 9. Between 1160-1170, Hildegard visited Metz, Krauftal, Cologne, Liege, Boffard, Andernach, and in 1167, Swabia, including Hirsau. Maria Laetitia Brech. "Die Kloster der Heilige Hildegard: Rupertsberg und Eibingen" in Bruck, A. Ph. Hildegard von Bingen 1179-1979: Festschrift zum 800 Todestag der Heiligen Mainz: Gesellschaft für Mittlerheinische Kirchen, 1979. Festschrift, 77-94.

²³"...Remember when I was at Mainz when the Emperor held court there, I very earnestly recommended myself to your saintly prayers..." see Hildegard of Bingen. Letters of Hildegard of Bingen. tr. J. Baird. New York: Oxford University Press, 1994, p. 84. Eberhard, Archbishop of Salzburg to Hildegard.

²⁴quoted in Ludwig Falck. Mainz Im Frühen und Hohen Mittelalter. Düsseldorf: Walter Rau Verlage, 1972. p. 125, my translation. Hildegard's vision of Christ's city is reminiscent of this description of twelfth-century Mainz.

MOGUNTIA, Germaniarum Metropolis, ad Rhenum ripas Urbis celeberrima, mercatorum frequentatione, ditata, et vniuersitate clarior.

M E N T



St. Steven's, and St. Jean. In the center of the city was the impressive Cathedral of St. Martin, where Hildegard was to preach. But the heart of Mainz, its main locus of activity, was its rivers, the Rhine which connected it to the German towns of the North and South and the Main, which connected it to the East.²⁵

There were probably between ten and twenty thousand inhabitants in twelfth-century Mainz;²⁶ and twenty to thirty ships a day passed through on their way down the Rhine to other major towns like Koblenz and Cologne. Along its waterways, it had active markets for Russian and Scandinavian furs, as well as for its own flax, textiles, and wine. Merchants from Trier, Strasbourg, and Cologne could be found in the city,²⁷ while Mainz's own citizens did business up and down the Rhine and Main.

The site of Mainz had been important geographically since prehistory. The Romans founded their *Moguntium* on the site of an originally Celtic settlement, and despite invasions and recurrent destructions of the city during the first millenium, evidence for the vanished Roman civilization would have still been visible to Hildegard as the old Roman *castrum* (to the left in the illustration and map) and as the Roman monument to the Roman hero, Drusus. After the collapse of Charlemagne's empire, Mainz became part of the East Frankish Empire, and since Saxon times had belonged to the archbishop who ruled the town as its secular as well as its religious ruler.

Mainz was an important but rebellious city. Both the First and Second Crusades were preached in its cathedral, and in 1114, Henry V chose it as the place to celebrate his strategic marriage to Princess Matilda of England. In 1118, Mainz obtained the right to be a "free city," that is, a self-governing legal entity,

²⁵Falck, p. 127.

²⁶Cologne, the largest city on the Rhine, is estimated to have had 30,000 inhabitants in 1180, and Mainz 1/3 to 1/2 of its population, so between 10,000 and 15,000 inhabitants, see Russel, J.C. Medieval Regions and their Cities. Great Britain: Indiana University Press, 1972, p. 91 and 94.

²⁷Falck, 128.

and from 1118 to 1163, it had ongoing conflicts with its archbishop and with the emperor. In 1160, its citizens revolted against the Archbishop, and in 1163, the army of the emperor pulled down its walls. Nevertheless, despite such conflicts, Mainz remained a flourishing city of trade throughout the twelfth-century.

Contributing no doubt to its cosmopolitan atmosphere was a significant Jewish population which went back to the Roman occupation, and which seems to have been rather well-integrated into the surrounding Christian society up until the First Crusade.²⁸ During the eleventh and twelfth-century Mainz's prominence as a center of Jewish culture only grew, and by 1090, it was the largest Jewish community in Germany.²⁹ This had been due to the arrival of the wealthy, cultured Kalonymus family from Lucca, who brought the Babylonian school of Biblical exegesis along with it into Germany, contact with which had been closed to the Jews of Western Europe by the successful spread of Islam. Jewish scholars from all over Europe came to the Rhineland to study because of the fame of Gershom ben Judah (960-1030), the Light of the Exile, who had established a Talmudic academy in Mainz. The school was so important that even Rashi (1040-1105) left his home in Troyes in Northern France to spend several years studying there; and the connection between Rashi and Mainz was maintained during the twelfth century by his grandson, the famous Rabbi Tam. The Jews of Mainz were governed by the early twelfth-century decrees of Troyes until the first rabbinical synod for all of Europe was held in Mainz in 1150. Eliezer ben Nathan of Mainz (1010-1170), so-called RaBaN, an almost exact

²⁸"In those cities [of the Rhineland] there were many wise men, and rich." Benjamin Tudela noted in 1173, regarding his travels through the Jewish communities of Bingen, Mainz, Speyer, and Worms, quoted in Salo Baron, A Social and Religious History of the Jews New York: Columbia University Press, 1937. p. 64. For information on the Jewish influence and position in Mainz and the Rhineland, see "Mainz" in the Jewish Encyclopedia. New York: Funk and Wagnals, 1912, vol 8, 386-387, Marvin Lowenthal, Jews of Germany, New York: Longman, 1936 and Heinrich Graetz, History of the Jews, Philadelphia: Jewish Publishing Co., 1903 189-98 and Baron, 64-150.

²⁹see the entry on RaBaN in the Encyclopedia Judaica.

contemporary of Hildegard, was considered the most important rabbinical scholar in Germany. He published the oldest still extant book of German Jewry, the Sefer Ha-RaBaN.

The French-speaking Jews of Mainz, like Jewish communities in general, maintained a remarkable amount of contact with Jewish communities in Europe by means of letters and visits and may have been instrumental in introducing the ideas and techniques of Islamic culture to the Rhineland. For example, Abraham Ibn Ezra, a Spanish-Jewish physician, and author of the medical textbook, The Book of Medical Experience, spent much of his life travelling to various Jewish communities in North Africa, Italy, Southern France, and Troyes where he met Rabbi Tam,³⁰ and Benjamin of Tudela left a record of his travels in the 1170's throughout Europe, China, Italy and the Middle East; his visits included one to the Jews of Bingen. Such interactions may explain the remarkably rapid diffusion of the new translations into the Rhineland.

Yet on May 27, 1096, the first Crusade was preached in Germany by a monk named Emicho of Leinigen and his violent anti-Jewish rhetoric led to Germany's first pogrom--horrendous eye-witness accounts exist of the completely unexpected, unprepared-for violence.³¹ The Jewish community of Mainz was almost destroyed. Probably between 700-1200 Jews were killed or committed suicide, and the synagogue in Mainz was burned to the ground. Although the Jewish community recovered materially from this event, it marked a change in the tenor of Jewish religious interest--from an extroverted, practical,

³⁰J.O Leibowitz, and S. Marcus. The Book of Medical Experience. Jerusalem, 1984 p. 29-31 for a biography of Abraham Ibn Ezra. Rabbi Tam was the grandson of Rashi, and maintained contact with RaBaN in Mainz during the twelfth century.

³¹Eyewitness accounts exist, along with a list of Jews slain, since the Jews of the Rhineland sent letters describing their suffering out to their fellow Jews in the rest of Europe, as a warning, see Shlomo Eidelberg, The Jews and the Crusades. Madison: University of Wisconsin, 1977.

even legalistic approach to the Bible, to the introverted, mysticism later known as the Kabbalah, found for the first time in Europe in twelfth-century Mainz.³²

Although the Jewish community remained integrated into the life of the Rhineland during the first half of the twelfth century, they reacted quickly and warily in 1146, when the Second Crusade was preached in Mainz by the rabidly anti-Semitic Cistercian monk, Radulf. They immediately asked the Archbishop for help in removing him, and St. Bernard of Clairvaux eventually had to take him back to his monastery.³³

Despite such new tensions, there were ongoing connections between Jewish and Christian culture, some of which ended in conversion. A famous example concerns the eleventh-century conversion to Judaism of a Christian monk, Vecelin, which resulted in the temporary banishment of Jews from Mainz.³⁴ Mutual conversions and intermarriages apparently resulted in a population of Jews and Christians who were indistinguishable from one another; and, in 1179, the Third Lateran Council ordered that Jews wear some distinguishing mark to allow for their identification.

The story of the conversion of Judah Levi,³⁵ a young Jewish merchant from Cologne, demonstrates the routine contacts between Jews and Christians. Judah first travelled to Mainz on business in 1110. While there he loaned money to Ekkebert, the Bishop of Munster, and when he returned without it, his family insisted that he return to Mainz and stay there until it was repaid. Apparently Judah was welcomed into the Bishop's own house, where he stayed for twenty weeks; while there, he became interested in Christianity. He often went to Church to hear the Bishop's sermons and eventually taught himself Latin so that

³²Graetz, 350-354.

³³Hans Eberhard Mayer. *The Crusades*. tr. John Gillingham. Oxford: Oxford University Press, 1988. p. 40 and 97-98.

³⁴He rescinded the order shortly after a large payment by the Jewish community, Graetz, 64.

³⁵Judah Levi's own account of his conversion can be found in the *PL*, vol. 170, cols. 808-839.

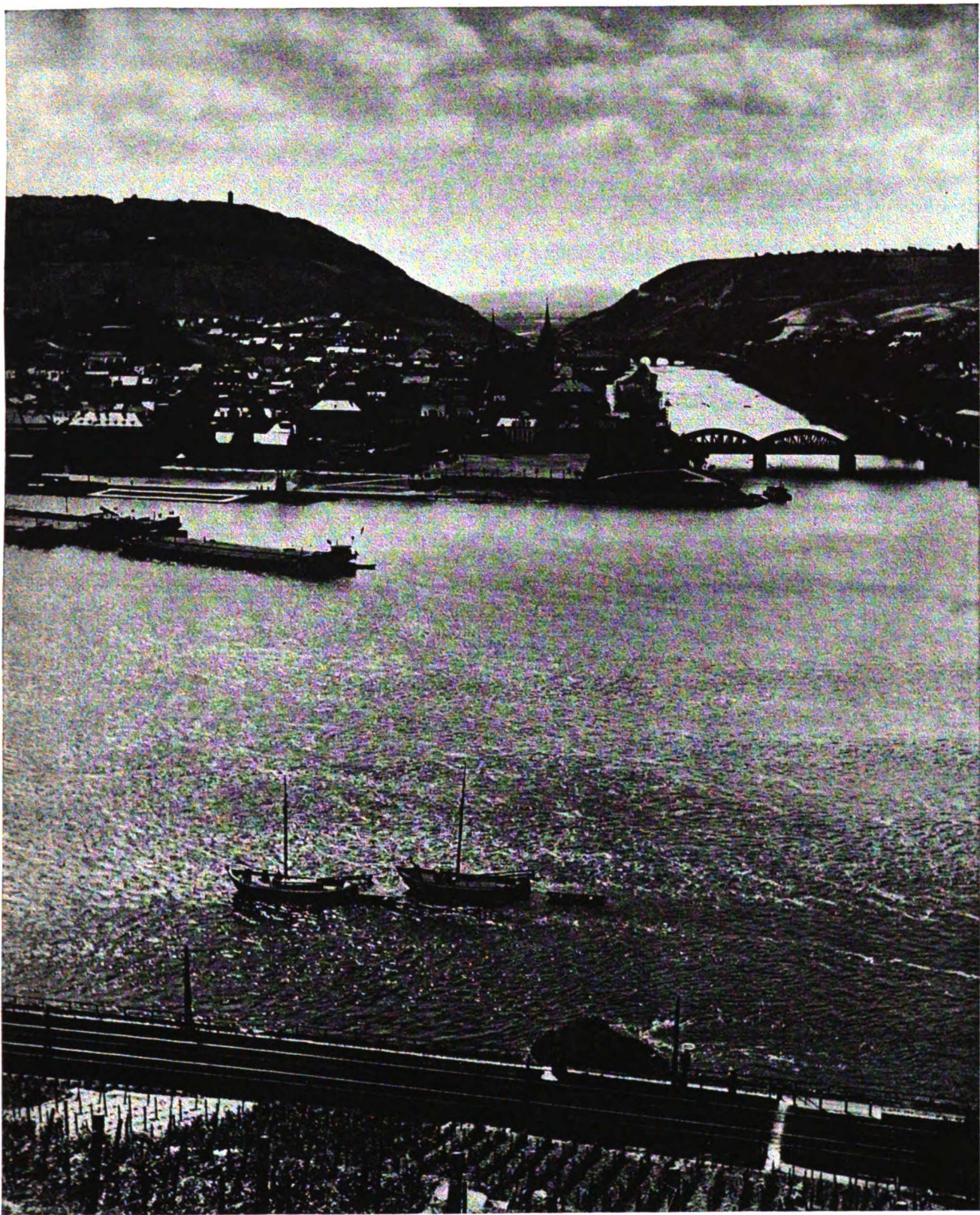
he would be able to borrow books from nearby monasteries. He liked Christianity, he tells us in his autobiography, except for its idol worship, and was very much impressed with the piety and holiness of the two sisters, Bertha and Glizmut, whom he visited in their home near the monastery of St. Maurice in Mainz. He continued to attend Christian services even upon his return home to Cologne, and eventually fled from an arranged marriage, converted, and, taking the name of Hermann, ended up as the Premonstrasian abbot of Scheda.³⁶

Judah's experience and knowledge as a Jew undoubtedly became a part of his life and writings as a Christian, which was not an uncommon way for Jewish culture to enter the surrounding Christian culture. It is notable, though, that even before his conversion he was accepted as a Jew into the Christian society of Mainz. As a Jew he apparently was asked to live with the Bishop and attended church, visited holy women, even borrowed books from Mainz's monasteries. Such interactions were not at all unusual. Many abbots are documented as having been friends with Jews; for example, Rudolf of St. Trond, the Bishop of St. Pendet. and Rupert of Deutz.³⁷ Although no such direct connections are known for Hildegard, there are suggestive similarities, as we shall see, between some of her unusual theology and Kabbalah, as well as between her medicine and that of the Jewish Sefer Asaph.³⁸

³⁶Such conversions were not unusual. A more famous one was that of the Spanish Jewish physician, Moshe-ha Sefardi. Taking the Christian name of Petrus Alfonsi, he subsequently travelled to England and France, was court physician to Henry I of England, and became famous as the expositor and translator of well-known Jewish-Arabic stories into Latin, and also as a writer of anti-Jewish polemic. See Eberhard Hermes. "Introduction" in his Disciplina of Petrus Alfonsi. Berkeley: University of California Press, 1970.

³⁷Van Engen, John. Rupert of Deutz. Berkeley: University of California Press, 1983.

³⁸Some research has been done on this question. Charles Singer thought that "Hildegard herself could not fail to have been well-acquainted with Jews..." since Bingen was small, and in fact, images of merchants wearing the characteristic Jewish hat appear in the illuminations of her visions. He also notes very Kabbalistic notions in Hildegard's work. see Charles Singer, "Allegorical Representations of the Synagogue in a twelfth-century illumination of Hildegard of Bingen." Jewish Quarterly Review, 1914. 267-284. The only other article to look at part of the question is by Joseph Overath, "Die Juden in der Welt Hildegard von Bingen," Trierer



Hallensleben

*Blick auf Bingen, die Nahemündung und Bingerbrück. Ganz im Hintergrund die alte Drususbrücke, links Burg Klopp.
Bingen (left) and Bingerbrück, on either side of the Nahe where it joins the Rhine.*

Bingen

Fifteen miles downstream from Mainz and twenty miles north of Hildegard's birthplace at Alzey lies Bingen (ill. 5),³⁹ located on the junction of the Nahe river with the Rhine, opposite the small town of Rudesheim, and three miles upstream from Assamhausen, which had been known since Roman times for its therapeutic lithium waters.⁴⁰ *Bingium*, like *Moguntium*, had been founded by the Romans on the site of an originally Celtic settlement; and a Roman bridge still crossed the Nahe at Bingen as late as 1926 (see ill. 6). Although population figures for twelfth-century Bingen are unknown, as late as 1926 it had only 10,400 inhabitants, and probably had a population of two or three thousand when Hildegard lived on the Rupertsberg. Despite its small size, however, Bingen had had a Jewish community since the Roman occupation,⁴¹ which was probably integrated into the town's life much like the one hundred or so Jewish families who lived in Troyes during the same period.⁴²

The Rupertsberg, which was the site of the graves of the martyrs Rupert, Berta, and Wigberta, had been a place of pilgrimage long before Hildegard's visions instructed her to settle there,⁴³ although when she arrived, it was a "waste

Theologische Zeitschrift, 87 1970, 304-312; he tries to show that Hildegard was indeed acquainted with Jews, and that she was not anti-Semitic. No one has yet looked at actually comparing texts and ideas, especially for the Kabbalistic ideas which are found in her work.

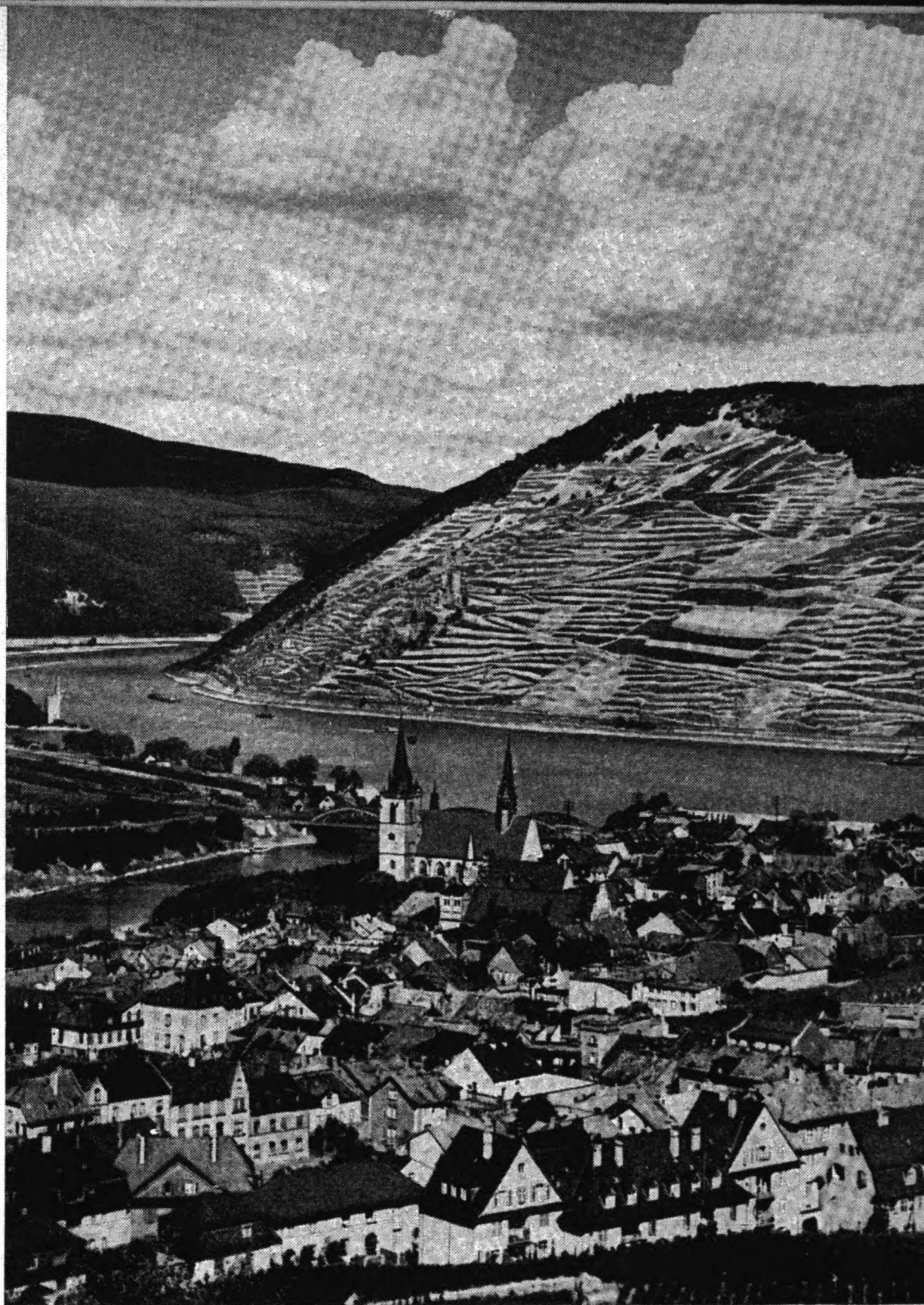
³⁹For information on Bingen, see the entry "Bingen" in the Encyclopedia Britannica, ninth edition, and the entry "Bingen" in the Jewish Encyclopedia; as well as the map of Bingen (ill.6) and a photograph of Bingen (ill. 7).

⁴⁰Karl Baedeker, The Rhine. Leipzig: Baedeker, 1926, p. 267.

⁴¹Jewish Encyclopedia, vol. 3, p. 216.

⁴²L. Rabinowitz. Social Life of the Jews of Northern France XII-XV. London: Goldstone, 1938. Since the Rhenish Jews apparently spoke French, it is likely that Rabinowitz's well-researched books on the Jews of Troyes give us a flavor for Jewish life in Mainz and Bingen. For Troyes, he describes a small, well-integrated community, whose members wore the same clothes, carried the same names as the surrounding majority Christian populace, and often intermarried. The Jews of Troyes were extremely prosperous in agriculture as well as trade; and there is no evidence for exclusion from the majority community, although there were mutual conversions. During the Second Crusade, however, the Jews of Northern France were attacked and killed.

⁴³Festchrift, p. 78.



Blick von Burg Klopp auf Bingen
View from Klopp castle to Bingen
Vue de Bingen du château Klopp

place," a "desert," uncultivated and wild.⁴⁴ At the same time, it would have been ideal for a settlement; elevated on the hill of the Rupertsberg, it overlooked the waters of the Rhine and the Nahe; a Roman footbridge connected it to Bingen, and a short ferry ride connected it to Rudesheim, where Hildegard eventually situated a second monastery at Eibingen. Hildegard's monastery on a hill, exposed to the winds and the sun, would have overlooked the the towns of Bingen and Rudesheim, the confluent waters of the Rhine and Nahe, and the vineyards of Rudesheim and Altasheim, providing a visible confirmation of the idea that all created things, human beings no less than stones, plants and animals— should be understood as mixtures of four, and only four, basic elements: the soil of the earth; the water of rivers and storms; the air of the heights; and the fire of the sun and moon--the basic hypothesis of the medieval worldview.

Some Historiographical Problems of Medieval Medicine

Sources

In trying to piece together Hildegard's context, I will use a variety of material, some of it separated by as much as eight hundred years, but I will limit myself geographically to material from Germany, and as much as possible to material from the Rhineland. Using data about from Southern Europe in order to understand the medicine of Northern Europe, as is often done, is problematic.⁴⁵ Roman language and culture pretty much seems to have replaced the indigenous language and culture of Southern Europe--Italy, Southern France and Spain-- and

⁴⁴PL 197, 92-94.

⁴⁵For example, Joseph Shatzmiller *Jews, Medicine and Medieval Society*. Berkeley: University of California Berkeley Press, 1994, in fact, is entirely about the medicine of the Mediterranean--Spain, Southern France, and Italy--and is unconcerned about Jews, medicine, and medieval Germany. This is also true for Michael McVaugh's *Medicine Before the Plague*, Cambridge, Cambridge U.Press, 1993, and Luis Ballester's, *Practical Medicine from Salerno to the Black Death*, 1994.

in medicine too, Greco-Roman theory and Roman practice apparently replaced much of the indigenous practice in Southern Europe. In Northern Europe, Indo-Germanic language, religion, and customs persisted for a much longer period of time, despite the occupation of Northern Europe by Roman legions.

Consequently, the persistence of the Roman office of municipal physician in Southern Europe into the thirteenth century⁴⁶ or of Greco-Roman lay medical teaching at Salerno or Montpellier, does not necessarily mean that similar practices, organizations or traditions existed in Northern Europe. Because of this, only information about medical practice which can be located to a vicinity which is likely to have affected Hildegard--that is, the Rhineland, Northern France, or Northern Switzerland--will be used in this thesis. On the other hand, if a practice is known to have existed in the Rhineland both before and after the twelfth-century, it seems fair to assume that it also existed in the twelfth-century Rhineland, even if no examples have yet come to light.

A surprising amount of written documentation regarding medical practice in the twelfth-century Rhineland does survive, however, as medical texts, written consultations, religious stories with medical subjects, monastic annals and historical chronicles, account books, wills, charters, and other legal documents. An important peculiarity of the historiography of the period is the isolation of its three linguistic traditions, the Latin, German, and Hebrew, from one another. Historians who have used Latin sources have tended to consider the so-called "monastic" aspect of the medical practice of the period. They have been interested in tracing the medieval connection with the Antique period by establishing a continuous Latin tradition of sources and tended to emphasize the spiritual and religious aspects of medieval medicine. In general, they view the

⁴⁶Shatzmiller, *op. cit.*, p.112.

twelfth-century as the time when the old monastic medicine was replaced by new ideas coming from the East.

On the other hand, historians interested in German medical texts have taken a more "folk" approach.⁴⁷ They have used cross-cultural material and modern German folk medicine to fill in the gaps in the data, and have emphasized the empiricism and nativism of indigenous practice. Finally, historians of Jewish medical practice in the Rhineland have looked at contemporaru twelfth-century Hebrew medical texts, chronicles, letters, and stories, and emphasized the themes of continuity between Jewish past and present, especially looking at medical ethics, the doctor-patient relationship, and Jewish-Christian interaction.⁴⁸ Each of these histories concern the same time and place, but they have remained separate and isolated from one another.

Although for reasons of clarity we will consider Rhenish medicine as it is separately portrayed in the Latin literature and records, in vernacular (Middle High German) records, and in Hebrew literature and records, it should be kept in mind that this is an artificial linguistic distinction which bi- or tri-lingual contemporaries would not have made. Indeed, we know that practitioners and patients accepted consults across linguistic and religious boundaries.⁴⁹ Hildegard, who obviously was taught the Latin medical tradition in the monastery, also grew up in the country and was probably also acquainted with the German folk tradition.

Terminology: "Doctors" and "Hospitals"

⁴⁷see, for example, Jose Luis Peset. "La medicina de los pueblos germanicos," in Pedro Luis Entralgo, *Historia*, p. 165-167, and M. Hofler, "Altgermanische Heilkunde." op.cit. pp. 453-477.

⁴⁸For instance, Harry Friedenwald, *The Jews and Medicine*, Baltimore, Johns Hopkins University Press, 1944, has chapters on "Ethics and the Practice of Medicine" and "Jews and the Medical Art."

⁴⁹For example, the writer of the addendum to the Hebrew copy of the Sefer Asaph, an 1150 manuscript written in Germany, consulted, he says, with ten different practitioners, of whom seven were Jewish and three Gentile see Joseph Shatzmiller, "Doctors and medical practice in Germany circa 1200: the evidence of Sefer Asaph, in the *Proceedings of the American Academy for Jewish* vol. 50 pp. 151-163.

In general, when historians of the medieval period use the term "doctor" or "physician" to refer to twelfth-century medical practitioners, they do so generally in order to refer to Latin-literate male medical practitioners; female practitioners, especially if not known to be Latin-literate, are called "folk healers."⁵⁰ However, "doctor" was a term created only later to signify a person who had completed a university course and was now able to teach (Latin: *docere*) the subject,⁵¹ and *physicus* replaced *medicus* only at the end of the twelfth-century.⁵² Twelfth-century sources use *medicus* if they are in Latin, *arzt* if they are in German, and *rofe* if they are in Hebrew. Since there were no mechanisms such as medical licensing⁵³ or medical schools in the twelfth-century Rhineland which could differentiate "experts," "professionals," and "amateurs,"⁵⁴ the historiographical division into "doctors" and "folk healers," is anachronistic.⁵⁵

⁵⁰This point is made very clearly in Monica Green's article: "Documentation of Medical Women and Medical Practice" in Luis Garci-Ballester Practical Medicine from Salerno to the Black Plague. Cambridge: Cambridge University Press, 1994.

⁵¹Pearl Kibre and Nancy G. Siraisi, "The Institutional Setting; the Universities," in Science and the Middle Ages, 120-140.

⁵²See Paul O. Kristeller "The School of Salerno," BHM 1945, pp. 57-87. for an exploration of the evolution of the use of "physicus," and "medicus."

⁵³see "Supervision of the Medical Profession and Licensing Procedures" in Joseph Shatzmiller. Jews, Medicine, and Medieval Society. "The first known Western European regulation comes from the year 1140 in the kingdom of Sicily, where King Roger II established the need for [a licensing] examination in the Assizes of Ariano...This legislation, however, seems to have been premature, for nothing like it appears in any other twelfth-century legislation...In 1231 the emperor Frederick II (of Germany) in his Liber Augustalis issued elaborate legislation dealing with the content of medical studies...Frederick's legislation proved to set more of a precedent."pp.14-15.

⁵⁴For example, America in the early nineteenth century as discussed in Other Healers: Unorthodox Medicine in America, ed. Norman Gevitz, Baltimore: John Hopkins University Press, 1980; or eighteenth-century English medicine as described by Roy Porter in Patients and Practitioners. Cambridge: Cambridge University Press, 1982.

⁵⁵H. Schipperges, Garten der Gesundheit, Medizin im Mittlealter, Munich: Artemis, 1985. "Medicine in the Middle Ages was not a closed system; we must not represent to ourselves an organised physicians guild." p. 96, my translation. What we think of as a university began to develop in the twelfth-century, but was, at first, only an informal gathering of interested students around a teacher; its institutionalization occurred parallel to that of medicine, and began in the thirteenth century, see Pearl Kibre and Nancy G. Siraisi, "The Institutional Setting: the Universities." At their most organized, in Salerno, "a skillful guild of physicians established a reputation for practice and teaching in medicine," John Riddle, Contraception and Abortion from

Medical practitioners in twelfth-century Germany were a sea of different specialties, and in the following, we will try to use the term "medical practitioner" to refer to all those who practiced medicine.

The exact purpose and function of the *hospitium* is also unclear. The Latin term *hospitium* derives from the word for *hospes*, which meant guest, and it is likely that the European use of the word is a direct translation from the Greek *xenodochium*, which also means guesthouse, but which was used for an establishment in the Byzantine Empire not too far from our "hospital." However, in medieval Europe, the meaning and function of the *hospitium* is ambiguous. The word eventually gave rise to the English words "hospital" and "hospice," and it seems that both functions of shelter and medical care were fulfilled to a varying degree by the medieval *hospitium*. Although never actually defined, their purpose was as a place of refuge, "in which poor people, passing travelers, women in labour, orphans, the weak and the lame--in general, all,--would be received."⁵⁶ Of course, women in labour, the weak and the lame would have required some kind of medical care in addition to custodial care, but it is not certain how or by whom that care would have been administered. Perhaps the modern word "shelter" in the sense in which it has most recently been used in the inner-city, as a place for the poor who would *ipso facto* require medical care, is the best modern translation, but for the purpose of this thesis, the word *hospitium* will be retained.

the *Ancient World to the Renaissance*, Cambridge: Harvard University Press, 1992, p. 118, but no such guild is known to have existed in twelfth-century Germany.

⁵⁶Reicke, Siegfried. *Das deutsche Spital und sein Recht im Mittelalter*. Amsterdam: P. Schippers, 1932, reprint 1961, p. 281: "ein 'hospitale, in quo pauperes, peregrini transeuntes, mulieres in partu egentes, parvulu a patribus et matribus derelicti, debiles et claudi, generaliter omnes, recipi consueverint," my translation.

LATIN MEDICAL PRACTICE

By "Latin medical practice" we simply mean everything that can be learned about medical practice in the twelfth-century Rhineland from sources written in Latin. In fact, most of what we do know about medieval medical practice comes from such sources, which include primarily medical texts,⁵⁷ but also wills and charters, (especially for knowledge about hospices and hospitals); monastic accounts;⁵⁸ monastic annals;⁵⁹ personal letters requesting medical consultations;⁶⁰ illuminated manuscripts;⁶¹ and even architectural plans of monasteries and infirmaries. The period 600-1200 A.D. is generally thought of as being the period of "monastic medicine," in which Benedictine monks were the only people practicing medicine at the time.⁶² This idea is based primarily on the fact that most of the material on medicine is in Latin and that only monks are presumed to have known Latin. However, the truth is more complicated, since it is obvious that the monasteries in Europe could not have taken care of the medical needs of the entire population. More importantly, many people other

⁵⁷Thousands of medical manuscripts survive from the Latin Middle Ages; for a summary of what is known about various manuscripts, see Pearl Kibre. Hippocrates latinus: Repetorium of Hippocratic Writings in The Middle Ages, New York, 1985. For access to published Latin primary sources, see Salvatore de Renzi. Collectio Salernitana. Naples, 1856, vols. 1-5.

⁵⁸for example, Jaritz, G. "Klosterliche Rechnungsbucher als quelle fur die Rolle der Medizin in Monasticher Gemeinschafter des Spatmittelalter." Med. Ges Gesch. 1990(9) 79-95; Jenkins, M. "Medicine and Spices with Special Reference to Medieval Monastic Accounts." Garden History 4(1976) 47-49;

⁵⁹For example, Reicke, Das deutsche Spital und sein Recht im Mittelalter.

⁶⁰For instance, the series of letters which exist between the the abbot of Cluny, Peter the Venerable (d.1152) and Bartholomew of Salerno regarding the abbot's three-month long illness of laryngitis and cough. see Giles Constable, Letters of Peter the Venerable, Cambridge: Harvard University Press, 1967, vol. 1, pp. 379-383, and vol. 2, pp. 82-83, and 247-52. In another extant letter to Louis VII, King of France, Bartholomew offers a brief, clear summary of the proper use of the six "non-naturals. See C.H. Talbot, "A letter from Bartholomew of Salerno to King Louis of France." BHM 1956 321-328.

⁶¹see especially Imbault-Huart, Marie, La Medecine au Moyen Age à travers les Manuscrits de la Bibliotheque Nationale. Paris: BN, 1983.

⁶²"One finds only Benedictines as medical practitioners in all of Europe," between approximately 600-1200 A.D. see H. Schipperges, Die Benedictiner in der Medizin des Fruher Mittlealter Leipzig; Bermo Verlag, 1964, p. 9.

than monks knew Latin. Latin documents attributed to "monastic sources" are often, in reality, by "clerics"⁶³-- tonsured, Latin-literate, and connected to the Church--but not necessarily monks enclosed in a monastery, subject to an Abbot, or part of "monastic culture."⁶⁴

Latin, while not the only language of communication in Europe, was truly the lingua franca of medieval Europe,⁶⁵ and most moderately well-educated people were Latin-literate. Extant letters by lay people are almost invariably in Latin;⁶⁶ the treatises on love for the primarily female courtly love literature are usually in Latin, as are most of the popular songs of the period.⁶⁷ Honorius Augustodunensis (c.1090-1156) introduces his Latin survey of knowledge, the Elucidarium, with the remarkable statement that he was writing for the "ignorant, the poor, widows, and the lesser clergy," who otherwise would not have access to such information.⁶⁸ It is probable that many people other than monks knew Latin, and that our ideas about the medical practice of the period have as much to do with lay practice as with monastic practice. "Latin medical

⁶³Such famous writers of quasi-medical texts as William of Conches (1090-1161); Honorius Augustodunensis (1090-1156) and the anonymous translator of Bartholomew's Practica are identified as "clerics" but were not monks.

⁶⁴Schooling usually took place either privately via tutors or in so-called cathedral schools which were open to some extent, to the lay public, including boys and girls from the community. Further education was generally also obtained through the Church, but the affiliation was broad--"canons," for example, one of the more common categories of clerics, although tonsured, were neither monks nor priests, and were able to marry until well into the twelfth-century. Therefore, anyone who was Latin-literate generally had some relationship to the Church, and could be called rightfully a cleric, but not monk. MacKinney gives a vivid description of how the eleventh century so-called School of Chartres was run; the rudiments of medicine, for example were taught to clerics and lay people as part of their liberal arts training. see MacKinney, Loren. Early Medieval Medicine, Baltimore, Johns Hopkins University Press, 1934. 121-122.

⁶⁵see Ernst Robert Curtius, European Literature and the Latin Middle Ages. tr. by William R. Trask. Princeton: Princeton University Press, 1973, for the most thorough working out and explication of this view.

⁶⁶see for example letters to Hildegard in Latin by several lay women PL vol.197.

⁶⁷see Raby, F.J. E. The Oxford Book of Medieval Latin Verse, Oxford: Clarendon Press, 1959 for many examples.

⁶⁸see Sandford, E.M. "Honorius, Presbyter and Scholasticus." Speculum 23 (1948) 387-425. and Honorius, "Elucidarium," in PL v. 162 p. 1116.

practice" is much more than "monastic medicine;" it covers the kind of practice which can be inferred from Latin sources.

Practitioners--Lay

Many of the medical illustrations from the period confirm that medicine was not an exclusively monastic activity. In the mid-twelfth century illustration of cauterization points which was painted in the Rhineland (see ill. 7), we see that the practitioner, a male, is wearing the decorated tunic, long hair, and beard popular among laymen at the time; he is not portrayed with the tonsured head and hooded cloak of a monk. The female practitioner pictured in ill. 8, presenting a flask of prepared medicine is not dressed as a nun; she wears the flowing gown and long hair of the female nobility. Well-educated lay practitioners, the "court doctors" are, in fact, documented as early as 500 A.D. They travelled from castle to castle, domain to domain, providing fee-for-service medical consultations; success was well-rewarded, but failure sometimes punished by execution.⁶⁹ In Aachen, at the court of Charlemagne, several lay physicians are known to have existed,⁷⁰ and lay medical practice is well-documented in the late Middle Ages.⁷¹ Indeed, fourteenth-century illustrations of physicians invariably shows a wealthy layperson, practicing in his office. Other data confirm the existence of twelfth-century lay practitioners. We know that the twelfth-century practitioner who anesthetized and castrated Abelard was not a monk and must have been a lay practitioner. Only one of the three Christian physicians consulted by the anonymous mid-twelfth century copyist of the Sefer Asaph was a "monastic."⁷² Twelfth-century illustrations of medical procedures which show physicians do not show monks or nuns, but lay people.

⁶⁹NiederHellman, p. 45.

⁷⁰NiederHellman, p. 46.

⁷¹Shatzmiller, Jews, Medicine and Medieval Society, pp. 60-70.

⁷²literally a "presbyter," priest--see Shatzmiller, J. "Doctors and Medical Practice in Germany around 1200: The evidence of the Sefer Asaph." Proceedings of the American Academy for Jewish

Tafel X Fol. 91 verso und fol. 92 recto (Seite 40 oben) des Ms. Sloane 1975 im Besitz des British Museum in London. Der lateinisch geschriebene Codex, beginnend mit »Libri IV medicinae Ypocratis Platonis Apoliensis Urbis de diversis herbis«, ist eine medizinische Sammelhandschrift von hervorragendem Erhaltungszustand. Sie sollte ins 3. Viertel des 12. Jahrhunderts datiert werden und könnte aus dem Maastal stammen. Der Stil des Miniators ist mit der Schule in Verbindung gebracht worden, aus welcher der Meister NICOLAUS VON VERDUN hervorging. CHARLES SINGER, der von »Anglo-Norman workmanship« sprach (*The Herbal in Antiquity...*, lit. ref. Seite 24), ist hier zu verbessern.





HIERYACA galien facient ad tustes
 & fauciu aspitate. raucedine et ex pthia
 pthia pthia ut natat. 7 sanguis reieco
 mol eisd. 7 dragg. gūme arabice. 7
 7. rui. 7 dactilo carnū. 7. vi. sūr
 m. 7. u. 7. 7. u. libā. 7. u. 7. liq̄tue
 succ. leucosp. amb. 7. u. passi 7 mett
 qd suffic. datur sub lingua tenē
 uo

Hieriacā andromachi. q. si ad uocē amputōnē. 7 ad oīa uita artū
 7 Amgdalaz. 7. vi. mirre leucosp. Amb. 7. vi. dragg. 7. iiii. et. uue
 passē enucleate. an. 7. i. passi 7 mett. q. s.

Hieriacā acrbonū facient ad raucedinē uocē. 7 aspitate faucū
 pthia pthia pthia. 7 nucleos pini. 7. r. Amgdalaz recentē. 7. r. u.
 uox uox uox. 7. u. sēt uni colū. 7. u. dragg. 7. i. passi 7 mett. q. s.

Hieriacā que artū lē. tustē succā 9 pelat. uocē ex acuta febre de
 bitatū 7 ex pthia. clari redd. 7 Amgdalaz pincax. sēt comidit. 7. m. 7
 7. dragg. succa liq̄t. gūme arabice. an. 7. u. 7. an. sēt citoli. milonū. cū dūce
 purgare. 7. u. pendū. q. s. dat in mod sibe sub lingua cendū.



Hieriacā id est Sannal q̄ inuenta ē ap̄ romanos optima ad sup̄sc̄pta. Nā q̄ ea us̄
 sūt 4 mat̄ aq̄ 7 sordidū nebit̄ illel̄ gr̄stia faz. 7 cephalargē. emignē
 7 sup̄calū dot. 7 octoy. 7 addentū dot 7 ginguaz̄ r̄umacitū. s̄quātā iāe re
 tantā gargarizaca l̄ustipa. p̄ct̄larē medēt. almaric. thentib. 7 p̄thie.
 p̄p̄ulat. dot s̄uī c̄ar. fastidiū auferet uolūū ab̄tinet̄ emp̄ic̄ 7 pleur̄tā
 q̄ admod̄ cephalargē p̄tis. medicam̄ ē ep̄anō. splenecā. 7 subuēti ȳliost
 ydropicū 7 q̄ p̄guet̄ 7 erud̄ hūmēl̄ p̄ it̄anea cor̄tū uagando p̄it̄. au
 r̄it̄at. nef̄reticōl̄ 7 colū dot̄ mirgat. flux̄ oī s̄it̄. podaḡcoy molestias
 ex frigido s̄c̄al̄ t̄ep̄at̄ stat̄. u. t̄hibet̄ s̄it̄. sudorē puocat. 7 s̄q̄ā s̄c̄al̄. 7
 xvi. op̄il. 7. r. colū. 7. vii. opopanax. mirre. scada. argal. 7. m. 7. vi.
 s̄it̄az̄ cat. galbā. agariē. gentiane. pigam. s̄it̄adol. p̄t̄ū. cardamōl. 7
 vii. 7. v. balsā. nardū. 7. s̄quāta. thymamart. amomac. t̄ebent. cas
 sic. mandragore coctē. ȳringi rad. rosaz. cuparoz. cuf̄ribū. carpo.

Lay practitioners in the twelfth-century Rhineland included a variety of more-or-less specialized practitioners, ranging from court *medici* and Jewish *rofiim* to groups of "wise-women," "mirgesses," "herbalists," and including surgeons, that is, bone-setters, cataract couchers and stone removers.⁷³ Closest to our idea of academic medicine might have been the practicing "clerics," those unmarried men with some kind of church position—canons in the cathedral schools, hermits, or even wandering scholars—who, as we have seen, wrote many of the medical or quasi-medical texts which illustrate the medicine and medical thinking of the time.

Practitioners--Monastic

However, it is quite clear that monks and nuns did provide much of the medical care during the Middle Ages, and their practice is certainly better documented than that of lay practitioners. Medical practice was an integral part of monastic life from its beginning. Since monasteries in Northern Europe were often established in areas remote from existing urban areas, it is not surprising that at least one monk was expected to be proficient in medicine. But the care of the sick was also seen from the beginning as a special duty of monastics—perhaps because of its inherent challenge to the Greco-Roman value of physical health and beauty—and the earliest monastic rules insist that caring for the ill and poor should be an important duty of the monastery.⁷⁴ According to the influential rule of St. Benedict, and followed by most subsequent rules, one monk was to be

Research, vol. 50, p. 153. The word actually used in the Hebrew text is unclear; perhaps a Jewish writer would have taken almost any tonsured cleric for a "priest."

⁷³Schipperges, Garten, p.96-100.

⁷⁴"Before all things and above all things, special care must be taken of the *infirmi* (the "not-strong" that is, the weak, sick and old) so that they may be served in every deed... as if Christ were served, so should they be served...also let special thought and care be given to the aged and the very young..." see The Rule of St. Benedict, ed. Tim Fry, Collegeville, Liturgical Press, 1980, p. 234.

appointed as the infirmarian,⁷⁵ whose duties seemed to have included the the nursing of ill monks. Medical diagnosis and treatment might also be provided by him, if he had special medical training and interest. It was not unusual for medical practitioners to join monasteries and monks often left their monasteries for years at a time in order to to obtain medical training at Salerno, as the continuing attempt by the Church to reign in such activity makes clear.⁷⁶ Many abbots in particular, took a special interest in medicine, the abbot of St. Albans (1183-1195) for example, had studied in Salerno; while the Abbot of Bury St. Edmonds became one of the physicians to Henry I of England.⁷⁷

Nursing and doctoring functions were separated when the monk-infirmarian did not have specialized medical training or interest; in that case, monasteries would hire outside practitioners on a salaried base to fulfill diagnostic and prescriptive functions. Sometimes he was paid a fixed wage, sometimes furnished with a house.⁷⁸

Monks and nuns practiced medicine within the monastery, for the benefit of other monks, but also for the lay workers which Benedictine monasteries typically employed;⁷⁹ they also took care of the poor, the old and the sick of the lay community, visitors and pilgrims. Records exist about the kind of cases

⁷⁵"To the sick brothers, let there be a room deputed and a servant, who fears God and is loving and caring." Rule of St. Benedict, p. 234.

⁷⁶see Amundsen, Darrel W. "Medieval Canon Law on Medical and Surgical Practice by the Clergy." BHM 52:39-56, 1978 for a clear discussion of the gradually increasing effort by the Church to discourage the medical practice of monks.

⁷⁷see P. Flemming, "The Medical Aspects of the Medieval Monastery in England." Proceedings of the Royal Society of Medicine 11(1928-1929): 771-782; for English examples; but this was true across the continent. The Plan of St. Gall monastery (see below) locates the abbot's house next to the medical complex.

⁷⁸Hammond, E.A. "Physicians in medieval religious houses." BHM 32 1958 105-120.

⁷⁹Benedictine monasteries were known for their large staff. A monastery of 100-200 monks, which was an average size, would probably have had another 100-200 additional layworkers, making possible a fairly significant practice for the monk practitioner, see Walter Horn and Ernst Born. The Plan of St. Gall. Berkeley: University of California Press, 1979 This may explain the otherwise puzzling fact that a large amount of medical literature copied in monasteries has to do with "female problems,"--miscarriage and abortion; fertility; birth control, pregnancy, and labour.

which Notker the Arzt, a monk-physician at St. Gall during the tenth century, encountered in his practice.⁸⁰ Occasionally a monk-practitioner would become famous enough that patients asked for written consultations, or even visited the monastery to obtain face-to-face consultations--such activity is documented for Hildegard. Monastics also apparently practiced medicine outside the monastery, both for a fee,⁸¹ and also gratis, as part of their monastic obligation to the neighboring urban poor.

Latin Medical Practice: Texts

Medieval Latin medical practice was based on the fundamental, ancient paradigm of the four "elements"--earth, water, air, and fire, which were each made up of the four, equal, opposite "qualities": hot and cold, wet and dry--whose physical expressions in the human body were the four "humors": melancholic, sanguine, phlegmatic, and choleric. Very much in the manner of Chinese medicine, medieval medicine saw disease as an "imbalance of humors"⁸² which it was the practitioner's duty to analyze, diagnose and treat.

The knowledge which was thought necessary in order to practice medicine seems to have been divided among several different kinds of texts: there were general texts which covered creation, that is, the elements, and their

⁸⁰see Duft, J. Notker the Arzt: Klostermedizin und Monchsarzt im fruhmittelalterliche St. Gallen. St. Gallen: Verlag der Buchdruckerei Ostschweiz, 1970.

⁸¹The practice was common enough that monks were forbidden to study medicine "for the purpose of gain" in 1131. In 1163, they were forbidden to leave their monastery for the purpose of studying medicine for longer than two months--making a journey to study at Salerno or Montpellier impossible--but suggesting that this was a common practice. see Amundsen, "Medieval Canon Law." The medical school at Salerno had many Northern European students during the twelfth-century, many of whom were clerics, see P.O Kristeller, "The School of Salerno: its development and its contribution to the history of learning." Not until 1219 did the Church finally forbid "major clerics" from practicing surgery or studying medicine outside the monastery.

⁸²though not exclusively--there is also the conception of disease as caused by *vermis*--worms--that is, external vectors of disease and also of disease as caused by "strokes of fate," and the will of God.

UNIVERSITY OF
ARIZONA
LIBRARY

expression in Nature as the stars, the winds, waters, and the earth; and specific medical texts which dealt with the diagnosis of disease, with treatment, and with techniques such as uroscopy and pulse taking.

In spite of much scholarly work spent in determining what medical texts were available in Europe both pre- and post- the "new translations," it is still difficult to know exactly what specific texts would have been available to a typical medical practitioner.⁸³ Cassiodorus in his Institutiones prescribes a set of medical texts which were to be available in Benedictine monasteries,⁸⁴ but books were, of course, hand-copied and relatively expensive, and we cannot assume that an average monastery or medical practitioner in the twelfth-century Rhineland would have had a complete set. Older monasteries like St. Gall, and famous monasteries like those of Regensburg, had extensive and well-documented libraries, while a new monastery like Hildegard's at Bingen or at Disibodenberg must have had a much smaller one. Despite extensive and ongoing work on Hildegard's medical sources, we still have no clear idea as to what her actual texts were.⁸⁵ We perhaps have some idea of the medical books which were available to her, however, since we do know the 1161 inventory of the library of the Bishop of Hildesheim, which had a remarkable twenty-six medical texts, including several of the new translations.⁸⁶

⁸³see Kibre, *op. cit.* for a detailed account of Latin medical manuscripts which are known to have been available in at least one copy, during the twelfth century or earlier. One of the problems in determining what texts were available in the Rhineland during the twelfth-century is that manuscripts travelled; for example, the sole known manuscript of Hildegard's Causae et Curae ended up in Denmark, and so the location of a manuscript today may or may not tell us where it originated. Most were unsigned, and paleographers rely on a combination of writing style, materials, and internal data to date and locate them.

⁸⁴Siraisi, *op. cit.* p.10.

⁸⁵see Cannon, *op. cit.* p. 47-55 for a summary of the opinions regarding Hildegard's sources, which range from the belief that she had access to extensive antique Latin sources, as well as to the new translations, to the opinion that she was entirely ignorant of any sources but oral tradition, Isidore of Seville, and the Bible.

⁸⁶Hildegard bought Rupertsberg from Bernard, the Count of Hildesheim (Flanagan, *op. cit.* p. 6) and may have had access to these books. Their titles include: "The Five Books of Medicine," the "Pantegni," "Alexander Sarrocenus," the "Passionaribus," the Viaticum," the "Antidotarius

Presumably, this was an expensive library for a rich bishop, though, and far more extensive than that of the average medical practitioner. Most practitioners would have had to have some acquaintance with several different types of texts, and one way to get at that textual basis is to look at the contents of the most numerous surviving twelfth-century texts. They can be divided into distinct types: there are general texts of medieval "physics" and "physiology" which review the basic elements and humours and discuss climate, geography, geology, and astronomy, such as the very popular Elucidarium (c. 1140) of the pseudonymous cleric "Honorius Augustodunensis" and the De Philosophia Mundi (c.1128) of William of Conches.⁸⁷ There are also texts which are specifically medical, on the diagnostic techniques of uroscopy (see ill.10 for some medieval examples of uroscopy charts) and pulses; on diseases and their treatments, and on medicaments, including books on herbs, metals, and animal parts. For an example of the kind of information which would probably have been available to Hildegard, we can consider the contents of the widely-distributed medical text of Alexander of Tralles, On Urines and Pulses.⁸⁸ This book can be used as an example of the kind of material which was available in Latin in the twelfth-century Rhineland, since it was extremely popular, with many surviving manuscripts, including one in the library of the Bishop of

Sarrocinus," the "Liber Febrium," the "Liber Urinarum," the "Antidotarius Constantium," the "Liber Graduum," the "Liber chirurgie," the "Liber Cerebri," the "Pars Herbarii," the "Liber Melancholia," the "Liber Aureus," the "Liber Lepre," the "Universales Diete," the "Tegni Galieni," the "Liber Oculorum," the "Glos Duplici in Ysagogagis Johanicium," the "Glos in aphorismus," the "Gloss in Libre Prognosticorum," the "Glos in Libre urinarum," and the "Libre pulsum," see Sudhoff, Karl. "Die medizinischen Schriften welche Bischof Bruno von Hildesheim 1161 in seiner Bibliothek besass und die Bedeutung des Konstantin von Afrika im 12 Jahrhundert." Sudhoff's Archiv, 1916, 9:348-356.

⁸⁷see Honorius Augustodunensis. "Elucidarium." PL 162, cols. 1116-1130, and "Honorius Augustodensis," "De Philosophi Mundi" PL 172 115-88, which is actually the text of William of Conches, for interesting and accessible examples of this kind of text. It is particularly instructive to compare their approach with that of Hildegard's first book in her Causae et Curae.

⁸⁸see Stoffreger, Malte. Eine fruhmittelalterliche lateinische ubersetzung des Byzantinischen Puls- und-Urine tractatus des Alexandrus. Berlin: Dissertation, 1977.

Hildesheim. The purpose of Alexander's text is to review the techniques and methods of diagnosis, and he summarizes his method in the introduction:

One must first judge the strength of the patient, in order to decide whether he will live or die; then the pulse and urine should be examined, in order to determine what kind of illness the patient has...⁸⁹

The general appearance of the patient, especially his colour and the quality of his eyes and voice should be noted; also, whether he is restless, what kind of position he occupies in bed, and his general mannerisms. In the body of the text, Alexander discusses the specific findings in various illnesses, like fever, edema, and in diseases of the spleen, the liver, heart, and joints, but recommendations for treatment are not given.

Treatments were covered in separate texts, like the "Pseudo-Macer Floridus," an anonymous text probably composed at Corbie, a monastery north of Cologne.⁹⁰ It goes over the use of seventy-seven different herbs, which incidentally include abortifacients and cites more than twenty antique authors as well as the contemporary work of Constantine.⁹¹ Other popular reviews of the medicinal use of herbs which are known to have been available in the twelfth-century Rhineland include the "Pseudo-Diisocorides" and the so-called "pseudo-Theodore," bound under the title Theodore Priscian ad secarium Filium.⁹²

In order to get an idea of the body of medicine which would have provided the knowledge base for an average Latin-literate medical practitioner in the twelfth-century Rhineland, we can examine Bartholomew of Salerno's

⁸⁹Stoffreger, op. cit. p. 74. My translation.

⁹⁰Diepgen, Paul. Frau und Frauenheilkunde. 72-73. Although the text is anonymous, Diepgen suggests that it was probably by a cleric, Odo of Meung, and that the reason for the inclusion of abortifacients is that clerics need to "warn" readers against their use. p.72.

⁹¹Diepgen, *ibid.* p. 76.

⁹²Diepgen, *ibid.* p. 76.

Practica.⁹³ This was an extremely popular Latin text, with over two hundred known manuscripts, many of the late twelfth-century, and many which were translated into Norse, Dutch, Low and Middle High German. Although many of the so-called translations are actually new books under the name of the celebrated Bartholomew, the Practica, as we know it in the da Renzi edition, does give a very clear idea of the nature of twelfth-century practice. Bartholomew begins his text with a characteristic medical introduction, which immediately defines and limits his subject:

The practice of medicine can be divided into two parts, knowledge about maintaining health and knowledge about curing the sick...Some even say that is possible to maintain health without artificial means, which is, therefore, not a job for doctors. Hence I will discuss the science of curing and this can be divided into two parts: examination and diagnosis and treatment...Treatment can be divided into three parts: diet, medicine and surgery...I will discuss diet and medicine but not surgery...

Bartholomew follows this introduction with remarkably clear and detailed instructions for the compounding of medicine. He then goes on to explain the effects of climate, of the emotions, of sex, diet, sleep, exercise, and evacuation, on disease and health; and then reviews the diagnosis and treatment of constitutional diseases like fever and mania. He ends his book with a review of diseases in what in the Middle Ages was an organ-specific and characteristic order, that is, from head-to toe, typically by giving a definition and description for each illness, and then describing the appearance, urine, and pulse of the patient, and ends each section with an appropriate remedy.

The Latin Tradition in Practice: Medicine in the Monastery

⁹³see Bartholomew of Salerno. Practica in Salvatore da Renzi, Salernitan Magistri Nondum Cogniti, 1855, vol. 4: 321-406. My translation.

What is known about the way this textual medicine was used in practice in Germany? Was this tradition a living medicine or, as it has often been portrayed, simply the re-writing and re-working of ancient texts in a scribal tradition?

Although medicine as practiced in the monastic setting was not the only medicine in the medieval period, it is certainly the best-documented, and can, therefore, be very informative. There were two distinct medical functions in the monastery: one was to care and treat sick monks—acutely ill, chronically ill, or dying; and the other to care and treat the lay population, which would have included ill pilgrims and visitors, the old, and the poor. From the beginning, these functions were kept separate, at least in the larger monasteries; care for ill monks took place in the infirmary while care for the poor took place in the *hospitium*.

Perhaps the best early evidence that the texts do portray a living medicine is the ninth-century blueprint for a new monastery for the ancient establishment of St. Gall, near Zurich,⁹⁴ laid out in red ink on parchment by an anonymous monk. Although never built, this plan is considered to be an example of the ideal monastery. Laid out on about six acres, the centerpiece of the new St. Gall was to be, of course, a large east-west facing church, which abutted a cloister whose three sides contained the monks' sleeping quarters (the *dormitorium*), their eating area (the *refectorium*), and the kitchen. On the north east side of the Church, between the abbot's house (who typically might have been expected to take an interest in medicine) and the special house for the oblates (the young monks), isolated from the active and probably noisy rest of the monastery, lie several buildings which form a sort of "medical complex." These include, first of all, the

⁹⁴see Walter Horn and Ernst Born. *The Plan of St. Gall*. Berkeley: University of California Press, 1979 and Lorna Price, *The Plan of St. Gall in Brief*. Berkeley: University of California Press, 1982.

infirmarium, which seems to have been planned like a miniature monastery, in that it repeats in small the form of the monastery as a whole, with a central cloister surrounded by sleeping rooms for the sick (again the *dormitorium*), a special eating area for the sick (the *refectorium*), and a separate, smaller church. Next to this complex is the *domus medicorum*,⁹⁵ which is divided into four rooms. One of the rooms with a large fireplace is set aside for the *valde infirmorum*, the critically ill, and this room is placed next to a larger room which possibly served as a kind of clinic. Next to this is the *arma pigmentarium*, a place for storing drugs, both those which had to be bought,⁹⁶ as well as those medicinal plants which were apparently grown, gathered and processed by the practitioner himself.⁹⁷ Finally, this building contains a fourth room which is labelled the *mansius medicus ipsius*, the practitioner's own room; it also has a large corner fireplace.

Behind this building there are specialized buildings for the practice of humoral medicine. The first building, with eight beds and several fireplaces, is for purging and the "taking of medicine." Next to it is a building with two rooms, one for the physical application of medicines in the form of steam, sauna and fumigation, and a second room for bleeding and cautery.

Finally, outside the doctors' house is a large medicinal herb garden, whose beds are carefully labelled and include many of the pharmacologically active drugs frequently mentioned in the literature, such as the opium poppy, the

⁹⁵The best translation is probably "house of the medical practitioners." It is noteworthy that the Latin signifies more than one medical practitioner in addition to infirmarians for this large monastic establishment.

⁹⁶Such drugs would have included: sugar, ginger, galangal, anise, nutmeg, cinnamon, saffron, licorice, cassia, and caraway, which were traditionally imported from the East, see M. Jenkins, "Medicine and Spices with Special Reference to Medieval Monastic Accounts." *Garden History* 4 (1976): 47-49.

⁹⁷"By experiment, specialization, or just careful cultivation, they [the infirmarians] supplied their patients with medicines, purgatives, skin ointments, eye medicines, air and floor fresheners, tasty tid-bits for convalescents and pot herbs for the meat meals they were allowed to cook for those recovering their strength after letting blood." McLean, op. cit., p. 29.

apothecary's rose, lilies, sage, rue, rosemary, fennel, watercress, cumin, lovage, costmary, foenegreek, mint, peppermint, and fasciolo.

The St. Gall blueprint implies that the textual tradition, with its reliance on medicines, especially herbs, and on physical treatments like purging, bleeding, bathing and cauterization, was a living medical tradition. Although it was never built, there are many Benedictine monasteries with similar layouts, probably including those of Hildegard.

East of the church, and cloister block, sometimes quite far to the east so that it would be in a quiet position, was the infirmary for old and sick monks, and those who had just given blood. It consisted of a hall, chapel, kitchen and toilet and sometimes a small refectory [kitchen and dining hall.] These buildings were usually arranged around a courtyard and were known as the "little cloister." In this courtyard, or in a garden next to it, was the infirmarer's garden, planted with medicinal herbs⁹⁸...Every monastery had an infirmarer and every infirmarer had a garden, from which he made salves, medicine and tonics for those in his care...They also cared for the neighborhood sick...Infirmary shelves were lined with drugs made from herbs grown in the garden or bought at markets and fairs...⁹⁹

Medicine in the Hospitium

Medicine in twelfth-century Germany was also practiced in the *hospitium*, an establishment which seems to have been a charitable foundation usually created by the wealthy for the care of travellers, the old and the poor. There are many records for their existence in twelfth-century Germany.¹⁰⁰ For example, in 1097, Bishop Emehard of Wurzburg had a *hospitium* built inside the walls of the Benedictine monastery of St. Stephen,¹⁰¹ in 1144, Bishop Udo had one built in the Cistercian monastery of Pforta; in 1125, Erkenbert, a priest, and the Archbishop,

⁹⁸McLean, op. cit., 21 and see the groundplan for Christchurch, Canterbury, 1165, which she also discusses.

⁹⁹McLean, op. cit., pp. 28-29.

¹⁰⁰see Reicke, op. cit.

¹⁰¹Reike, op. cit., p. 20.

Adalbert of Mainz, founded a *hospitium* at Erfurt,¹⁰² and by 1159, there was one in Regensburg.¹⁰³ By 1244 the so-called Hospital of the Holy Spirit in Mainz had become a point of contention between the Archbishop and the city.¹⁰⁴

Although Hildegard's relationship with *hospitia* is completely unknown, her close contemporary, the Benedictine writer and abbess Herrad of Landsburg (1131-1195) founded a priory for Augustinian nuns in 1181 at the Landesberg which was associated with a *hospitium* for the poor and sick and also with one for the pilgrims to their founder's grave.¹⁰⁵ Presumably the nuns took care of the patients as part of their monastic vocation.

Despite these known facts, it is very difficult to get inside a *hospitium*. . Because they were usually staffed by monastics and often affiliated with monasteries, Reike posited that the monastic rules must have applied to the lives of the *hospitium's* inmates, making it more like a monastery than a "hospital," in our sense of the word. But a few pieces of surviving information call this hypothesis into question. In 1155, Rainald von Daissel replaced the old *hospitium* near the cathedral in Hildesheim¹⁰⁶ with a new *hospitium*, the "Johannspital." Apparently, the old *hospitium* was associated with the cathedral and the ill were taken care of by the monks . With the approval of the bishops and canons, Rainald had a new hospital with a chapel built at the entrance of Hildesheim on the banks of the Innereste;¹⁰⁷ no longer associated with a monastery, it does not seem certain that the inmates would have followed a monastic rule.

¹⁰²Reike, op. cit., p. 60

¹⁰³Reike, op. cit., p. 227.

¹⁰⁴Reike, op., cit., p.20. and p. 242.

¹⁰⁵Marie Hensius. Der Parades Garten der Herrad von Landesberg. Alsatin: edition als Colberg, 1968.

¹⁰⁶Ernst Becker. "Die Geschichte der Medizin in Hildesheim warhend des Mittelalter," in Zeitschrift fur Klinische Medizin. 1899. 306-347.

¹⁰⁷Reicke, op. cit., p. 8.

What actually took place within the walls--whether medical care was provided, and if so, what kind, and who provided it--is not well-documented. In 1126, we hear of a *hospitium* "near the cathedral in Hildesheim" to which Wulfuld, the daughter of the Duke, granted a gift of swine, chicken, wheat, and honey. Wheat bread and chicken are traditional infirmary foods, and honey the traditional vehicle for medicines, but were considered unsuitable for monastics. This suggests that the *hospitium* did care for primarily sick people.

Little more is known about twelfth-century German hospitals. It seems likely, in view of their function as dwellings for the old and disabled, as well as for travellers, that they must have had medical as well as nursing functions. Most likely they provided food, clothing, shelter, nursing care and medical treatment, much as did their descendants the almshouses, but the kind of medical care practiced is unknown. If staffing and caretaking were provided by women, the traditional caregivers of the community, perhaps folk medicine was used in an informal way; if professional practitioners were called in for the sicker patients, as is documented for monastic infirmaries, a more Latin medicine would have been practiced.¹⁰⁸ It remains to be seen, however, in what way these two practices differed in twelfth-century Germany.

¹⁰⁸ In the Rule of the Camuldonensis, the care of the sick was by "a servant loving and caring," while a separate *medicus physicorum* "paid by wage, who is of good name in his craft, and in his character, and in surgery", was appointed to diagnose and treat patients."It is noteworthy that neither St. Benedict nor later monastic rules refer to physicians being a member of the regular monastery." Horn op. cit., p. 334. In southern France and Italy, there was a continuous Roman tradition of the municipal physician, employed by the city for a fixed price, who was hired to take care of the sick poor, see Shatzmiller, *Jews, Medicine, and Medieval Society*, p. 100. Municipal physicians have not been documented for twelfth-century Germany.

German Folk Medicine

To some extent, the distinction between "German Folk Medicine," and "Latin Medical Practice," is clearly specious, since one and the same person must have often practiced both; Latin-literate female practitioners like Hildegard would probably have known some of the domestic tradition as well as the formal textual Latin medicine. However, historians have handled the two contemporary traditions quite differently, accenting, in the case of the Latin tradition, its religious connection, and in the case of the German tradition, its empiric elements. Since both medicines need to be taken together as the context for Hildegard's practice, in this section we will examine what is known about twelfth-century German folk tradition. This will include practitioners who fall historiographically into the German tradition and also twelfth-century German medical texts.

Practitioners

Our first knowledge regarding German medical practitioners comes via Tacitus, because the language spoken by the original inhabitants of Germany was not a written language.¹⁰⁹ In his romantic account of heroic Germanic barbarians, Tacitus says that "it was to their mothers and lovers that they brought their wounds,"¹¹⁰ and, indeed, a tradition of female medical practitioners seems to have been Germanic custom. Of course, with a little reflection, it is obvious that the primary care of the majority of the population—children and women—would, except in unusual circumstances, have been in the hands of the vernacular-

¹⁰⁹R.I Page. *Runes*. Great Britain: University of California Press, 1987, p.6.

¹¹⁰quoted (in German—my translation) in M. Hofler, *op.cit.*, p. 457. Hofler believes that women were Germany's earliest healers.

speaking female population,¹¹¹ rather than in the hands of well-educated, bilingual, Latin-literate male practitioners.

The vernacular-speaking practitioners appear to have been a varied group. There were lay women, often noblewomen, who took a particular interest in medical practice and were referred to as "wise women"--like Elisabeth, the wife of Ludwig IV, who, in addition to funding a *hospitium* for poor women and children, also prepared medicines, bandaged wounds, and provided other kinds of nursing care.¹¹² "Hebammen" were midwives, women who not only took care of pregnancy, including labour, delivery and, sometimes the baptism of dead or dying infants, but also apparently practiced surgery, including the opening of abscesses, the removal of polyps, and other surgical procedures related to the female genitalia.¹¹³ Barbers, a category which included both men and women, were responsible not only for the *cutting* and shaving of hair, but also for other problems requiring expertise with knives, including tooth-aches, wound-care, and therapeutic bleeding,¹¹⁴ and "sometimes their practice extended into general internal illnesses."¹¹⁵ Bathhouse attendants¹¹⁶ also knew how to perform venipuncture, fix dislocations and take care of fractures (see ill.

¹¹¹Schipperges, *Garten*, p. 96.

¹¹²Schipperges, *Garten* p. 96.

¹¹³Schipperges, *Garten*, p. 97.

¹¹⁴Bullough, Vern. L. "Training of the Nonuniversity-Educated Medical Practitioners in the Later Middle Ages." *IHM* 14:446-58. Bullough emphasizes that it was the guild of the barbers, apprenticed at age 5-12, who did venesection, lanced boils, knew wound care, set fractures and dislocations, and put together the herbal ingredients for ointments and plasters, and that women were included in the guild. "There is little doubt that outside of a few large cities in France and England, most of the legitimate practitioners were barber-surgeons." p.456. Although he covers France and England in a later time frame, this is even more likely to have been the case in the smaller towns and villages of earlier Germany.

¹¹⁵Schipperges, *Garten*, p. 100-104.

¹¹⁶see the illustration depicting the medical practice of cupping, in a bathhouse. Despite the medieval reputation for uncleanness, public bathhouses were a fixture in most towns, much as they are in modern Japan, and were frequently used for such activities as eating, co-educational bathing, and even sexual encounters, see Leah L. Otis, *Prostitution in Medieval Society*, Chicago: University of Chicago Press, 1985, p. 98.

11).¹¹⁷Finally there were the "travelling folk," itinerant experts of specific practices, such as the "teeth-pullers," the "stone-breakers," and the "couchers of cataracts," who travelled from town to town selling their wares.¹¹⁸

German Folk Practice: The Texts

All of these practitioners were united by the fact that they were *illiteratus*, that is, unversed in Latin, and so had no access to the contemporary Latin medical literature; their knowledge seems to have been based on oral tradition, experience and the existing vernacular literature. Six twelfth-century German medical texts are known, but none of them has yet been edited and published in toto. However, major work has been done on them by Bernard Schnell on whose work most of the following comments are based.¹¹⁹

The German medical pieces are short and specialized, and very similar to contemporaneous Latin texts. For example, the "Zuricher Arzneibuch," a simple collection of 391 medical prescriptions, is similar to Latin herbaries, like the Pseudo-Macer Floridus, and an eleventh-century bilingual text which is uncharacteristically written as a scroll, rather than a codex, might originally have been hung on the wall of an infirmary or practitioner's office.¹²⁰ The "Bamberger Fragment" a two-page German text, is actually a translation of the Aphorisms of

¹¹⁷Schipperges, *Garten*, p. 104.

¹¹⁸Although Schipperges believes that such practitioners were not characteristic of the Middle Ages, (*Garten* p. 96) laws governing those specialists who couched cataracts or legislating against those who brought on abortion exist from as far back as the Merovingian period, see Annette Niederhellmann, *Arzt und Heilkund in den Fruhmittelalterliche leges*, Berlin: Walter de Gruyter, 1983, p 73, and p.136.

¹¹⁹see Bernhard Schnell, "Voruberlegungen zu einer Geschichte der Deutschen Medizinliterature des Middlealters am Beispeil des 12 Jahrhunderts." *Sudhoff's Archiv* 78(1) 90-97, and Bernhard Schnell, *Das Pruller Krauterbuch zum ersten Herbar in Deutscher Sprache* for a detailed review and analysis of the major known texts. Some of the texts were edited and printed by Friedrich Wilhelm, and published in his *Denkmaler deutscher Prosa des 11 und 12 Jahrhundert* 2 Bande Munchen, 1914-1918.

¹²⁰ see Pinto, L.B. "Folk Practice of Ob-Gyn in the Middle Ages." *Bulletin of the History of Medicine*, 1973. Sep-Oct: 47 (5) 512-513.



Fig. 57. Cupping in a Bath House

Fig. 59. A

Hippocrates, and the prognostic text, the "Capsula Eburnea" is a translation of the Hippocratic "Signs of Death." Although the German manuscripts are anonymous, Schnell believes that they were copied, and in some cases, composed, in monasteries, and that they also bear witness to the monastic medical tradition. However, since they were anonymous and written in the vernacular, it is perhaps more likely that they were compendiums of information for lay practitioners.¹²¹ In any case, as we have seen, lay people like Judah Levi were apparently able to borrow manuscripts from nearby monasteries, so that even if they were written in monasteries, it makes more sense that they provide evidence for the folk, rather than the Latin medical tradition.

Schnell's analysis of one of the two twelfth-century copies of the "Pruller Arzneibuch" is particularly interesting. The manuscript begins with the Latin texts of Honorius's Imago Mundi, De Luniaribus Coelestis, and Physiologus, which provides a general introduction to the medical texts. A curious collection of bilingual (German-Latin) texts follows, including a treatise on the number "7," a Greek alphabet, a medicinal lapidary, a medicinal herbary, one page of ophthalmological prescriptions and two Latin prescriptions written out in the form of circles. The manuscript ends with a copy of the reported visions of an anonymous "poor little woman."¹²²

Schnell suggests that the manuscript can best be understood as a summary of scientific knowledge. The Imago Mundi is based on the paradigm of the four

¹²¹It is true, of course, that written "encyclopediac" texts were particularly common in monasteries. For example, the now-disappeared manuscript of the female monastery at Landsberg, begun by the first Abbess, Relindis, continued by Herrad, and finally finished in 1202, was a 2000 page Latin manuscript which covered the various fields of medieval knowledge for the benefit of the female novices. Many male writers, like Rupert of Deutz, were also monks, writing encyclopediac texts for the benefit of their monastery. On the other hand, William of Conches, a lay writer, wrote exactly the same sort of thing as an education piece for his pupil, the future Henry II.

¹²²see Schnell, "Das Pruller, etc." p. 188. "paupercula muliebra." Since Hildegard calls herself also a "poor little female," (Newman, op. cit., p. 1) there may be a connection between these texts and her own.

elements and describes the earth, its climate and astronomy, the calendar and summarizes world history. The Physiologus follows with encyclopediac information on beasts and birds; the lapidary adds material on minerals, and the herbary on plants. Since only the herbary and lapidary are in German and have facing Latin translations, it seems likely that the original information was in German and translated into Latin by a copyist of otherwise Latin text.

A second mid-twelfth century text, the "Innsbrucker Arzneibuch," reveals the same general format. Again the manuscript begins with an encyclopediac survey of medieval knowledge based on the four elements, this time by Rupert of Deutz. Sandwiched between the text on ophthalmological prescriptions and the text on the number "7," is a treatise on the dietetic "rules of the month," and an "Arzneibuch," a short three-page text which is written in a mixture of Latin and German.¹²³ Diseases and treatments are covered in the traditional head-to-toe order, and the manuscript ends with a series of German gynecological prescriptions. Schnell suggest that this text was written by a woman.¹²⁴

The characteristic form of these manuscripts, which contain encyclopediac reviews of natural history based on an "elemental" understanding of the world, followed by specific treatments for well-known, easily-defined symptom complexes, imply that folk medicine had taken the Greco-Roman worldview as an explanation which could justify, explain and order its empirical medical knowledge. Such mutual interactions imply a much greater flow of information between academic and folk medicine than has previously been assumed.

Indeed, it is sometimes impossible to separate the Latin and German traditions. The Arzneibuch or Practica of Bartholomew which we have reviewed in the section on Latin practice can also be found translated into the vernacular.

¹²³see Gundolf Keil, 2 VL Bd R, 1983 sp 395f. The text is available in Wilhelm's Denkmaler.
¹²⁴Schnell, "Pruller Arneibuch," p. 194.

Scholars of the translations have disagreed as to whether such "translations" should be seen as variants on an inaccurate, debased edition of the Latin Practica of Bartholomew of Salerno, and therefore part of the Latin tradition,¹²⁵ or whether they should be seen as new vernacular texts written by a hypothesized (German) "monk physician"¹²⁶ who appropriated the prestigious title of Bartholomew's Practica for an essentially folk medicine. Such ambiguity makes clear that the lines between folk and academic, Latin and vernacular are difficult to draw.

The German Medical Tradition in Practice

Traditional German medicine employed "herbs, stones, and words"¹²⁷ for healing, and neglected the kind of surgical procedures which had been developed by the Roman culture.¹²⁸ Medicinal herbs were usually dried¹²⁹ and then boiled in order to extract the active principles, and mixed with honey, or *meth* to make them palatable.¹³⁰ Herbs used in the German tradition were not simply placebos; they included many pharmacologically active drugs such as "hanf," (hemp—*cannabis sativa*),¹³¹ and opium, solanum, hyoscyamus and mandragora, all of which are strong amnesics, hallucinogens, and anticholinergics.

¹²⁵see George Sarton, "Bartholomew of Salerno," in his History of Science.

¹²⁶see Volker Zimmerman, Rezeption und Role der Heilkunde in landesspractigen handschriftlihen Kompedium der Spattmittelalter, Steven Verlag, Stuttgart, 1986, p. 32. Although not available to me in an edited version there are reportedly great similarities between the vernacular and Latin Practica, including, again, a preliminary chapter which goes over the basics of medical practice, followed by the definitions and descriptions of diseases, organized head-to-toe, with recipes included.

¹²⁷Hofler, op. cit., p. 457.

¹²⁸Hofler, op. cit., p. 457.

¹²⁹"Our word drug comes from the Anglo-Saxon *driggen*, ,to dry" McLean, op. cit., p. 28.

¹³⁰Hofler, op. cit., p. 477. Possibly the root for *medicine* also supplies the ideas of *meth* and *mead*, fermented honey wine which was probably the original vehicle for herbal mixtures.

¹³¹Hofler, op. cit., p.467.

In addition to the "earth" therapy of herbs and stones, therapies involved "water," "air," and "fire." Natural mineral waters were prized for drinking and bathing. Massage with medicinally active ointments were used.¹³² Medicinal herbs might also be inhaled by heating stones and throwing water boiled with herbs on it in a closed place (see ill. 12).¹³³ Mountains were used for "sun cures."¹³⁴ In addition, limited therapeutic bleeding was used; and cauterization, moxibustion, and cupping were practiced, apparently very much as they are today in Chinese practice (see ill. 13, 14, and 15 for examples of cauterization points.)

The German Tradition in Practice: in the Home

The kind of medicine we have been looking at, a folk medicine organized according to "high" principles of academic tradition, but possessed of a rich store of empiric knowledge, was probably practiced in domestic surroundings in a relatively casual way. Like most folk medicine,¹³⁵ this traditional medicine used diagnostic categories like head pain, tooth pain, paralysis, epilepsy, podagra, and fevers, which could be made by almost anyone--a mother, a friend, or the patient himself. Fractures, dislocations, traumatic wounds, abscesses, and tumors were not seen as difficult diagnoses which required a professional diagnostician; rather it was treatment--which herbs and how to use them, and which techniques--cautery and bleeding, cupping, moxibustion, or surgical repair, which required specialized training and skill. One Talmudic story from the twelfth-century Rhineland gives us a glimpse of this domestic medicine in practice; in the story a Christian female practitioner has been summoned by a Jewish woman to her

¹³²Hofler, op. cit., p. 465.

¹³³see illustration ? for an idea of the technique.

¹³⁴Hofler, op. cit., p. 477.

¹³⁵see Richard Dorson, "Folk Medicine," in *Folklore and Folklife*, Chicago: University of Chicago Press, 1972, pp.192-215 for a good review of the basic theory and practice of folk medicine. For a comparison with modern folk medicine in Europe, see Mlle. Bouteiller, *Médecine Populaire d'Hier et Aujourd'hui*, Paris; Edits. G.P. Maisonneuve et la Rose, 1966.

home in order to examine her sick child.¹³⁶ This surprising glimpse into domestic practice shows us a medicine which crosses religious, linguistic, as well as class boundaries and suggests, again, that the historiographical distinctions, while useful, can also be misleading.

¹³⁶Joseph Shatzmiller. "Doctors and Medical Practice in Germany around the year 1200: the evidence of Sefer Hasidim." Journal of Jewish Studies 33(1982) p. 588.

Fig. 94B. Mixed Nude Bathing



VEH

Fig. 93. Inhaling Tranquillizing Fumes for Toothache



al Bath

Wir haben aus den in den Farben besonders gut erhaltenen Brennstellenbildern im Ms. Sloane 1975 zwei Seiten auf Tafel X abgebildet. Sie finden sich (vor einer dritten gleichen Inhalts) am Ende eines Codex, der mit den *Libri IV medicinae Ypocratis Platonis Apoliensis Urbis, de diversis herbis* beginnt – einem reich illustrierten Lehrbuch der pflanzlichen Arzneimittel (s. S. 53) – und am Schluß diesen kleinen Cauterienatlas bringt. Auf dem ersten Bild wird einem Discipulus, der den Mörser bedient, vom Magister aus dem Rezept eine Anweisung gegeben. Das zweite Bild zeigt zwei Ärzte, die einen gefesselten *Epilepticus* durch einen blutigen Eingriff behandeln (offenbar durch Schneiden und Brennen zugleich); der Meister der Miniatur hat seiner realistischen Phantasie freien Lauf gelassen. Die anderen Bilder sind als eine Art Kompendium aus einem viel reichhaltigeren Katalog zu verstehen, der in anderen zeitgenössischen Manuskripten oft allzu breit ausgewalzt erscheint. Überall sind die zu behandelnden Leiden namentlich in kleine Legendenfelder eingeschrieben: *ad dolorem capitis incenditur sic, ad reuma gingivarum sic, ad epar sic* etc. Auf dem rechten Blatt oben sind je 2 Vorder- und Rückansichten miteinander kombiniert: die jeweils darüber stehende Legende verrät die Zusammengehörigkeit. Die längst verballhornte Vorlage war nicht ohne bemerkenswerte didaktische Absicht konzipiert. Daß das eine Paar sich bei den Haaren faßt und bei dem anderen der rechte Partner den Hals verdreht, geht nicht auf das Konto dieses Miniaturmalers¹⁷.

Diese Brennstellenbilder nehmen eine Art Mittelstellung ein zwischen dem Typ der Aderlaß-, Tierkreis- und Wundenmänner einerseits und einer umfangreichen Gruppe von Szenenbildern aus der ärztlichen Praxis andererseits. Waren die einen auf ganz elementare Umrißformen fast abstrakter Natur beschränkt und damit der alexandrinischen Fünfbilderserie verwandt, so sind die anderen dem täglichen Leben durchaus naturalistisch abgenommen und – wenn überhaupt – erst später durch Generationen von Kopisten zu Formeln erstarrt. Es steht der Hypothese (SUDHOFF) nichts im Wege, auch hier spätantike Quellen zu suchen. Der Niketas-Codex (siehe Seite 15 ff.) weist den Weg dazu. Es haben sich eine stattliche Anzahl von derartigen medizinischen Codices erhalten, die reich illustriert sind und entweder die Anwendung von Drogen oder physikalisch-therapeutischen Maßnahmen als kleine Szenen abbilden oder chirurgische Operationen und Handreichungen darstellen. Oft geht die Verwässerung durch die Kopisten bis zur Verstümmelung, und nur der beigeordnete Text rettet noch das Verständnis, gelegentlich ist aber die Abbildung der Schlüssel zum total verdorbenen Text. Faksimile-Ausgaben sind bisher nicht gewagt worden. Wer sich eine Vorstellung vom Reichtum dieser medizinischen Graphik in mittelalterlichen Handschriften machen will, der findet bei SUDHOFF (1914–1917)¹⁸ einige Abbildungsreihen in Lichtdruck in extenso reproduziert.

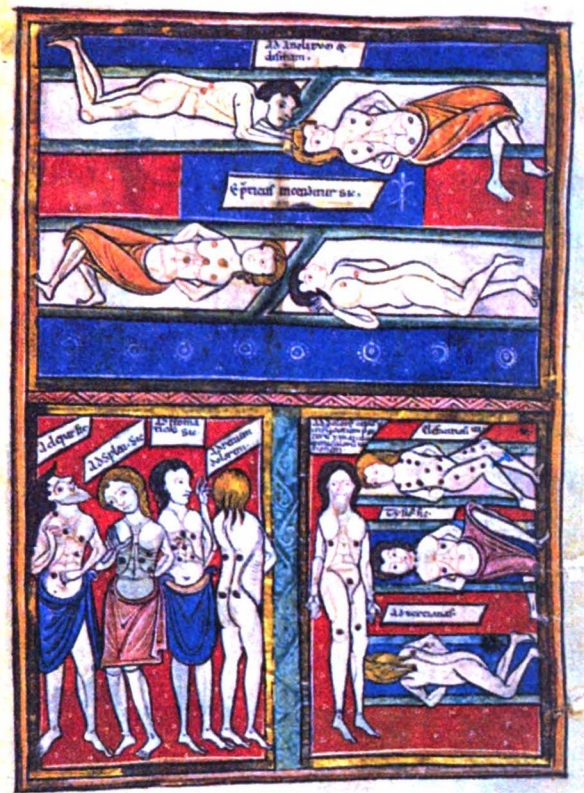


Abbildung 39 Miniatur aus dem Ms. Harley 1585 des British Museum (fol. 72 r, Originalgröße). Einfarbige Tuschezeichnung in einer Textkolumne.



¹⁷ Ebenso im Ms. Harley 1585 des British Museum. Es gilt heute in London als ebenfalls dem 3. Viertel des 12. Jahrhunderts zugehörig, im Maastal im Umkreis von Lüttich entstanden (SUDHOFF hätte demnach zu früh datiert). Dazu neuerdings TURNER D. H.: *Romanesque Illuminated Manuscripts in the British Museum*. London 1966.

¹⁸ SUDHOFF (Anm. 1), Stud. 10 (1914); SUDHOFF in [Sudh.] Arch. Gesch. Med. 8 (19): 378 ff. und 10 (1917): 71 ff.

le ha p ufo del unere de
feno de m m. cro. ca. lrv.



asciculo di

asciculo di

Dyocles medicus.

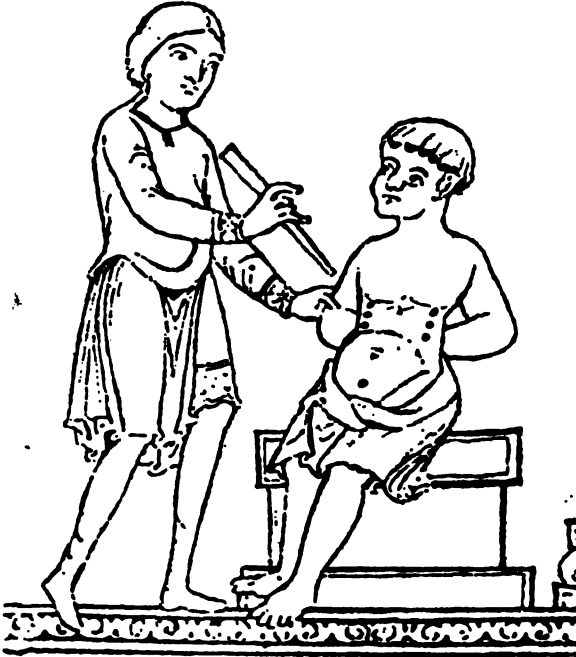


Abbildung 38 Brennstellenminiatur aus dem Cod. lat. 13002 der Bayer. Staatsbibliothek in München (Prüfeninger Codex von 1158). »Diocles medicus« lehrt: »Ydropicus incenditur sic«, und zwar je dreimal seitlich [am Brustkorb] und einmal unterhalb des Nabels (»et unam sub umbilico«).

Ornam
Herkur
bische
Proble
Den »M
figuren
Merksc
bildung
CAELIU
in der Z
fluß in
Miniatur
schen R
»Antike
im Rahm
bilder n
Die Ind
Medicu
überwie
logie be
dahinter
domina
säfte un
»krankel
Antike
wesen s
wieder

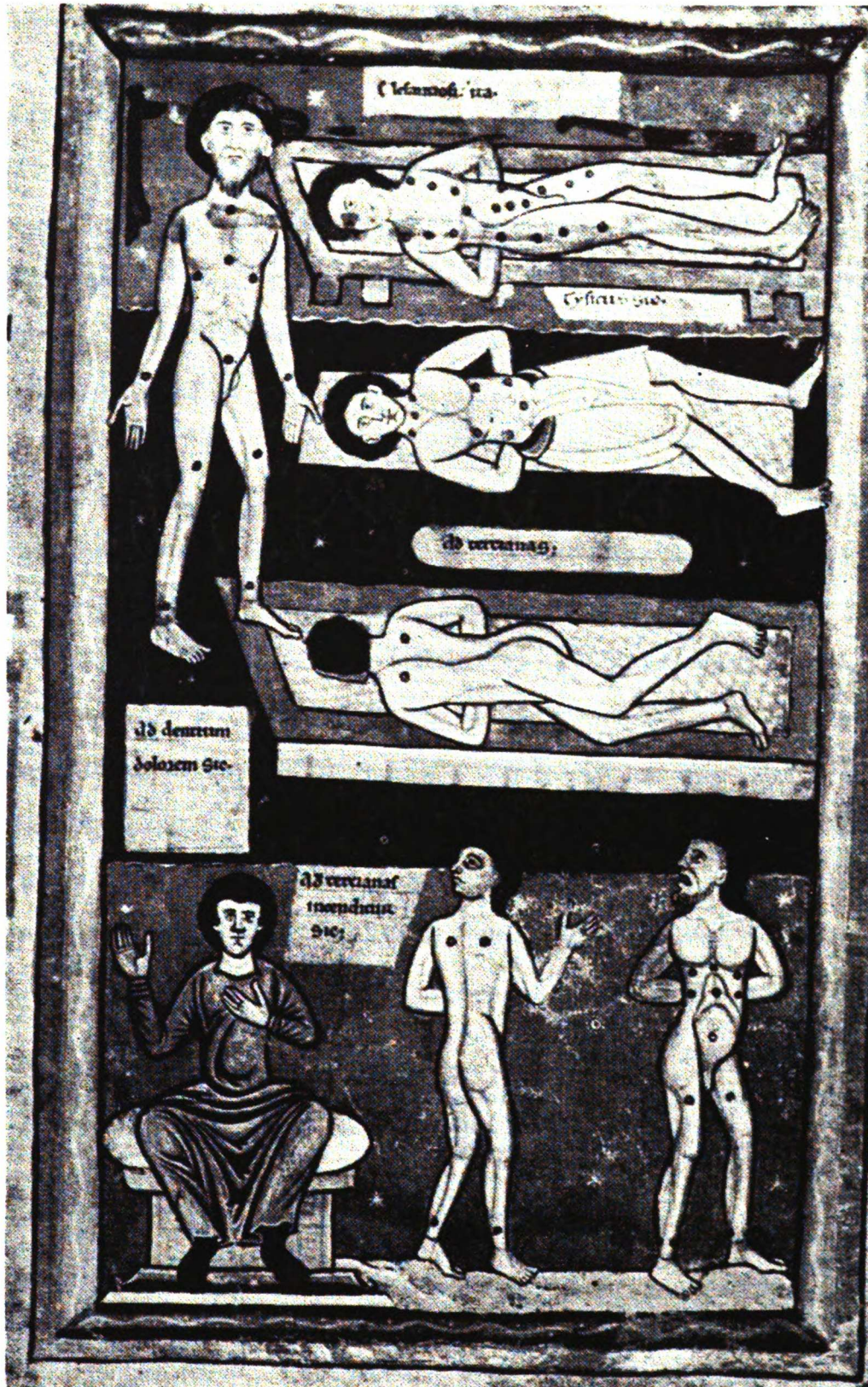


Fig. 43. Cautery Points shown on Human Figures

Jewish Medical Practice

The Hebrew literature can help us to fill in our picture of medical practice in twelfth-century Germany, although it has rarely been used to do so.¹³⁷ As we have already seen, there was probably a lot more interaction between Jewish medical practitioners and non-Jewish practitioners during the twelfth-century than there was for a long time afterwards, since formal methods of separation between Christian and Jew in dress and law only began to develop during the twelfth-century.

Jewish Practitioners

Medicine seems to have been a family craft in Rhenish Jewish culture as it was in other areas of Europe,¹³⁸ for there is a twelfth-century Rhenish Talmudic story which pivots on the refusal of a son to follow his father's craft and learn the art of medicine.¹³⁹ Both sons and daughters were taught medicine, usually by their parents,¹⁴⁰ or by other members of their families,¹⁴¹ although Jewish families sometimes hired physicians to instruct their children as a group.¹⁴² In addition to this formal training, there were doubtless less formal occasions for the learning and practice of medicine. Informally, Jewish women, like Christian women, took care of their family's illnesses as much as possible: "women would

¹³⁷Both George Sarton in his *History of Science*, and Lynn Thorndyke in his *History of Magic and Experimental Science*, do include Jewish practitioners as part of their surveys, but most history of medicine surveys are concerned with establishing a historical move from "monastic medicine" to "scholastic medicine," engendered by the new translations, and so do not incorporate Jewish medical practice into their history.

¹³⁸Shatzmiller, *Jews, Medicine and Medieval Society*, p. 23

¹³⁹Shatzmiller, "Doctors and Medical Practice in Germany", p. 157.

¹⁴⁰Many Jewish women ophthalmologists are documented in later medieval Germany-- ophthalmology seems to have been their speciality, although no professional Jewish women practitioners have yet been documented in the twelfth-century Rhineland. Shatzmiller, *Jews, Medicine and Medieval Society*, p. 111. In the South of France, a complicated legal case involved a Jewish woman physician, Hava, and her son, who had been taught the craft of medicine by her. Shatzmiller, *Jews, Medicine and Medieval Society*, p. 112.

¹⁴¹Shatzmiller, *ibid.* p. 23

¹⁴²Shatzmiller, *ibid.* p. 25

take herbs to boil for their children when sick..."¹⁴³Although medicine was never thought of as a full-time activity and salaries were considered unethical in the Talmudic literature, Jewish practitioners did expect to be paid for their consultations.¹⁴⁴

Jewish medical practitioners are known by name in the twelfth-century Rhineland. "When the Archbishop Bruno of Trier was afflicted with podagra in 1110, he sent for the best medical practitioners in the Rhineland, and among them was a Jew named Joshua, who was most knowledgeable in the art of physic and very learned in Judaism."¹⁴⁵After numerous conversations with the Archbishop, Joshua found himself convinced of the truth of Christianity and converted, taking the name Bruno. In the early twelfth-century, then, as opposed to the ambivalent relationships between Jewish doctors and the Church destined for the future, the Archbishop had a cordial, respectful relationship with his Jewish practitioner. Jewish practitioners were judged by the same criteria as were Christian practitioners--their fund of medical knowledge, medical experience, and religious depth. As a Jew, Joshua apparently felt comfortable enough in listening to the Archbishop to debate with him frankly and eventually be convinced to convert.

Five other Jewish practitioners are known by name from the twelfth-century Rhineland. The Jewish copyist of the Sefer Asaph added a note to the end of his manuscript, listing the medical practitioners whom he had consulted with for information; these included the five Jewish practitioners, Joseph, Bonfil,

¹⁴³Shatzmiller, "Doctors and Medicine in Germany," p. 582

¹⁴⁴Shatzmiller *ibid.*, p. 587.

¹⁴⁵see Albert Dresdner, Ludwig Lewinson, and Julius Aronius, Regestum zur Geschichte der Juden, Hildesheim: Olmi verlag, reprinted, 1970. p. 102 entry 220, my translation. The Latin is particularly interesting-- "...physicae artis eruditissimum, compositam peroptimum..."that is, "highly educated in the art of physic, and highly experienced in the art of making medicines..." We do not know if Bruno was cured of his gout, but it ended with the conversion of Joshua, and the taking of the Christian name of Bruno--which is how the story came to be recorded.

Moshe, Shmuel, and Sadiya as well as two Christian practitioners, Rudolf, the Christian of Worms, and Berthold, the priest of Neuhause.¹⁴⁶Not only does this list document a remarkably large number of medical practitioners in the relatively small area of the Rhineland, but it also demonstrates the existence of an informal network of Jewish and Christian practitioners, who consulted with one another and shared medical information.

Hebrew Texts

In addition to oral family tradition and personal experience, the Jewish practitioner, like his Latin-literate and German-literate counterparts, relied on books for his medical knowledge,¹⁴⁷and an example of a book which was available in the twelfth-century Rhineland is known. The Sefer Asaph, the Book of Asaph the Physician, was a medical textbook originally written in Hebrew in the ninth-century, but still popular in twelfth-century Germany,¹⁴⁸ since it was mentioned both by Rashi and by Eliezer ben Nathan of Mainz.¹⁴⁹A well-worn mid-twelfth-century Rhenish copy exists, as Bodleian 2138.¹⁵⁰

Although the book has not been translated into English, two summaries of its contents exist. Like contemporary medical books in Latin and German, the Sefer begins with a review of basic science based on the paradigm of the four elements. This is followed by a chapter devoted to the specific medicinal effects

¹⁴⁶Shatzmiller, "Sefer Asaph," p. 153-154.

¹⁴⁷That books on medicine were not simply academic monastic exercises in copying but must have been often referred to by practitioners is confirmed by the fact that many of the known twelfth-century Latin medical manuscripts are pocket-sized and well-worn.

¹⁴⁸For material on Asaph and his book, see Isidore Simon, Asaph Ha-Jehudi. Médecin et astrologue du Moyen Age. Lipschutz: Paris, 1937, who provides a sketchy summary for the book, which has not yet been translated from its original Hebrew. See also L. Venetianer, Asaf Iudaeus, Strasbourg: Trubner, 1916.

¹⁴⁹see Simon, *ibid.* p. 35.

¹⁵⁰J. Shatzmiller. "Doctors and medical practice in Germany around the year 1200: the evidence of the Sefer Asaph." Proceeding of the American Academy for Jewish Research, 50 (1983)149-164.

of water--rain water, sea water, fresh water and mineral sources¹⁵¹--of metals, and of plants. The following chapter is devoted to general dietary recommendations organized according to the months in which diseases are thought likely to occur, since humoral excess and deficiency depends on the weather.¹⁵² Then comes a section which describes the medicinal uses of trees--the walnut, almond, and hazelnut among others--and of herbs such as opium and belladonna.¹⁵³ The final section, an addition to the standard text by the copyist of 150 prescriptions, contains recipes using mostly herbs identified by their German names. This implies that Jewish practitioners had experience with indigenous German plants, either through hearsay, study, or their own experimentation; and that new discoveries could be easily absorbed by the humoral theory.

Jewish Medicine in Practice

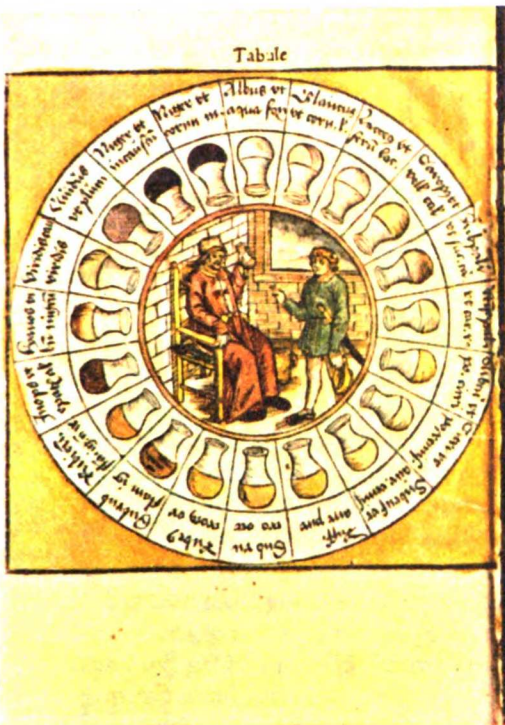
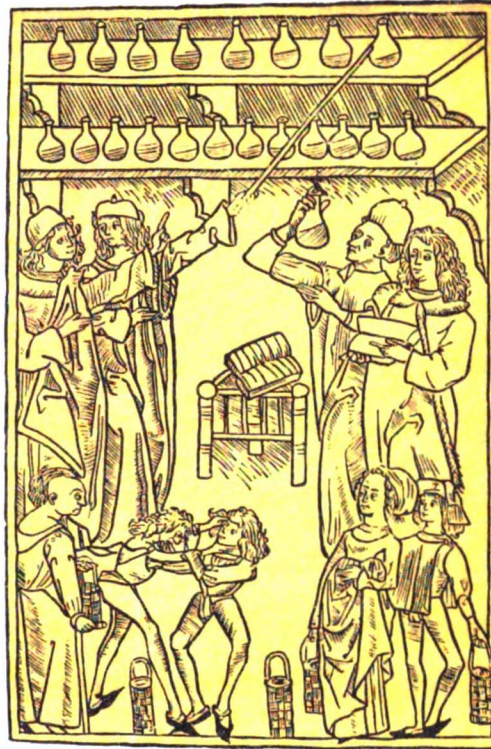
That this textual medical tradition reflects actual practice is shown by Shatzmiller's analysis of the medical implications in the two thousand homiletic stories compiled in the twelfth-century by Yehuda the Hasid of Regensburg.¹⁵⁴ In the twelve stories which concern medicine, the knowledge contained in the medical texts is found in action. Jewish practitioners observe the patient, do uroscopies (see ill. 10) and take pulses to reach their diagnosis; prescriptions are

¹⁵¹Venetianer's summary of Asaph's ideas on waters is uncannily similar to that of Hildegard in the *Causae et Curae*. For example--before the Fall all waters were clear and sweet but now only water from the Holyland is (p. 78); waters which flow into the Mediterranean are dirty, containing worms which cause illness (p.79); rainwater is the best water. Water which flows from east to west is bad, while that which flows from west to east is better. (p.79)

¹⁵²For example: "if the patient looks pale, and the mouth both tastes salty and at the same time the patient longs for salt, the origin of the disease is a phlegmatic condition." Venetianer, op. cit., p. 93

¹⁵³For example, the physician recommends a solution of *Solanum nigrum* root for insomnia, and a decoction of opium in wine for headaches and stomach pain.

¹⁵⁴J. Shatzmiller. "Doctors and medical practice in Germany around the year 1200: the evidence of the *Sefer Hasidim*." p. 583-593.



vinarum	fo.	II
Albus color vt aqua lotus.		Subrubicundus color vt crocus orientalis.
Glaucus color vt cornu lucidum.		Rubeus vt crocus orientalis.
Laceus color vt serum lacus.		Subrubicundus vt flama ignis remilla.
Caropos color: vt vellus camelis.		Rubicundus vt flama ignis remilla.
Subpallidus color vt luccus carnis semioctus non remilla.		Inops color vt capus animalis.
Remilus pallidus vt succus carnis semioctus remilla.		Kyamos color: vt vinum benenigrum.
Subcitrinus vt pomi suburni non remillus.		Vindis color vt caulis vusidis.
Citrinus color vt pomi citrini remilla.		Lindus color vt plumbum.
Subruffus color vt aurum remillum.		Niger vt incanstum.
Ruffus vt aeru paru intantum.		Niger vt cornu bene nigrum.

Tafel IX Oben links: Urintafel vom Kolummentypus, darüber THEOPHILOS PROTOSPETHARIOS, der Verfasser des Traktats Peri urôn (7. Jahrhundert nach Christus). Bologna, Biblioteca Universitaria Ms. 3632. Oben rechts: Harnschauende Ärzte. Aus Hortus sanitatis, Mainz (Meydenbach) 1491. Unten: UDALRICUS BINDER, Epiphaniae medicorum. Speculum videndi urinas hominum. 1506. Handkoloriertes Exemplar in der Biblioteca de la Facultad de Medicina de Madrid.

compounded and dispensed by the practitioner as recommended in the texts, and even surgery is performed.¹⁵⁵ Medicinal ointments, syrups, electuaries and bandages are employed in the way that the texts describe; the medical equipment necessary for medieval practice, such as flasks for examining urine and bowls for examining blood, knives, forceps, and the equipment necessary for cauterization also appears in the stories.¹⁵⁶

Medicine was practiced as a craft both by Jewish men and women, and generally in the home--either that of the practitioner, or that of the patient.¹⁵⁷ How the Jewish poor, aged and chronically ill were taken care of is somewhat of a mystery; no Jewish *hospitia* are known in the Jewish communities of the Rhineland during the twelfth-century. It may be that, like later Jewish communities, those of the twelfth-century used a self-imposed community tax in order to provide care for the poor and disabled in their small but prosperous communities.

¹⁵⁵This particular story concerns a Hasidic tale in which a practitioner actually repairs a traumatic evisceration--with what kind of anesthesia is uncertain; the patient is not portrayed as being in particular distress.

¹⁵⁶see Shatzmiller, *Jews, Medicine and Medieval Society*, p. 101-103. Although this information is not obtained from twelfth-century German sources, given the long-held tradition of humoral medicine, and the long continuity we have already seen in the ongoing popularity in Germany of an eighth-century Babylonian medical text, it is plausible that these stable practices also characterized twelfth-century German Jewish practice, although much of Shatzmiller's other information is much more specific to the later Middle Ages in the South of France--for example, the medical training, number of practitioners, and their status--and should probably not be applied to an earlier Germany.

¹⁵⁷Paintings which portray practitioners usually show them against a background of a home office--for example, a fourteenth-century miniature described by Shatzmiller shows a practitioner in his home office while patients wait in line holding their own urine flasks. p. 102. Illuminations of specifically Jewish practitioners from the twelfth-century Rhineland are not available.

Hildegard's Medicine

In order to show how Hildegard's medicine fits into the context of the twelfth-century Rhineland, the facts about her practice will first be reviewed: these include evidence about her patients and the evidence provided by her medical text, the Causae et Curae. These facts will be placed in the previously established context of Latin, German, and Jewish medicine, and will be shown to both reflect and contribute to our knowledge of medieval medical practice in general.

THE PRACTICE

Direct evidence for Hildegard's actual practice of medicine--her patients, the diseases which she treated and the treatments which she used--can be found in several contemporary documents, including the biographies of Godfrey and Theodoric, and Guibert of Gembloux; Hildegard's own letters; and the Acts of the Inquisition of 1232.¹⁵⁸ Nothing so far has come to light regarding her work before the move to Rupertsberg, which is unfortunate, since it was probably more reflective of contemporary medicine than are the miraculous healings we hear about from Theodoric and her nuns. Since both the biographies and the "Acta" were primarily concerned with proving Hildegard's sainthood, for which miraculous healing has always been a part, they accent the miraculous and avoid the natural in describing her medical activities, thus limiting their usefulness for our purposes. Nevertheless, their information is useful in providing an idea of

¹⁵⁸see the "Acta Inquisitionis," in PL 197, cols. 131-139 for an edited version of these accounts; and Petrus Bruder, Analecta Bollandiana, 2, 1993 118-129 for a fuller version.

the extent of her reputation, of the kinds of diseases which she saw, and of her use of the more psychological techniques mentioned in the Causae et Curae.

In his book on Hildegard, written shortly after her death, Theodoric asserts that "practically no one who came to her ill did not recover their health."¹⁵⁹ His examples of her ability to heal include what we now think of as psychological diseases like that of a lovesick young woman from Trier, whom Hildegard cured with bread wetted by her tears, and those of two other young women brought by their parents to the monastery because they were "insane," who were both cured by wearing girdles made of Hildegard's own hair. Theodoric's examples also include, however, what we now think of as physical diseases like that of a man with a throat so painful he could hardly breathe, and that of a woman from Bingen who could not speak for three days; a young woman with "tertian fever," a woman servant of the monastery with a neck tumor, a man with edema, a young man with weakness and a newborn infant who would not eat.¹⁶⁰ Finally, there are a number of examples of Hildegard's healing of specifically "women's diseases" like the vaginal bleeding of Sybil of Lausanne and the prolonged labour of many women in Bingen.

The treatments mentioned by Theodoric are remarkable for the absence of any of the traditional herbal recipes discussed by Hildegard in the Causae et Curae. On the contrary, the miraculousness of Hildegard's healing is highlighted by the lack of therapeutically active substances. Hildegard heals with a simple prayer, a touch, holy water, or, in very serious cases, a lock of her hair. Nevertheless, it is notable that all the diseases mentioned by Theodoric are discussed in the Causae et Curae and there, prescriptions containing active substances are recommended.

¹⁵⁹"Nullus fere aegrotus ad eam accesserit, quin continuo sanitatem receperit." Theodoric, PL 197, col. 117.

¹⁶⁰Theodoric, PL 197, cols. 117-122.

More data regarding the kinds of diseases which Hildegard saw are contained in the eye-witness accounts of the Acta Inquisitionis, a document created in 1232 by the commission sent to Rupertsberg to interview Hildegard's nuns regarding her canonization. Informants were identified by name, sworn to the truth and then asked to recount the details of Hildegard's "miracles," many of which concern healing.

"Elissa, the magistra of Rupertsberg, swore that she herself had seen Mathilda of the town of Laubenheim freed from a 'demonic obsession'. In the same way she saw the noblewomen, Reuwisem and Seguwize, who both afterwards entered the monastery, freed from 'demons' in the presence of Hildegard. Many epileptics were cured by Hildegard also. Odilia, the cellarer, said that she had known Hildegard for six years, and that a woman afflicted with a tertian fever came to the monastery for help; Hildegard gave her water from her own drinking cup and she was cured.¹⁶¹...Melchidis said that she had heard from her mother that she had been born blind, and that her mother had taken her to Eibingen to ask Hildegard for help, who took water from the Rhine and washed her eyes, and her vision was restored.¹⁶² Another nun had heard that Hildegard had cured a young woman from lovesickness by giving bread from her own plate to the girl's parents, who had come to her for help; the girl ate it, and was cured.¹⁶³

"Agnes the prioress, who was Elissa's sister, also swore. Also Beatrice, the custodissa, said that one day in her presence Hildegard told the two servants who took care of the refectory, Ricardis and Gertrudis, that they should be very

¹⁶¹Acta Inquisitionis, cols. 131-133. My translation and summary.

¹⁶²In the Causae et Curae, Hildegard gives the following prescription for "weak eyes": "The patient should wash his eyes in river water in order to refresh their dry humours, and he will be cured." p. 170.

¹⁶³Acta Inquisitionis, col. 124.

careful and make penance during the following two weeks, and indeed at the end of two weeks they both died.

"Hedewigis the conversa swore that she had seen the the blind baby healed of its blindness, and that she had been sitting with Hildegard when Hildegard took the bread from her plate and gave it to the parents of the girl who had apparently been bewitched by a young man. Mathilda had seen many epileptics, many possessed by demons, and many with intractable fevers cured by Hildegard. Furthermore, three citizens from Bingen, namely Rapodo, Hilde, and Humbertus, swore that they had often seen Hildegard curing epileptics, and ejecting 'demons.'"

It can be concluded that as abbess of Rupertsberg, Hildegard was renowned as a healer and that she was often presented with the most difficult diseases of the period, like epilepsy, mental illness, and intractable fevers. But in addition, she was equally often presented with more routine medical problems: sick children, acutely-ill adults, women in prolonged labour, women with vaginal bleeding, infertility, and amenorrhea--on the whole, a practice not untypical for a woman practitioner to this day.

THE TEXT

History of the Manuscript

From the beginning of the discovery of Causae et Curae by Carl Jessen in 1859, doubt has been thrown on its authenticity; in particular, on whether the anonymous, unique thirteenth-century manuscript entitled Causae et Curae is indeed the text of Hildegard's "Liber compositae medicinae." Nationalist considerations as well as the surprising content of the text have contributed to an

atmosphere of attack and defense by various historians concerned with proving, or refuting Hildegard's authorship.

What is known about the text is the following.¹⁶⁴ In the preface to the Liber vitae meritorum, finished in 1158, Hildegard lists her works, which include the Subtilitates diversarum naturarum creaturarum, later mentioned with the same title by her biographers. The manuscript apparently stayed at Rupertsberg and was mentioned again in 1292, when "Mathew of Westminster" in his Chronicles, mentions a medical text by Hildegard which he calls the Liber compositae medicinae aegritudinem causis signis atque curiis. Since the title differs from the original, it has been thought that the primary text had been edited into two separate texts, the medical portion being called Causae et Curae and the "natural science" portion, the Liber simplicis medicinae, also called the Physica. In 1487, Trithemius, visiting the library at Rupertsberg in order to obtain copies of all of Hildegard's text, identified a medical book whose first line is identical to the first line of the only extant manuscript of Causae et Curae.

In 1859, Carl Jessen rediscovered the manuscript in the Royal Library of Copenhagen as Ny kgl. Saml. No. 90b. It had been hidden in the monastery of St. Maxim of Treves until the beginning of the nineteenth-century, when it was transported to Frankfurt in the papers of George Kloss and then on to Copenhagen.¹⁶⁵ Despite an extensive scholarly search for additional manuscripts, which incidentally turned up five additional manuscripts of the Physica, only one other fragment has so far been located. An edited and

¹⁶⁴For the main account about the manuscript's history, see Marianna Schrader and Adelgundis Fuhrkotter, Die Echtheit des Schrifttums der Heiligen Hildegard von Bingen. Koln, Bohler-Verlags, 1956. pp. 54-59.. Schrader and Fuhrkotter hypothesize that Hildegard might have written different versions over the years, which could explain the survival of manuscripts carrying titles which differ from the original draft of 1158. The first line: "Deus ante creationem mundi absque intio fuit et est..."

¹⁶⁵For this information on the manuscript's history, see Paul Kaiser, "Praefatio," Hildegardis Causae et Curae, Leipzig: Taubner, 1903, pp. iii-iv.

published version was produced by Paul Kaiser in 1903 and is still the only available complete version; despite growing interest in the text, there has not yet been a new edition of the original manuscript, and the only English versions are translations from the German translations.¹⁶⁶

The manuscript consists of ninety-three elegantly written folia in a thirteenth-century hand, with added rubrics as section headings, and large, illuminated majuscules heading its five books. The published edition retains the original division into five books of unequal lengths, accompanied throughout by the section headings, which are thought to have been added by the scribe; the editor's revisions reportedly comprise only the modernization of spelling and punctuation.¹⁶⁷

Summary of the Text

The language of the text is the same simple, straightforward Latin found in Hildegard's theological works, and most her vocabulary comes directly from the Vulgate Bible. As in Hildegard's other works, complex thought is communicated by the frequent use of unusual visual metaphors which are reminiscent of the visual language of the Old Testament, rather than by the precise classical syntax which was generally favored by more academic contemporaries. Because she never refers to her sources, they can only be inferred from the text.

Causae et Curae covers almost all of what a medical practitioner of the twelfth-century would have needed to know in order to practice medicine. Book One, which is organized according to the elements of fire, air, water, and earth, reviews medieval "basic science." The powers of fire in the form of the sun, the

¹⁶⁶Hildegard of Bingen's Medicine by Strehlow and Herzka describes an alternative medical practice only loosely related to Hildegard's Causae et Curae.

¹⁶⁷see Kaiser, "Praefatio," pp. iii-iv.

moon, and the stars are described first, then the powers of the air in the form of winds and climate, the powers of water, as rivers, oceans, and mineral sources, and lastly, the powers of the earth, in a final section on plants and trees.

Book Two covers the "sublunary" world, that is, the world of change, of life and death, health and disease, which is affected by the six "non-naturals"—sex and emotion, food and exercise, sleep and climate. After an extensive discussion of conception, generation, pregnancy and labour, Hildegard goes over the humours and the general diseases of humoral imbalance (insanity, dementia, paralysis, gout, leprosy, and fevers) describing how the six non-naturals should be used for treatment. A long, practical section ends the chapter which describes in detail the techniques of bleeding, cupping, and moxibustion. Hildegard's recommendations regarding such techniques are particularly clear, bearing the marks of experience. For example, when bleeding is used for the purpose of conserving general health, the veins of the arms are best, because these veins give off other veins like large rivers which give off many tributaries.¹⁶⁸ Men should be bled between the ages of twelve and seventy; from a strong man take "the amount that can be swallowed by a thirsty man in one gulp,"¹⁶⁹ from a weak man, take only "the amount that an egg of moderate size" can hold.¹⁷⁰ On the other hand, women can be bled until they are one hundred years old, since they contain more of the bad humours than men. Just as the moon causes tides in the waxing and waning of tree sap, requiring pruning to be done only when the moon is waning, so it also causes a kind of waxing and waning of the blood, and bleeding also should be done only when the moon is waning. When illnesses affect specific parts of the body, blood should be let from the part of the body which is diseased. Such blood can be used for diagnosis. "If the blood comes out

¹⁶⁸see pp. 119-124. My summary and translation.

¹⁶⁹"...quam fortis et sitiens vir uno tractu halitus in aqua bibere potest," p. 119 line 18.

¹⁷⁰"quae ovum rectae moderationis includere potest." p. 119, lines 23-24.

turbid like a man's breath, and if there are black spots in it, and if around it there is a waxy layer, then the patient will die, unless God restore him to life."¹⁷¹ After being bled, the patient should rest for three days, eating meat and drinking undiluted wine.

Hildegard gives very similar and quite specific instructions for bleeding farm animals. Since horses, cows, and asses contain less humours than humans, they should be bled less often and rested afterwards for as long as two weeks. She also includes a short section on pruning.

Cupping, which achieves similar but less drastic effects than bleeding, is better for the young than the old, and more appropriate in summer than in winter. It can be performed twice a month for the fat, but only once a month for the thin. "Cocturis" (medieval moxibustion) is useful for the old in summer and the young in winter. Iron, sulfur, and incense¹⁷² should never be used for moxibustion, but rather "isca"¹⁷³ or a knot of linen.

Book Three, organized in the traditional head-to-toe fashion, covers specific diseases, particularly the common, every-day ills like hiccoughs, indigestion, toothache, and infertility. A typical entry begins with the name of the illness, followed by a short explanation of its etiology, and then a prescription for treatment. For example, consider the section on baldness:

"When a man begins to lose his hair, mix together bear fat and a little wheat or rye flour, and apply it especially to the areas of maximal hair loss. Do not let the patient wash his head for quite a while. The hair which has not yet fallen out will be strengthened and humidified by this treatment, and will not fall out for a long time."¹⁷⁴

¹⁷¹ "Homo autem, cuius sanguis de vena emissus turbidum colorem [habet] ut halitus hominis est, et qui inter colorem illum nigras maculas habet et in circuitu suo, id est in ambitu, quasi cerosus est, cito morietur, nisi deus restituat eum ad vitam." p. 124, lines 20-24.

¹⁷² pp. 129-130.

¹⁷³ *Euphorbia apios* .

¹⁷⁴ p. 165, lines 25-33, my translation. Some historians have suggested that the use of such things as bear grease for baldness is an example of medieval medicine's use of "primitive sympathetic

It is noteworthy that Hildegard assumes that her readers would know how to make a poultice, liniment, or syrup and that they would know what she meant by "epilepsy," "leprosy," or "indigestion." Although she uses humoral theory to explain her choice of medicines, it seems that their actual use was dictated as much by empiric observation, since a comparison of her recommendations with those in the anonymous, non-humourally-based recipe books show a great deal of concordance.¹⁷⁵

Book Four contains additional recipes for treating a variety of medieval ills, including colds, hemorrhoids, hang-overs, chronic skin disease, amenorrhea, worms, and kidney stones, as well more ideas for those difficult-to-treat medieval diseases of leprosy, epilepsy, fevers, and gout. Again, the diseases are common and well-known, the advice, practical. It is noteworthy that the recipes use easily available domestic and local ingredients, such as beer, wine, oil, and that herbs are frequently identified by their German, not their Latin names.

Several pages are devoted to the treatment of farm animals, including the horse, ass, pig, goat, and sheep, who are examined, diagnosed and treated just like humans. For example, "headaches in mules" should be treated by the classic measure of fumigation.¹⁷⁶ These observations suggest that this chapter is closely related to and perhaps derived from the approach of the popular but anonymous vernacular recipe books which typically give unambiguous instructions on the

magic"; bear grease would be used for baldness because the bear is hairy. see for example, Flanagan, op. cit., p. 103. However, it must be pointed out that since there has never been a therapeutic trial which demonstrated that bear grease was ineffective, this explanation may demonstrate more about the psychology of modern historiographers than it does about Hildegard's. The scientific materialists among us might want to measure the testosterone content of bear grease, for instance, before rejecting the prescription on purely rational grounds.

¹⁷⁵see Hermann Fischer, *Die Heiligen Hildegard von Bingen*. Munich: Verlag der munchener Drucke, 1927, for a comparison between Hildegard and the vernacular recipe books.

¹⁷⁶"Si asinus in capite dolet..." p. 218, lines 13-18.

preparation of medicines, on veterinary lore, and on gynecologic and urologic concerns.¹⁷⁷

Book Five goes over methods of prognosis and diagnosis, which include observation of the patient, pulses, and uroscopy. A version of the classic Hippocratic "Signs of Death" is not included, although his Prognostics was widely available and variations of them are typically found in vernacular texts; perhaps her audience was expected to be familiar with such an elementary text. It is striking that Hildegard emphasizes an abrupt transition from life to death dependent on the departure of the animating, fiery principle of life, while the Hippocratic metaphor is typically a continuous slow loss of vital force.

Diagnosis is accomplished through observation of the patient, the taking of the pulse, uroscopy, and on occasion, observation of the blood and stool. It is a bad sign when a patient who is usually pale becomes flushed or when a patient who is usually plethoric looks pale. When someone with a normally gentle voice begins to speak raucously or when someone whose voice is usually loud begins to whisper, it is an ominous sign, suggesting that the life principle (the "anima") is about to depart.¹⁷⁸ It is a particularly bad sign when a patient's face swells "like

¹⁷⁷ see Tony Hunt, Popular Medicine in Thirteenth-Century England Cambridge: Cambridge University Press, 1991 for access to anonymous recipe books in English, Latin, and Anglo-Norman.

¹⁷⁸In general, Hildegard sees change, especially reversal of the usual, as a bad sign. "If someone who when well is foolish and silly, because his soul does not normally fully expand the wings of reason, during an illness, manifests intelligence and intellect, this is a sign that he will die--that the soul prepares itself for understanding and for the ways of a different life. But if afterwards the patient suddenly recovers his natural silliness, then he will not die, because the soul has returned to its accustomed situation..." ("Qui vero cum sanus esset, semper insipiens et imprudens fuit, quod anima in ea pennas rationalitatis ad plenum non expandit, et infirmus intelligibilis fit: anima ad intellectum et ad vias alterius vitae se praeparat; sed si deinde in ipsa infirmitate ad priorem insipientiam repente redierit et in illa sic permanserit, mortem vix evadet, quoniam anima ad consuetum locum et ad consuetum statum, quem prius in eodem corpore habuit, se iterum recipit...") p. 223, lines 12-18, my translation. This passage also indicates how Hildegard regarded the "anima"--the animating quality of the body-- not in a traditional sense, as a fixed quantity of heat and wetness which gradually diminishes and disappears as bodies age; but as a thing which enters the body at birth and leaves it at death, undiminished and unchanged by its bodily experience.

the face of someone who has just woken up," because this means that all of the humors are about to leave at once.

As with the material on bleeding, the material on uroscopy seems to be aimed at practitioners with some experience. The urine provides the practitioner with a picture of the humours and it should be collected first thing in the morning, so that it is undisturbed by the emotional storms of the day. The urine reveals the state of the body the way rivers reflect the weather:

"And it should be noted that a river's waters change according to the winds and weather...and similarly the urine. A dangerous illness is just like a great wind, and shows itself like a tempest in the urine. Extreme fever is like a burning sun, and urine in fever is hot and burning. While a person in a balanced moderate state will have a still, balanced urine."¹⁷⁹

Descriptions of the urinary findings for a variety of diseases are given, along with explanations based on humoral theory which provide a model for understanding the empiric phenomena of the links between microcosm and macrocosm, human and universe. For instance:

If the urine is white like poison or coagulated milk, and if in the middle it is like a cloud which is both dark and purple, then this is a sign of death, and the person will die. For the urine is white like poison and similar to coagulated milk because the natural heat is leaving; the urine is white and the humours coagulate from lack of heat. It is dark, white, cloudy, and turbid in the middle because the melancholic humour has turned dark like a bruise; it is white

¹⁷⁹ "Sed notandum est, quod aqua fluminum secundum temperiem aeris mutatur. Cum enim magnus ventus est, procellae in undis et in terrore oriuntur. Et cum sol in fervore suo ardet, aquae fervent et spumam habent. In tranquillo autem et temperato aere aquae lenes sunt et quietae ac pulchrae. Sic etiam in urina hominis est. Nam cum periculos infirmitas ut magnum ventus in homine surgit, ita quod anima illius a corpore solvatur, magnae etiam procellae in urina eius multiplicantur. Cum autem nimius fervor humorum in homines est ut ardens sol, tunc etiam urina in homine secundum calorem et ardorem in eo apparet. Cum enim homo in recto et in tranquillo modo corporis sui est tunc etiam urina eius secudeum rectam temperiem demonstratur." p. 230, lines 26 to p. 231, line 3.

because the patient is weak, and turbid because the patient has begun to excrete that natural but evil smoke which before he contained within.¹⁸⁰

Causae et Curae ends with a "lunary," a horoscope which predicts personal character based on the position of the moon at the time of conception. Moon-based horoscopes are thought to have preceded sun-based horoscopes and were popular throughout the Middle Ages despite the disapproval of the Church. Since Hildegard's lunary uses the night of conception and not the day of birth for its predictions, it implies that women knew their moment of conception, and could, therefore, control it.¹⁸¹

Analysis of the Text

Causae et Curae includes a variety of material which is usually found as separate texts: its introductory book covers the same material as contemporary philosophical texts like those of Honorius Augustodunensis, Rupert of Deutz, and William of Conches; the body of the text is like a traditional medical text such as Bartholomew's Practica, or the Sefer Asaph, and the final book summarizes such works as Alexander of Tralles' On Urines and Pulses, as well as other more obscure texts like the lunaries. Additionally, there are many sections scattered throughout the manuscript which summarize a variety of material

¹⁸⁰ "Si autem urina fuerit alba ut venenum et similis coagulato lacti et si in medio sui est similis nubi, quae purpurea et alba atque turbida est: signum mortis est, et morietur. Urina enim alba ut venenum et similis coagulato lacti ostendit, quod naturalis calor ab eodem homine recessit, quapropter et urina eius alba est; et ideo etiam venenosa, quae in humoribus illis fuerunt, coagulantur, quod rectum calorem non habent; et etiam in medio sui est ut nubes, quae purpurea et alba et turbida apparet, quoniam melancolia in medio humorum quasi in fortitudine eorum est; scilicet purpurea, quod colorem suum quasi in vulnus vertit, cum iam solvitur; et alba quoniam ab invicem diffluit venenum eius apparet et quod in fortitudine eius deficiat demonstrat; et turbida quoniam malum et naturalem fumum, quem prius in se habuit nunc emittit." p. 229, lines 31-5. My translation.

¹⁸¹ A lot more could be said about this lunary; the use of the moon in the Middle Ages was problematic, considering its connection to the Old Religion as well as paganism. Although this aspect is not discussed, Laurel Means in her Medieval Lunar Astrology. Lewiston: New York, 1993 gives a good review of lunaries.

which would have been found in separate works on gynecology, on bleeding, cupping, and moxibustion, on veterinary medicine and even pruning.

It is obvious that there is an important Christian element even in Hildegard's medical text, which begins with a description of creation seemingly taken right out of the Bible:

Before the creation of the universe, God was, and is, without any beginning; and was, and is, light and brightness, and was life. When, therefore, God decided to create the universe, he did so out of nothing but his will.¹⁸²

Not only does she review medieval science but Hildegard also goes over the formation of the angels, the fall of Lucifer, and the creation of humans. Throughout the text, interspersed with practical recommendations and prescriptions, are Christian ideas: it was Original Sin which introduced mankind to disease; God alone is the true Physician; the ultimate power of healing lies not in the medicines of the practitioner, but in God's will.

Nevertheless, Hildegard's basic intellectual framework for understanding and explaining nature is classical. Her universe is informed by the traditional four elements--fire, air, earth, and water, and it is the classic concept of the six non-naturals which is behind her explanations of bleeding and purging, cupping, and moxibustion, behind her recommendations regarding bathing, sex, and climate. Classic techniques,--observation, pulse taking, and urinalysis--are her primary diagnostic methods.

Hildegard's Medicine in the Context of Latin Practice

Because Hildegard clearly falls into the category of a monastic practitioner, the meager facts known about her practice can be supplemented by what has been learned about twelfth-century monastic medical practice in the

¹⁸²Causae et Curae, p. 5.

Rhineland. Although both Disibodenberg and Rupertsberg are today in ruins, some idea of their layout can be inferred from a drawing done of Rupertsberg before it was destroyed during the Wars of Religion and some inferences can be made regarding the place of Hildegard's practice.¹⁸³

In the drawing, Rupertsberg looks like a smaller version of St. Gall with a large church running in an east-west direction forming the central point. The east-facing long wall of the church, which must have been sunny during most of the day, gives onto a cloister, which is in turn surrounded by several buildings--most likely the refectory, the dormitory, a kitchen, various working areas, as well as the abbess's house, a guesthouse, and an infirmary. There would probably have been an infirmary garden since Hildegard uses many of the same drugs which were planned for the gardens of St. Gall¹⁸⁴ and which are known to have been typically grown in monastic gardens, including, sage, rue, fennel, and fenugreek; and also there would probably have been some sort of apothecary for storing dried and purchased medicines.

This drawing also gives, perhaps, a picture of Disibodenberg, for which little else otherwise remains, since Rupertsberg was modelled on Disibodenberg. Although at the beginning of Hildegard's life at Disibodenberg, which was primarily a male monastery, there were only a few young and healthy women--Jutta, her niece, and Hildegard herself--by the end of her stay there were at least eighteen nuns, in addition to the lay women employed as servants. These women would have needed a female infirmarian, and much which is puzzling can be explained by supposing that Hildegard was originally trained to be the female infirmarian for Disibodenberg, such as the contents and timing of the Causae et Curae. Jutta, the magistra died unexpectedly at the age of fifty in 1136

¹⁸³see "Die Kloster der Hildegard von Bingen." *Festschrift*, pp. 77-94 for a picture of the drawing and a review of the history of Disibodenberg and Rupertsberg.

¹⁸⁴see above, p. 46

and Hildegard was unanimously elected magistra in her place, presumably, she would have had to start training a replacement female infirmarian. Ten years later, she decided to leave Disibodenberg with the other nuns for Rupertsberg, which was an entirely waste place, as we have seen, and would certainly not have had any medical texts; it is just around this time that she began to write Causae et Curae. As a summary of medical knowledge and manual of medical experience, Causae et Curae would have been an appropriate book to have been taken to Rupertsberg and used by Hildegard's newly-trained infirmarian. If Hildegard was indeed the infirmarian for the nuns and lay women of Disibodenberg, the kinds of illnesses which she discusses—rashes and fevers, menstrual problems and parturition, infertility, sexuality, and pain can also be explained. The small manual on veterinary medicine and on pruning would also have been useful in the library-less new foundation of Rupertsberg.

If she was the female infirmarian for Disibodenberg, she would probably have been trained, at least partly, by the male infirmarian. Although much is made of the formal enclosure and presumed isolation of Hildegard from the monks, we know from Hildegard's lifelong intimacy with her male secretary, the monk Volmar, as well as from the Prior of Disibodenberg, that the relationships were not so impersonal that she could not have received such training from the male infirmarian.¹⁸⁵

Finally, although nothing is known of the actual medical holdings of the libraries of Disibodenberg or Rupertsberg, they would probably have included some variations of the texts recommended by Cassiodorus for Benedictine monasteries: Isidore's Etymologies, the Aphorisms and Prognostics of Hippocrates, and Diisocorides. Indeed, Hildegard does present her knowledge

¹⁸⁵ "We who have known you almost from the cradle and with whom you lived for many years," as the Prior of Disibodenberg put it in a letter to her, see Letters, op. cit., p. 172.

of medicine as a series of books modelled on such a collection: an encyclopediac first book; a second book on humoral physiology related to the classic Greco-Roman texts of Hippocrates and Galen, third and fourth books arranged in the traditional head-to-toe fashion; and a fifth book on diagnostic methods, corresponding to traditional tracts on uroscopy, pulses, and prognosis.

Hildegard and German Folk Practice

It seems certain, though, that, Hildegard also had some medical sources in the German folk tradition. A large number of German words are used along with the Latin of Causae et Curae; the index to the 1903 edition lists over 150 German words which are used at least once in the text. Over thirty percent of these are plant names, for some of which there is a Latin equivalent but for which Hildegard chose instead to use the German name, and others for which there is no Latin equivalent at all.

For example, *bibox* is used instead of *artemesia*, *dille* for *anethum*, *eiche* for *quercus*, *huflathca* for *lactuca*, *pingla* for *calendula*, *storchesnabeel* for *geranium*, and *winda* for *convolvulus*.¹⁸⁶ Since none of these Latin words are particularly obscure, why would Hildegard have chosen to use the German words? It is remarkable that all of these examples are common, wild, and easily-collected plants, whose medicinal uses would probably have been well-known among the peasants. Perhaps Hildegard uses the German names because she had learned about their medicinal uses only in German which would suggest that she had some access to folk practitioners.

Furthermore, the German plant names for which Kaiser found no Latin equivalent include among others, *ertpeffer* for male infertility, *rifelbere* for

¹⁸⁶see Causae et Curae, p. 241-243 for a glossary.

"retained menses," (probably an abortifacient), and *bisemo* an ingredient for a powder against poison and magic words. Now infertility, abortion, poison and magic are the usual specialties of folk medicine and the absence of any Latin equivalents suggests that these particular recipes could not have come from the Latin tradition. Again, it would seem possible that Hildegard would have learned about these drugs from a folk practitioner.

About thirty percent of the German words used by Hildegard are for the names of diseases, for example, *gich* for *gutta* (gout); *virgichdich* for *paralyssa*; *vich* for *colica*,—again for which perfectly good Latin words exist. Since Causae et Curae otherwise shows a good background in Latin medicine, the deliberate choice of the German over the Latin name suggests that Hildegard might have been taught about paralysis, colic and arthritis by a folk practitioner.

Causae et Curae also contains many sections on such unlikely subjects as "Fleshly love," "Adultery," "Semen," "The Testicles," "Male Impotence," "Male Desire," and "Nocturnal Pollution," as well as extensive discussions of conception, generation, pregnancy, and birth.¹⁸⁷ Although it is easy to imagine Hildegard being taught by the male infirmarian of Disibodenberg how to bleed, when to cup, and how to purge, who would have taught her about sexual, gynecologic, and urologic subjects, and why? We know from her letters that she was consulted by lay women regarding vaginal bleeding and infertility, and she might have been consulted by her own nuns about menstruation and menopause, but how and why would she have acquired a body of knowledge

¹⁸⁷As many authors have noted, Hildegard seems to be remarkably concerned, for a nun, with matters of sexuality, see Peter Dronke, "Hildegard of Bingen" in Women Writers of the Middle Ages. Cambridge: 1984, Cambridge University Press, pp. 171-183; Barbara Newman, *op. cit.*, pp.121-156; and Joan Cadden, "It Takes All Kinds: Sexuality and Gender Differences, in Hildegard of Bingen's "Book of Compound Medicine," Traditio. 40: 149-174, for discussions of Hildegard's ideas about sexuality.

regarding sexual desires and needs, particularly of men? Her information is, after all, not in the least superficial. For example: on male and female orgasm:

When the storm of desire arises in a man, it turns around in him like a millwheel; his loins are like a workshop which produces fire which is sent down to the genitals in order to make them burn more hotly. But when the wind of pleasure comes out of the center of a woman, it stays near the umbilicus, and moves the woman's blood to pleasure, and because a woman's uterus is near the umbilicus, and has an opening, this wind spreads itself in her belly, and so more lightly, although on account of her wetness, more often, does it excite her to pleasure, and so, either because of fear, or of embarrassment, the woman is able more easily than a man to hold herself back from pleasure, so that the foam of semen from her more rarely than from a man is ejected, and compared to that of a man is like a crust of bread compared to the whole loaf.¹⁸⁸

Although some accounts of these things do exist in the Latin medical tradition, the material is scattered and we would have to suppose that Hildegard had read widely in such texts in the monastery at Disibodenberg, which seems unlikely. On the other hand, such knowledge is typically part of the folk tradition which is passed on orally.

There are subjective aspects to Causae et Curae which also suggest that much of its contents come out of a folk tradition. Like most folk medicine and unlike more typical Latin texts like that of the Practica of Bartholomew, Causae et Curae is more concerned with therapy than with diagnosis. Diseases are named but not defined because "anyone" would know what was meant by "tertian fever," "gula," "gutta," "ulcers," or "amentia." The main concern is with

¹⁸⁸ "Nam cum tempestas libidinis in masculo surgit, in eo ut molendinum circumvolvitur, quia etiam lumbi eius velut fabrica sunt, in quam medulla ignem mittit, ita quod et ffabrica illa enuidem ignem in genitalia loca masculi transfundit ac eum fortiter ardere facit. Sed cum ventus delectationis ex medulla feminae egreditur, in matricem, quae umbilico adhaeret, cadit et sanguinem mulieris ad delectationem movet, et quia matrix circa umbilicum mulieris amplum et velut apertum locum habet, ventus ille in ventrem eius se dilatat, et ido neius, quamvis prae humiditate sua saepius ibi in delcqtationem ardet, et ido etiam aut prae timore aut prae pudore facilius quam vir a delctatione se continere valet, ita quod etiam spuma seminis ab ea rarius quam a viro eicitur et modica et tantae exiguitatis ad spumam viri ut frustum panis ad integritatem eius."p. 76, lines 20-35. My translation.

treating common symptoms: weak eyes, baldness, painful teeth or gums, kidney, lung and spleen pain, and insomnia.¹⁸⁹

Finally, there is a particularly folk tone especially with regard to Hildegard's knowledge of gynecology, although this is admittedly a subjective observation. There is a way in which old Latin tropes are presented in her text whereby they do not seem to be a rote repetition of classic texts, but seem to come out of experience or perhaps, oral tradition. For example, on menopause:

From the fiftieth to sixtieth year, the open area of a woman is closed, so that the menstrual stream of blood returns to its home, that is, to the members of the body; like a field which after much bearing can no longer put forth fruit or wheat, but only flowers and weeds...and after her eightieth year, a woman slowly loses her powers, like the day as it goes to setting.¹⁹⁰

Hildegard and the Jewish Medical Tradition

What can be said about the relationship of Hildegard's medicine to that of the contemporary Jewish medical tradition in the Rhineland? As we have seen, the main source for our knowledge of Jewish practice is the Sefer Asaph and a comparison between it and the Cause et Curae can be made. Their similarities are striking. Of almost the same length, both authors begin their texts by reviewing the basis of pathology and physiology using the schema of the four elements and humors. Both emphasize the effect of the seasons and climate on health--in Asaph, as the lunar months of the Jewish calendar, in Hildegard as the influence of the Zodiacal constellations. Both discuss the use of medicinal waters

¹⁸⁹see Mlle. Bouteiller's Medecine Populaire d'Hier et Aujourd'hui. Paris: Edit. G.P. Maisonneuve et la Rose, 1966, for a discussion and in-depth examples of the contents and continuity of domestic folk medicine in France.

¹⁹⁰"De menstrui defectu. A quinquagesimo vero anno aut interdum a sexagesimo femina circa fenestralia loca sua implicatur et crescit, ita quod et rivulus menstrui sanguinis in domum suam, scilicet in membra, revertitur ut ager, qui post multum transactum laborem iam amplius nulla semina fructum et frumenti potest suscipere aut gignere aut [ad] perfectum [producere] praeter flores aut alia bona gramina... Ab octogesimo vero anno femina a viribus suis ad defectum inclinatur velut dies qui ad occasum tendit." p. 106 lines 18-25, and 35-37.

in remarkably similar sections, and then go on to discuss a general physiology of the body. Both then review disease, first, as general constitutional diseases of humoral imbalance, and then disease grouped in the traditional head-to-toe way. Both end their text with a chapter on prognosis and diagnosis, uroscopy and pulses. Both Hildegard and Asaph present a practical medicine based on the schema of the four elements and humors used as a heuristic device to present the vast amount of empiric knowledge which both had collected.

It is in tone and style that Hildegard and Asaph differ. Asaph, like Bartholomew, presents medicine as one subject among others, a delimited part of the world of knowledge whose objects can be expected to have clearly defined effects on the human body--a world with definite borders and separate objects, linked only by an essential similarity of substance, a world of medicine which is discrete, knowable and limited.

Hildegard, by contrast, inhabits a world where "the heavens are like the head of a person, the sun and moon and stars like the sense of sight, air like the sense of hearing, winds like the sense of smell, dew like the sense of taste, and the latera mundi like the arms and the sense of touch..."¹⁹¹; where "the animating force of the body contains in itself the possibilities of rationality, understanding, knowledge and sensation, just as the heavens contain and sustain the four elements...";¹⁹² and where "humans take their sensuality and desire from fire, from air, their thought and imagination, and from water, their knowledge and motion..."¹⁹³ In this world "the sun sends his light into the moon, the same way a

¹⁹¹"Nam firmamentum est velut caput hominis, sol, luna et stellae ut oculi, aer ut auditus, venti velut odoratus, ros ut gustus, latera mundi ut brachia et ut tactus." p. 10, lines 33-35.

¹⁹²"Sed quemadmodum anima rationem, intellectum, scientiam et sensibilitatem in se continet, sic etiam firmamentum quatuor elementa secundum genus suum in se continet et sustinet." p. 23, lines 25-29

¹⁹³"Et homo de igne sensualitatem et desiderium trahit, de aere autem cogitationes et vagationem, de aqua vero scientiam et motionem." p. 45, lines 6-9.

man emits semen into a woman,"¹⁹⁴ and the "life force of fish when they die evapaoates into their flesh the way snow disappears in the heat..."¹⁹⁵

This is a world of interconnectedness, relationship and reciprocity, where everything is connected, mutually "constitutive" where everything throws light on everything else, affects everything else, where the smallest event or change on Earth affects the farthest star. This hypothesis is that on which the world of magic is based, and it is a world not found in Bartholomew or Alexander of Tralles, in German texts, or in Asaph.

Where might Hildegard have learned of these basic principles? One possibility is that she was aware of the Jewish mystical thinking known as the Kabbalah, which reached its peak in Germany in twelfth-century Mainz.¹⁹⁶ One of the most basic principles of Hildegard's medicine is the concept of man as microcosm, and since "the concept of man as microcosm was universally accepted among the Kabbalists,"¹⁹⁷ and "the bulk of such magical material to have been preserved is found in the writings of the Hasidic Ashkenaz"¹⁹⁸ (the Kabbalists from the twelfth-century Rhineland) it does not seem impossible that there were common sources or even an exchange of knowledge among interested parties. Indeed, the most famous of Jewish Kabbalists, Judah he Hasid (1150-1217) was from Mainz and is said to have written "magical treatises" which have never been translated.

It would not have been impossible, in any case, for Hildegard to have had some contact with Jewish merchants, since she uses ginger, galangal, cloves, cinamon, and sugar as medicines, all of which were often imported by Jewish

¹⁹⁴"Et sol...lumen suum in lunam mittit, cum ad eum accedit, ut vir semen suum in feminam mittit." p. 8 lines 2-4

¹⁹⁵"Vita eorum defluit in carne ipsorum velut nix in calore..." p. 35, lines 5-7

¹⁹⁶see Gershom Scholem, "Kabbalah" in the Encyclopedia Judaica, Jerusalem: Encyclopedia Judaica, 1913, vol. 10, pp. 490-651.

¹⁹⁷Scholem, *ibid.* p. 607.

¹⁹⁸Scholem, *ibid.* p. 633.

apothecary-merchants.¹⁹⁹ We know that she did have some personal knowledge of Jewish merchants, since they appear in characteristic "Jewish hats" in one of her visions and Singer thought that "Hildegard herself could not fail to have been well-acquainted with Jews."²⁰⁰ It is not impossible that Hildegard had some knowledge of Jewish philosophy and mystical practice, but any deeper analysis will have to await further work on the Hebrew texts.

¹⁹⁹Falck, op. cit., p. 116.

²⁰⁰see Charles Singer, "Allegorical Representations of the Synagogue in a 12th century illuminated manuscript of Hildegard of Bingen," in Jewish Quarterly Review, 1914, 267-282, p. 270.

CONCLUSION

This thesis set out to present the twelfth-century context for the medicine of Hildegard of Bingen, the first woman writer whose extensive works have come down to us intact. We have seen that the Rhineland of the twelfth-century was a relatively wealthy, relatively peaceful place, primarily rural, but well-populated and with significant and growing towns, open to the exciting new knowledge, customs and styles coming from the East. A review of the three contemporary medical traditions, Latin, German and Hebrew, has shown that they were far more alike than different, expressing a common body of medical theory and practice which was possessed by monks and nuns, folk practitioners, and Jews. This medicine is not especially characterized by a spiritual or magical approach to diagnosis and treatment, but rather by its practical use of a large body of empiric observation which includes an extensive pharmacopeia, consistent diagnostic techniques, and shared physical therapies.

Hildegard's medicine is part and parcel of its time; indeed, her text could almost be read as a manual for the actual practice of medieval medicine. Hildegard probably had access to both the Latin medical tradition and the German folk tradition, and proves in her work that the historiographical barriers between them are overdrawn. She did not practice "monastic medicine" (long on prayer, short on drugs) sometimes and "folk medicine," ("herbs, stones words,") at others, but combined them, using the Latin tradition of the four elements to structure the practical knowledge and experience of the folk tradition.

This common medicine is informed by the fundamental principle of the theory of the four elements: in every text we found this to be the first principle with which creation and change, health and disease, was understood. Although this principle apparently originated in Antique culture, its mutual acceptance by

all three traditions suggests that it conformed, (like our own atomic/cellular theory) to a basic way of perceiving shared by diverse peoples of the time. While not exactly rural, this model is agricultural, arising out of a style of life in which even the citizens of growing towns could not escape a realization of their complete dependence on the continued productivity of earth, the perpetual flowing presence of the Rhine; the vagaries of climate, wind, rain, and sun. It must have been self-evident that, as the grapevines which covered the hillside needed sunlight and air, water and earth, to grow and prosper, so humans too depended on four elements; self-evident that every food and medicine, products of these four, would affect their working within the body.

A thorough grasp of the importance and meaning of this essentially agricultural paradigm to medieval thought is crucial for a deeper understanding of the connections and disconnections between medieval and modern ways of thinking. In the Middle Ages, it was the subject of "mathematics," what we now call astrology, which was the main tool for understanding and working with this paradigm, and research into its position and its implications for medieval society is the obvious next step for further research.

Bibliography

Primary Sources:

Acta Inquisitionis, also called the Proceedings of the Inquisition, or the Protocollum canonisationis, in Analecta Bollandiana. ed. P. Bruder. vol. 2, 1883, 118-29.

Bartholomew of Salerno. Practica in Salvatore da Renzi, Salernitan Magistri Nondum Cogniti, 1855, vol. 4: 321-406.

Gottfried of St. Disibod and Dieter of Echternach. "Vita Sancta Hildegardis," ed. J.P. Migne. Patrologia Latinae.197: 91-130.

Guibert of Gembloux. "Vita Sanctae Hildegardis." ed. J.B.Pitra. Sanctae Hildegardis Opera, Monte Cassino, 1882, 407-415.

Hildegard of Bingen, Hildegardis Causae et Curae, ed. Paul Kaiser, Leipzig: Taubner, 1903.

Hildegard of Bingen. Letters of Hildegard of Bingen. tr. J. Baird. New York: Oxford University Press, 1994, Vol. 1.

Honorius Augustodensis. Elucidarium. PL 172.

Honorius Augustodensis, De Imago Mundi PL 172 115-88

Ibn Ezra, Abraham. The Book of Medical Experience. tr. J. O. Leibowitz and S. Marcus. Jerusalem: Magun Press, 1984.

William of Conches. De Philosophia Mundi. PL. vol 172.

Secondary Sources: Books

Ackerknecht, Erwin. H. A Short History of Medicine. New York: Ronald Press Co., 1955.

Arano, Luisa Cogliati. The Medieval Health Handbook: Tacuinum Sanitatis. New York: George Braziller, 1976.

Baader, Gerhard. Medizin im Mittelalterlicher Abendland. Darmstadt: Wissenschaftlicher Burgers, 1982.

Baedeker Karl, The Rhine. Leipzig: Karl Baedeker, 1926.

Ballester, Luis. Practical Medicine from Salerno to the Black Death. Oxford: Oxford University Press, 1994.

Ballestrasse, Flavio. Medicina Monastica. Pisa: Giardini, 1966.

Baron, Salo W. A Social and Religious History of the Jews. New York: Columbia University Press, 1957, vol. IV.

Borekel, Hofrat. Geschichte von Mainz. Main: Verlag Diener, 1913, 21-25.

Boswell, John. Christianity, Social Tolerance, and Homosexuality. Chicago: University of Chicago Press, 1984.

Mlle. Bouteiller. Medecine Populaire d'Hier et d'Aujourd'hui, Paris: Editions G.P. Maisonneuve et la Rose, 1966.

Bruck, A. Ph. Hildegard von Bingen 1179-1979: Festchrift zum 800 Todestag der Heiligen Mainz: Gesellschaft fur Mittlerheinische Kirchen, 1979.

Cannon, Sue Spencer. The Medicine of Hildegard of Bingen, her twelfth-century theories and their twentieth century appeal as a form of alternative medicine. Unpublished dissertation, 1993.

Cames, Gerard. Allegories et Symboles dans Herrad of Landsberg. Leiden: 1971.

Castiglione, Arturo. History of Medicine. trans. E.B. Krumbhar. New York: Knopf and Co., 1958.

Chazin, Carol Anne. "The Planning of English Monastic Infirmary Halls in the 12th and 13th Centuries." Master's thesis, University of California at Berkeley, 1966.

Clark, Anne. Elisabeth of Schonau, a twelfth-century visionary. Philadelphia: University of Pennsylvania Press, 1992.

Clay, Rotha Mary. The Medieval Hospitals of England. London: 1909.

Dakin, Theodora. A History of Women's Contribution to World Health. Lewiston: Edwin Muller Press, 1991.

Dresdner, Albert, Ludwig Lewinson and Julius Aronius. Regesten zur Geschichte der Juden. Hildesheim: Olmi Verlag, 1970 (reprint of a 1903 edition.)

Dronke, Peter. Women Writers of The Middle Ages. Cambridge: Cambridge University Press, 1984.

Diepgen, Pau. Frau und Frauenheilkunde in Der Kultur des Mittlealter. Stuttgart: Threme, 1963. 71-107.

Duft, J. Notker the Artz: Klostermedizin und Monchsarzt im fruhmittlearliche St. Gallen. St. Gallen: Verlag der Buchdruckerei Otschweiz, 1970.

Eidelberg, Shlomo. The Jews and the Crusades. Madison: University of Wisconsin Press, 1977.

Entralgo, Pedro Lain. Historia Universal de la Medicina. Spain: Salvat Editores, 1972, vol. 3.

Falck, Ludwig. Mainz Im Fruhen und Hohen Middlealter. Dusseldorf: Walter Rau Verlag, 1972. 122-173.

Fischer, Hermann. Die Heilige Hildegard von Bingen: erstdeutsche Naturforscherin und Arztn ihr Leben und Werk. Munchen: Munchner Drucke, 1927.

Flanagan, Sabina. Hildegard of Bingen, a Visionary Life. London: Rutledge, 1989.

Flint, Valerie J. Ideas in the Medieval West. Variorum Reprint, London, 1988.

Fox, Matthew. Illuminations of Hildegard of Bingen. Santa Fe: Bear and Company, 1985.

Friedenwald, Harry. Jews and Medicine. Baltimore: Johns Hopkins University Press, 1944, vol. 1.

Fuhrmann, Horst. Germany in the High Middle Ages. c. 1050-1200. Cambridge: Cambridge University Press, 1986.

Garrison, F. H. An Introduction to the History of Medicine. Philadelphia: Saunders, 1929.

Gillen, Otto Ikonographie of Herrad of Landsberg. Berlin: 1931.

Goerke, Heinz. Medizin und Technik. Calley: Munchen, 1988.

Goodey, R. The Medieval Monastic Infirmary in England. Diss.: University of London, 1987.

Graetz, H. History of the Jews. Philadelphia: Jewish Publications Society of America, 1902, vol. 3.

Harvey, John. Medieval Gardens. Oregon: Timber Press, 1981.

Haverkamp, Alfred. Medieval Germany 1058-1273 tr. Helga Braun. Oxford: Oxford University Press, 1988.

Henlinger, Robert. Geschichte der Medizinischer Abbildung. I Antike Bis um 1650. I Antike Bis um 1650. Heinz Moos Verlag.

Hunt, Tony. Popular English Medicine of the Thirteenth-Century. Cambridge: D.S. Brewer, 1990.

Hurd-Mead, Kate Campbell. A History of Women in Medicine. Connecticut: Haddam Press, 1938.

Imbault-Huart, Marie-Jose. La Medecine au Moyen Age a travers les manuscrits de la Bibliotheque Nationale. Paris: BN, 1983.

Jacquart, Danielle, and Claude Thomasset. Sexuality and Medicine in the Middle Ages. Princeton: Princeton University Press, 1988.

Jacquart, Danielle. Le Milieu Medecale en France du XII-XV Siecles. Geneva: Librairie Droz, 1981.

Jones, Peter Murray. Medieval Medical Miniatures. London: British Library, 1984.

Kealey, E. J. Medieval Medicus. Baltimore: Johns Hopkins University Press, 1981.

Kraft, Kent. The Visionary Cosmology of Hildegard of Bingen. Unpublished Dissertation, 1977.

Labarge, Margaret Wade. A Small Sound of the Trumpet: Women in Medieval Life. Boston: Beacon Press, 1986.

Lauter, Werner. Hildegard-Bibliographie. Alzey: Verlag der Rheinischen Druckwerstatte, 1984.

- Liebeschütz, Hans. Das Allegorische Weltbild der Heiligen Hildegard Von Bingen. Leipzig: B.G. Teubner, 1930.
- Lindberg, David. C. ed. Science in the Middle Ages. Chicago: University of Chicago Press, 1978.
- Lowenthal, Marvin. Jews of Germany. New York: Green and Co., 1936.
- MacKinney, Loren C. Early Medieval Medicine with a special look at France and Chartres. Baltimore: Johns Hopkins University Press, 1937,
- McClean, Teresa. Medieval English Gardens. London: Barrie and Jenkins, 1989.
- McVaugh, M.R. Medicine before the Plague. New York: Cambridge University Press, 1993.
- Moore, R. I. The Formation of a Persecuting Society. Cambridge: Basil Blackwell, 1987.
- Munz, J. Die Jüdischen Ärzte im Mittelalter. Frankfurt: J. Kaufmann, 1922.
- Newman, Barbara. Sister of Wisdom: St. Hildegard's Theology of the Feminine. Berkeley: University of California Press, 1987.
- NiederHellmann, Annette. Arzt und Heilkunde in den fruhmittelalterliche leges. Berlin: Walter de Gruyten, 1983.
- Price, Lorna. The Plan of St. Gall in Brief. Berkeley: University of California Press, 1982.
- Reicke, Siegfried. Das deutsche Spital und sein Recht im Mittelalter. Amsterdam: P. Schippers, 1932, reprint 1961.
- Riddle, John. Contraception and Abortion from the Ancient Works to the Renaissance. Cambridge: Harvard Univesity Press, 1992.

Sarton, George. Introduction to the History of Science. Baltimore: Williams and Wilkins, 1927. Vol. 2.

Schipperges, Heinrich. Die Benedictiner in der Medizin des Fruher Middlealter. St. Bemo: Verlag MBHJ Leipzig, 1964.

Schipperges, Heinrich. Der Garten des Gesundheit. Munchen: Artemis, 1985.

Shatzmiller, Joseph. Jews, Medicine and Medieval Society. Berkeley: University of California Berkeley Press, 1994.

Silverstein, Theodore. Salerno and the Development of Theory. Rome: Academic 1978.

Simon, Isidore. Asaph ha Jehudi: Medecin et astrologue du Moyen age. Paris: Lipshutz, 1937.

Siraisi, Nancy. Medieval and Early Renaissance Medicine. Chicago: University of Chicago Press, 1990.

Strehlow Wighard and Gottfried Hertzka. Hildegard of Bingen's Medicine. Santa Fe: Bear and Co., 1988.

Stemplinger, Eduard. Antike und Moderne Volksmedizin. Leipzig: Dieterich, 1925.

Stoffregen, Malte. Eine Fruhmittleartliche Lateinische Ubersetzung des byzantischen Puls-und urin-Traktatus des Alexander von Tralles. Berlin, 1977. Diss.

Temkin, Owsei. Galenism. Ithaca, 1973.

Thorndike, Lynn. A History of Magic and Experimental Science. New York: Macmillian Press, 1923, vol. 2.

Van Engen, J.H. Rupert of Deutz. Berkeley: University of California Press, 1983.

Venentianer, Ludwig. Asaf Judaeus. Strasbourg: Trubner, 1916.

Vitz, Erika. Die Frau in der mittelalterlicher Stadt. Freiburg: Herder Verlag, 1988.

Walker-Moskop, Ruth Marie. Health and Cosmic Continuity in Hildegard of Bingen. University of Texas. Diss. 1985.

Wilhelm Friedrich. Denkmaler Deutscher Prosa des 11 und 12 Jahrhundert. Munich: Georg d.w. Calling, 1915.

Withington, Edward. Medical History from the Earliest Times. London: The Holland Press, 1964.

Secondary Sources: Articles

Amundsen, Darel. "Medieval Canon Law." Bulletin of the History of Medicine 52 (1978): 22-44.

Assion, Peter. "Zur Geschichte der Judischen Arzte in Deutschland." Sudhoff's Archiv 53 (1969): 270-291.

Baader, Gerhard. "Mittelarliche Medizin In Bayers Kloster." Sudhoff's Archiv 57 (1973): 275-296.

Baader, Gerhard. "Naturwissenschaft und medizin im Hildegard von Bingen." Arch. Mittlerheinischer Kirchengeshichte.31 (1979): 33-54.

Ballestrasse, Flavio. "Medicina Monastica." Scientia Veterum 93 (1966).

Becker, Ernst. "Die Geschichte der Medizin in Hildesheim warhend des Mittelalter" Zeitschrift fur Klinische Medizin. 1899. 306-347.

Bell, David. "The English Cistercians and the Practice of Medicine." Citeaux 40 (1989): 139-174.

Bouillat, G. "Medecines et Monasteres au Moyen Age." Despierres, G. ed. Conferences d'Histoire de la Medecine. Lyon, 1986. 7-30.

Bullough, Vern. L. "Training of the Non-University Educated Medical Practitioner in the Later Middle Ages." JHM 14:446-58.

Cadden, Joan. "It takes all kinds: Sex and Gender Differences in Hildegard of Bingen's Book of Compound Medicine." Traditio. 1984. 149-174.

Ceccarelli, Ubaldo. "St. Hildegard." Scientia Veterum. Pisa: 1960,1-60.

Conde, Linaje. "La Enfermedad en la Organizacion Monastica Visigothica." Asclepio (1970): 203-213.

Contreni, J. J. "Study and Practice of Medicine in Northern France During the Reign of Charles the Bald". Studies on Medieval Culture 6-7 (1976): 43-54.

D'Alverny, Marie-Therese. "Le Cosmos Symbolique du XII Siecle." Archives d'Historie Doctrinale et Litteraire du Moyen Age. 20 (1953) 31-81.

Dainton, Courtney. "Medieval Hospitals of England." History Today 26(8) (1976): 532-538

Diepgen, Paul. "Die Volkstumlichen und die Wissenschaftlichen grundlagen der therapie in der geschichte der Medizin." Medizin und Kulture. Verlag Stuttgart, 1938. 61-75.

Dorson, Richard. "Folk Medicine." Folklore and Folklife, Chicago: University of Chicago Press, 1972, 192-215.

Dronke, Peter. Fabula: Explorations into the uses of myth in medieval Platonism. Leiden: E.J. Brill, 1974. 97-99.

- Dronke, Peter. "New Approaches to the School of Chartres." Anuario de Estudios Medievales. 6(1969) 123-143.
- Engebring, Gertrude. "St. Hildegard, a Twelfth-Century Physician." Bulletin of the History of Medicine 8 (1940): 778-784.
- Ferrari, Sacco A. "Benedetto da Norcia e la Medicina Conventuale in Italia." Minerva Medica 1981 Mar 10: 72(9): 585-587.
- Flemming, P. "The Medical Aspects of the Medieval Monastery in England." Proceedings of the Royal Society of Medicine 22 (1928-9): 771-782.
- Flint, VIJ, "The place and purpose of the works of Honorius Augustodunensis." Revue Benedictine 87 (1977) 97-127.
- Gossman, Elisabeth. "Scientia Boni et Mali: Science and Faith in Hildegard of Bingen." Vox Benedictina 4(1987) 307-320.
- Green, Monica. "Documenting medieval women's medical practice." in Practical Medicine from Salerno to the Black Death, ed. Luis Ballester, Cambridge: Cambridge University Press, 1994.
- Green, Monica. "Women's Medical Practice and Medical Care in Medieval Europe," Signs. 14(1989): 434-73.
- Hammond, E.A. "Physicians in Medieval English Religious Houses." Bulletin of the History of Medicine 32 (1958): 105-120.
- Hammond, E.A. "Westminster Abbey Infirmarer Rolls as a Source of Medical History." Bulletin of the History of Medicine 39 (1965): 261-276.
- Hofler, M. "Altgermanische Heilkunde." Handbuch der Geschichte der Medizin. ed. Max Neuburger and Julius Pagel. Jen, Fisher, 1902, 453-477.
- Jenkins, M. "Medicine and Spices with Special Reference to Medieval Monastic Accounts." Garden History 4 (1976): 47-49.

Jung, P. "Das Infirmarium in Bauriss des St. Gall." Gesnerus 6 (1949): 1-8.

Keil Gundolf, "Das Arzneibuch Ortolf's von Baierland, " Sudhoffs Archiv 43 (1959): 20-60.

Kristeller, Paul Oskar. "The School of Salerno: Its development and its contribution to the history of learning." BHM 17 (1945) 138-194.

Kristeller, Paul Oskar. "Bartholomaeus, Musandinus, and Maurus of Salerno and other early commentators of the Articella, with a tentative list of texts and manuscripts." Italia Medioevale et humanistica. 19(1976) 57-87.

Larray, Rebok. "La Concepcion Adamica de la melancolia en Hildegard of Bingen." Asclepio XLI (1989).

McKeon, Richard. "Medicine and Philosophy in the 11th and 12th Centuries: The Problem of the Elements." Thomist. 24(1961) 211-256.

MacKinney, Loren C. "Medical Education in the Middle Ages." Cahiers Historique Mondiales 2 (1955) 835-861.

Nutton, Vivian. "The Seeds of Disease: An Explanation of Contagion and Infection from the Greeks to the Renaissance." Medical History 27:1-34, 1983.

Overath, Joseph. "Die Juden in der Welt Hildegard von Bingen." Trierer Theologische Zeitschrift. 87. (1979): 304-312.

Pernoud, Regine. "La femme et la medecine au Moyen age." Colloque Internationale d'Histoire de la Medecine. (1985): 1038-1043.

Pinto, L.B. "Folk Practice of Ob-Gyn in the Middle Ages." Bulletin of the History of Medicine. 1973. Sep-Oct: 47 (5) 512-513.

Riddle, John. "Theory and Practice in Medieval Medicine." Viator, 5 (1974), 157-184.

Rowland, B. "Exhuming Trotula, sapiens matrona of Salerno." Florilegium 1979, 1:42-57.

Sanford, E.M. "Honorius, presbyter and scholasticus." Speculum 23 (1948) 387-425.

Schipperges, Heinrich. "La medecina en la edad media latina." Pedro Entralgo. Historia Universal de la Medecina." 181-238.

Schipperges, Heinrich. "Hildegard von Bingen." Schweizerich Rundschau fur Medizin Praxis. 1991, Dec. 17. 80(51): 1438-45.

Schipperges, Heinrich. Krankheitsursang, Krankheitswesen und Heilung in der Klostermedizin dargestellt am Weltbild Hildegards von Bingen. Med Diss. Bonn 1951.

Schmitt, Miriam. "Blessed Jutta." American Benedictine Review. 40:2 1989, 170-189.

Schnell, Bernhard. "Das Pruller Arzneibuch: Zum ersten Herbar in deutscher sprache." Zeitschrift fur deutsches alten. 120 (1991) 184-202.

Schnell, B. "Vouberlegungen zu einer "Geschichte der Deutschen Medizinliteratur des Middlealters am beispiel des 12 Jahrhunderts." Sudhoffs Archives 1994 78(1) 90-7.

Schnell, Bernhard. "Voruberlegungen zu einer Geschichte der Deutschen Medizinliteratur des Middlealters am Beispiel des 12 Jahrhunderts." Sudhoff Archiv 78(1) 90-97.

Shatzmiller, J. "Doctors and Medical Practice in Germany circa 1200: the Evidence of the Sefer Hasidim." Journal of Jewish Studies. 33(1982): 583-593.

Shatzmiller, J. "Doctors and Medical Practice in Germany around 1200: The evidence of the Sefer Asaph." Proceedings of the American Academy for Jewish Research. vol. 50. 151-163.

Singer, Charles, "The Scientific Views and Visions of St. Hildegard." in Studies in the History and Method of Science. New York: Arno Press, 1975. 1-55.

Singer, Charles. "Allegorical representations of the Synagogue in a twelfth-century illumination of Hildegard of Bingen." Jewish Quarterly Review. 1914, 267-282.

Singer, Charles. "The Visions of Hildegard of Bingen." From Magic to Science, Charles Singer. Oxford: Oxford University Press, 1917, 201-239.

Singer, Charles. A Review of the Medical Literature of the Dark Ages. London: John Bale, 1917.

Stannard, Jerry. "Medieval Herbals and Their Development." Clio Medica 9:23-33. 1974.

Stannard, Jerry. "Greco-Roman Materia Medica in Medieval Germany." BHM 1972 46:455-468.

Stiefel, Tina. "The Heresy of Science: A 12th Century Conceptual Revolution." Isis. 68 No. 4. 1977. 346-362

Struck, Wolf-Heing. Das Archiv des Klosters Rupertsberg-Eibingen im 18 Jahre. in Beitrage zu Mainzer Kirchengesichte. Festschrift fur Anton Philipp Bruck see above.

Sudhoff, Karl. "Eine Verteidigung der Heilkunde aus den Zeiten der Monchsmedizin." Arch Geschichte Med. 7 (1913) 223-237.

Sudhoff, Karl. "Die gedruckten mittelalterlichen medizinischen Texte in germanischen Sprache." J.M.G. 273-303.

Sudhoff, Karl. "Die medizinischen Schriften welche Bischof Bruno von Hildesheim 1161 in seiner Bibliothek besass und die Bedeutung des Konstantin von Afrika im 12 Jahrhundert." IMG, 1916, 9: 348-356.

Talbot, C.H. "A letter from Bartholomew of Salerno to King Louis of France." BHM 1956: 321-328.

Voigts, Linda. "Anglo-Saxon Plant Remedies and the Anglo-Saxons." Isis 70:250-68.

Weaver, L.T. "Medicine in the Time of St Cuthbert." Perspectives in Biological Medicine. 32(3) Spring (1989), 387-397.

Wiethaus, Ulrike. "Cathar Influence in Hildegard of Bingen's play "Ordo Virtutum." American Benedictine Review. 1987. June 38(2). 192-203.

Appendix: Sources for Illustrations

- Illustration 1: Map of Bingen from Karl Baedeker, The Rhine. Leipzig: Baedeker, 1926. p. 269.
- Illustration 2: Map of the Rhineland from the frontpiece of Stefan Anders, Rheinland, Pfalz und Saar. Frankfurt: Umschau Verlag, 1966.
- Illustration 3: Map of Mainz, in Anders, op. cit., p. 288.
- Illustration 4: The City of Mainz in 1572, from Lelio Pagani, Les Cites du Monde. Torriana: Orsamaggiore, 1990. p. XIV.
- Illustration 6: The Town of Bingen and the Site of Rupertsberg, in Anders, op. cit., p. 48.
- Illustration 7: The Site of Bingen in Context, in Dr. Wolf Strache, Der Rhein von Bingen bis Bonn. Stuttgart: Verlag die Schonen Bucher, 1966, p. 21.
- Illustration 8: A Twelfth-Century Male Medical Practitioner demonstrating Caustery, in Robert Herrlinger, Geschichte der Medizinischen Abbildung, Munich: Heinz Moos Verlag, 1967, p.41.
- Illustration 9: A Twelfth-Century Female Medical Practitioner with a Flask of Medicine, in Imbualt-Huart, Marie-Jose. La Médecine au Moyen Age à travers les Manuscrits de la Bibliothèque Nationale. p. 139.
- Illustration 10: Uroscopy through the Ages, in Herrlinger, op. cit., p. 36.
- Illustration 11: Cupping in a Bathhouse, in Loren MacKinney, Medical Illustrations in Medieval Manuscripts, Great Britain: Wellcome, 1965, p. 234.
- Illustration 12: Fumigation in MacKinney, op. cit., p. 253.
- Illustration 13: Cauterization Points, in Herrlinger, op. cit., p. 40.

**RETURN TO the circulation desk of any
University of California Library**

or to the

NORTHERN REGIONAL LIBRARY FACILITY

University of California

Berkeley Global Campus

Richmond Field Station, Bldg. 400

1301 South 46th Street, Richmond, CA 94804-4698

ALL BOOKS MAY BE RECALLED AFTER 7 DAYS

To renew or recharge your library materials, you may
contact NRLF 4 days prior to due date at (510) 642-6233

DUE AS STAMPED BELOW

DUE DATE:

JAN 19 2016

DD20 15M 5-15

For reference

Not to be taken
from the room.

6369477



3 1378 00636 9477

