

Van Arsdall, Anne, Helmut W. Klug, and Paul Blanz: 'The Mandrake Plant and its Legend.' In: *Old Names – New Growth: Proceedings of the 2nd ASPNS Conference, University of Graz, Austria, 6-10 June 2007, and Related Essays*. Eds. Peter Bierbaumer and Helmut W. Klug. Frankfurt/Main: Lang, 2009. 285-346.

This volume is dedicated to Carole P. Biggam, Honorary Senior Research Fellow and Visiting Lecturer at the University of Glasgow, who by the foundation of the Anglo-Saxon Plant-Name Survey, decisively revived the interest in Old English plant-names and thus motivated us to organize the Second Symposium of the ASPNS at Graz University.

“What's in a name? That which we call a rose by any other name
would smell as sweet ...”

Shakespeare, *Rome and Juliet*, II,ii,1-2.

PREFACE

Whereas the first symposium of the ASPNS included examples of research from many disciplines such as landscape history, place-name studies, botany, art history, the history of food and medicine and linguistic approaches, the second symposium had a slightly different focus because in the year 2006 I had, together with my colleague Hans Sauer, started the project 'Digital and Printed Dictionary of Old English Plant-Names'. Therefore we wanted to concentrate on aspects relevant to the project, i.e. mainly on lexicographic and linguistic matters.

Together with conferences held more or less simultaneously to mark the occasion of the 300th anniversary of Linnaeus' birthday in Sweden, this resulted in fewer contributors than at the first symposium. As a consequence the present volume in its second part also contains three contributions which are related to the topic but were not presented at the conference: the semantic study by Ulrike Krischke, the interdisciplinary article on the *mandragora* (Anne Van Arsdall/Helmut W. Klug/Paul Blanz) and - for 'nostalgic' reasons - a translation of my first article (published in 1973) on the Old English plant-name *fornetes folm*.

The articles in the first part can be divided into three groups:

1. Those directly dealing with lexicographic and linguistic matters: Antonette diPaolo Healey, main editor of the *Dictionary of Old English*, deals with the plant-names *foxes glofa* and *geormanleaf*, illustrating various problems from the point of view of her work for the *DOE*. Inge Milfull, Oxford University Press, looks at the treatment of the Latin OE plant-names *pulege* and *psyllium* in the *Oxford English Dictionary*. Eric G. Stanley, one of the doyens of Anglo-Saxon studies, shows that the Old English names of the cedar tree and of the hyssop are, with the exception of the name *hlenortear* glossing *hyssop*, loan-words and occur mainly in biblical contexts. Prof. Hans Sauer and his assistant Ulrike Krischke describe the Graz-Munich project of the *Dictionary of Old English Plant-Names*, focusing on etymology, word-formation and semantics.
2. Articles dealing with more general plant-related topics: Ann van Arsdall, who came all the way from Albuquerque, New Mexico, shows in her article on the mandrake in Anglo-Saxon England that a great amount of detail of the 'mandrake and dog-legend' was unknown at

3. the time. Maria D’Aronco, the great Italian expert on medieval herbals convincingly argues that in spite of the undoubted merits of de Vriend’s edition of the *Old English Herbarium* and of the *Medicina de Quadrupedibus* a new edition of these texts would be desirable. Della Hooke, who specialises in aspects of the Anglo-Saxon landscape, demonstrates in her article on tree names in Anglo-Saxon charters that an enormous amount remains to be understood about early medieval landscapes and arboriculture.
4. My assistant Helmut W. Klug, who is both a trained medievalist and an EDP-expert, and the EDP specialist and trained psychologist Roman Weinberger describe the technical aspects of the project ‘Dictionary of Old English Plant-Names’, which in the end should be quite a revolutionary ‘clicktionary’ of Old English botanical terms and might also become a model for similar specialized dictionaries.

I want to thank all participants for coming to Graz, but in particular I would like to express my gratitude to Eric Stanley, first for giving us the honour of coming to Graz, and second for suggesting the very apt name of the present volume. My very special thanks also go to Toni Healey, who over so many years kept my passion for plant-names alive by keeping me informed about the progress of the DOE and by occasionally asking my advice on plant-name matters, and to Maila D’Aronco, who during all those years maintained her interest in my work and remained a good friend and colleague.

I would also like to express my thanks to individuals and institutions who contributed to the success of the conference: The University of Graz represented by Prof. Gernot Kocher, Dean of the Faculty of Humanities, Prof. Helmut Mayrhofer, head of the Department of Plant-Sciences at Graz University, the Governor of Styria, Franz Voves, the Mayor of Graz, Siegfried Nagl, the head librarian of the Special Collections Section of Graz University Library, Dr. Johann Zotter, and the head librarian of the monastic library at Stift Admont, Dr. Johann Tomaschek.

Last but not least our thanks go to my friend and colleague Adolf Sawoff, who accompanied the opening ceremony with his guitar, and to the Knorr-Kohlhofer family, who provided us with excellent food and drinks on very generous terms.

Peter Bierbaumer – Graz, September 2008

As a specialist in German mediaeval studies, until the time Peter Bierbaumer introduced me to Old English plant names and approached me with the idea of republishing and updating his *Der botanische Wortschatz des Altenglischen* I had no idea how fascinating Old English could be. After browsing this special subject on the Internet and in scientific literature, the value of his undertaking was soon evident, both for the strong, active Old English community and for my personal studies in the fields of electronic data processing and mediaeval plant research. Fortunately the Austrian Science Fund (FWF) backed our project (‘Digital and Printed Dictionary of Old English Plant-Names’) in 2006. Today, we can look back on two years of hard work and number of things we have accomplished. One of those was hosting the 2nd *Anglo Saxon Plant Name Survey* Conference in June 2007, and another was publishing this compilation.

The conference was held at a time when the most tedious work of our project – the digitalisation of all three volumes of Peter Bierbaumer’s books – had just been finished. We rushed to implement some of the basic research features and to input some of the data so that we could present a functioning online-platform at the conference. We greatly profited from helpful hints and tips from all participants for the work with and the development of the *Dictionary of Old English Plant Names*. All this input resulted in the idea to apply for funding for a follow-up-project (same title as the dictionary) that will generally broaden the research possibilities and the possibilities of user interaction. Funds were granted in early summer of this year and we received a very positive feedback from the project reviewers. This positive feedback obviously confirms that our project is headed in the right direction. The conference and the papers in this volume show the importance of a holistic approach towards the topic of mediaeval plants and their names: researchers must not be stopped by the borders set by his or her field of study. Risking excursions into and taking on the ideas of neighbouring studies nearly always is worth the effort and the results clearly justify the means.

Since Peter Bierbaumer deals with the organisational details in his introductory remarks, all that is left for me is to express my thanks to the following people: I want to thank Peter for giving me the opportunity to literally turn my hobby into my job with the projects on Old English plant names, and for all the help and encouragement I have received from him in the past. I want to thank Roman Weinberger for doing such a terrific job with designing and programming the *Dictionary of Old English Plant Names*

web-site. I want to thank Anne Van Arsdall and Paul Blanz for the chance to co-author the paper on the mandrake in this volume – it was a very instructive and enriching experience. Finally I want to thank all the authors in this volume for their help and, most of all, for the patience they showed and the encouragement I received during the strenuous time of editing.

Helmut W. Klug – Graz, September 2008

CONTENTS

Abstracts	15
Eric Stanley 'The Cedar tree that is in Lebanon, euen vnto the Hyssope that springeth out of the wall'	21
Maria Amalia D'Aronco The edition of the Old English Herbal and <i>Medicina de Quadrupedibus</i> : two case studies	35
Anne Van Arsdall Exploring what was understood by 'mandragora' in Anglo-Saxon England	57
Della Hooke Trees in Anglo-Saxon charters: some comments and some uncertainties	75
Antonette diPaolo Healey Perplexities about plant names in the <i>Dictionary of Old English</i>	99
Inge B. Milfull PULEGE and PSYLLIUM: Old English plant names in p- in the <i>Oxford English Dictionary</i>	121
Hans Sauer and Ulrike Krischke The <i>Dictionary of Old English Plant-Names (DOEPN)</i> , or: The Graz- Munich Dictionary Project	145

Helmut W. Klug, Roman Weinberger Old English plant names go cyber: The technical aspects of the <i>DOEPN</i> -project	181
Ulrike Krischke On the semantics of Old English compound plant names: motivations and associations	211
Peter Bierbaumer Old English FORNETES FOLM – An orchid	279
Anne Van Arsdall, Helmut W. Klug, Paul Blanz The mandrake plant and its legend: a new perspective	285
Alphabetical plant name index	347

ABSTRACTS

Eric Stanley: 'The Cedar tree that is in Lebanon, euen vnto the Hyssope that springeth out of the wall'

Botany is a difficult subject, and the identification of plants with plant names is beyond my competence. The CEDAR, however, is easily recognized. In the Bible it is mentioned together with the HYSSOP, the mighty tree and the little plant. The wisdom of Solomon is exemplified by his willingness to discourse on great things and little, on the CEDAR and on the HYSSOP. Old English literature is usually the work of monastics, and these two plant names therefore occur often. The exact meaning of Modern English plant and the etymology of CEDAR and HYSSOP are briefly discussed in this paper. A biblical crux involves the HYSSOP, Christ on the cross is given a sponge on a HYSSOP to quench his thirst. Almost all the uses of the two words occur in contexts related to such biblical occurrences. The great, modern Reallexikon of Germanic antiquities has no entry for either plant. Usually the Old English names are merely loan-words based on the Latin, but once the name appears as *hlenortear*. HYSSOP is used in various biblical cleansing rites, and these too are referred to in Old English, and in a number of medical texts.

Maria Amalia D'Aronco: The edition of the Old English Herbal and *Medicina de Quadrupedibus*: two case studies

In 1984, more H.J. de Vriend published a new critical edition of the *Old English Herbarium* and the *Medicina de Quadrupedibus* for the Early English Text Society. These two tracts are vernacular synopses of various Latin pharmacological texts that circulated throughout western Europe from late antiquity to the middle ages and beyond. They are attested in four witnesses, an extraordinary exception in the history of OE culture where the texts have been generally preserved in sole and unique survivors. It is the very nature of the manuscript tradition of the two Old English pharmacopoeias that prompts me to comment on de Vriend's actual editorial practice. Therefore, the main scope of this paper concerns not so much the undoubted merits of de Vriend's edition as various observations about specific aspects of his edition. In particular, I shall focus on two more general characteristics: his treatment of variant readings, and his handling of scribal emendations

Anne Van Arsdall: Exploring what was understood by 'mandragora' in Anglo-Saxon England

In the Latin and Anglo-Saxon herbals, the mandrake plant appears as a medicinal herb that should be collected using a dog. In fact, the dog and mandrake are ubiquitous in drawings. The purpose of this paper is to show that over the years, editors and art historians have added a great amount of detail about the mandrake and the dog when discussing works from Anglo-Saxon England, or Continental works known there, detail that was most probably unknown at the time.

Della Hooke: Trees in Anglo-Saxon charters: some comments and some uncertainties

Tree names are an important component of early place-names and documents and most native species of tree can be found. A few species, however, remain elusive while other names cannot be accurately or certainly identified. Despite the efforts of place-name scholars, it is also still difficult to be precise about the actual use of some Old English woodland terms and an enormous amount remains to be understood about early medieval landscapes and arboriculture.

Antonette diPaolo Healey: Perplexities about plant names in the *Dictionary of Old English*

In this essay, I first situate DOE's treatment of plant names in relation to other specialized vocabularies, such as etymologies, place names, and personal names. I then suggest the strategies employed by the DOE for handling plant names, including DOE's usual treatment of the morphological type noun in the genitive + noun, such as *foxes glofa*, as a phrasal unit rather than a genitival compound. I next look at three specific problems, all devolving around issues of palaeography, a concern as valid, I argue, as phonology, morphology, syntax, semantics and taxonomy in our discussion of plants and their Anglo-Saxon names. Finally, I describe how the palaeographic issues around the forms *geormenletic*, *gearwan leaf*, and *reosan* have been handled, if not resolved, in the DOE.

Inge B. Milful: PULEGE and PSYLLIUM: Old English plant names in p- in the *Oxford English Dictionary*

After discussing some recently revised plant name entries in the *Oxford English Dictionary* (OED), this paper looks at the treatment of two Old English plant names, PULEGE n. and PSYLLIUM n., in particular, and focuses on our treatment of Latinate forms of problematic status. We have decided to include these in our entries, as the entries themselves were transformed by our increasing awareness of a continuity of the use of Latinate forms of these plant names in the history of English, in particular in medical and pharmaceutical use.

Hans Sauer, Ulrike Kruschke: The *Dictionary of Old English Plant-Names* (DOEPN), or: The Graz-Munich Dictionary Project

Although ca. 1300 different Old English plant names are attested, no comprehensive Old English plant name dictionary exists. It would be useful to have one, however, because in the extant dictionaries the entries on plant names are scattered and information about them is often brief and fragmentary. Therefore we have embarked on the Graz-Munich project with the aim of compiling *The Dictionary of Old English Plant-Names* (DOEPN). It will provide the inventory the plant names as well as their attestations; it will also explain and where necessary discuss the meaning of the names and the identification of the plants; furthermore it will give linguistic information about the names, especially as regards etymology (origin), morphology (especially word-formation) and semantics (meaning and motivation). In the present article we explain the scope of the DOEPN (inclusions and exclusions), the structure of the entries and we provide a number of specimen entries.

Helmut W. Klug, Roman Weinberger: Old English plant names go cyber: the technical aspects of the DOEPN-Project

The fwf-funded project 'Dictionary of Old English Plant Names' is based on the work on this subject carried out by Peter Bierbaumer in the late 1970's. Our intentions are to update it not only with regard to scientific research but also in technical aspects. The three volumes of *Der botanische Wortschatz des Altenglischen* had to be digitalised: this paper provides a glimpse at how it

was done and which problems were encountered. We also want to give a thorough report on the design process that spawned the sql-database which is the solid foundation of the dictionary: there will be an excursus into database and web design theory, a detailed description of the database in relation to its contents, and on techniques for data input and retrieval. This sums up the technical groundwork of the backend of our web application. It is meant to give people normally not involved in technical matters a basic understanding of database theory. The frontend – the future public portal to Anglo-Saxon plant names – is heavily 'under construction': some features are already implemented, the majority, though, is still a bunch of wild ideas. Both present and future applications are dealt with in this context.

Ulrike Krischke: On the semantics of Old English compound plant names: motivations and associations.

Complex plant names reveal a lot about the way the Anglo-Saxons perceived and experienced the natural world. In this paper, the morpho-semantic make-up of the Old English compound plant names that appear in the sections *nomina herbarum* and *nomina arborum* of abbot Ælfric's *Glossary* are examined and morphological aspects, motivation categories and the associative relations holding between source and target concepts are discussed. The alphabetically arranged list of plant names in the appendix provides information on the identification of the plants, on the morphologic shape and structure of the plant names as well as a detailed discussion of the motivation and the associative relations of each plant name.

Peter Bierbaumer: Old English FORNETES FOLM– An orchid.

This contribution is a translation of my article “Altenglisch *fornetes folm* – eine Orchideenart”, published under the editorship of Helmut Gneuss in *Anglia* 92 (1974), 172-176. I have included it mainly for the “nostalgic” reason that this was my first publication on an Old English plant name, which already shows my line of reasoning, based on a thorough concern with detail and a lot of enthusiasm for the subject. In this article I argue that the plant name *fornetes folm*, 'hand of Fornet', denotes a kind of orchid because it is used as an aphrodisiac in the *Lācebōc* and because the word *folm* points to a plant with a hand-like appearance. These two conditions

apply in particular to orchids, e.g. to *Orchis maculata* L., cuckoo flower, German *Knabenkraut*.

Anne Van Arsdall, Helmut W. Klug, Paul Blanz: The mandrake plant and its legend: a new perspective

This paper demonstrates how the contemporary legend about mandrake plant evolved from classical through early-modern times. A major misconception about the Middle Ages and the era directly preceding it is an assumption that the different elements of the mandrake legend were always widespread and well-known. Our paper stresses the importance of distinguishing different stages in the mandrake legend in the centuries from ca. A.D. 500 to 1500, showing that not all concepts we know today were associated with the plant at any given time or place in the past. We base our research strictly on historical documents (illustrations, literary and botanical/pharmaceutical texts) carefully correlated in time. Our findings bring an important corrective to many folkloristic assumptions about the mandrake legend that have been handed down and accepted at face value for years. In fact, more research is needed to pinpoint when and where various elements of the legend originated and how (and how far) they spread, especially for the time after the 12th century.

THE MANDRAKE PLANT AND ITS LEGEND:

A NEW PERSPECTIVE

*Anne Van Arsdall, Helmut W. Klug, Paul Blanz**

Introduction

The mandrake is a plant whose fruit, leaves, and large root have medicinal properties, many of them narcotic. From ancient times, its medicinal effects have been known. Rituals and legends have become connected to the plant, a long-lived one is the association between the mandrake root and a dog. Yet the mandrake legend as we know it today did not spring forth whole at one time. It grew in pieces over many centuries, and its beginnings date back long before the birth of Christ. Legends about the mandrake finally eclipsed its original purpose as a pharmaceutical, and today, 'mandrake' is synonymous with the occult. The few modern studies specifically about the mandrake cast wide nets, scooping up any and all references to the plant, its legend, and associated legends, tying them together neatly into a package: see for example, Randolph 1905; Starck 1917; Rahner 1966; Thompson 1968; Wittlin 1999; Hambel 2002; Müller-Ebeling and Rättsch 2004. The problem with many of these studies is that they tend to misuse or ignore historical chronology, as this paper documents.¹ We raise here the important issue of documentation and chronology as we examine carefully and evaluate pertinent illustrative and written sources connected with the mandrake.

In contrast to the cited studies, we begin with a botanical study of both European species of the medicinal plant *Mandragora*, taking their growing conditions and propagation into account. Such information is valuable when assessing written historical sources, in particular in being able to assert that mandrakes could have been grown throughout Europe. Late-classical and medieval herbals, then early modern printed books discuss mandrake plants, and there is a change in the way they are described and

* Anne Van Arsdall, Institute for Medieval Studies, University of New Mexico USA; Helmut W. Klug, Department of German Studies, Karl-Franzens-Universität Graz; Paul Blanz, Institute for Plant Sciences, Karl-Franzens-Universität Graz. The authors thank John Riddle and John Scarborough for their review of this paper and their helpful suggestions for improvement.

1 Except D. Wittlin, but she is primarily interested in historical medical facts.

depicted over time. Important here is that at the outset, mandrakes were known first as medicinal plants, primarily discussed as such in pharmaceutical literature, where gathering rituals were commonly described for many plants. We then look at the works in which the mandrake plant is mentioned and/or depicted, specifically through the classical, medieval, and early-modern periods and document how the legend involving a dog, its death, and other details associated with the origin and gathering of the plant grew throughout this long period. This study focuses on the mandrake legend and its growth in Western Europe.

Mandragora officinarum and *M. autumnalis*: a botanical study

Pedanius Dioscorides was a first-century Greek physician who for some time worked with the Roman army, and traveled in many Greek-speaking parts of the empire (see Scarborough 2008; 'Dioscorides' in the *Oxford Classical Dictionary* 2003 and in the *Encyclopedia of Ancient Natural Scientists* 2008). His *De Materia Medica* was published in ca. A.D. 65; it is a five-volume description of plants, animals and minerals, indicating their healing properties. This became a standard reference until early-modern times, and what Dioscorides says about the mandrake served as the basis for subsequent writers of herbals, pharmacopoeias, and encyclopedias, particularly those in the centuries that are the focus of this paper. Many copies and adaptations were made over the centuries after it was written, often including splendid illustrations. Dioscorides describes some plants with respect to their morphology, but in even more detail with respect to their extraction and their pharmaceutical uses. His descriptions seem to be based at least in part on his own experiences.² Riddle says that the original version had a rational plan corresponding to the physiological effects of plants on the body, one that was lost when the work was alphabetized. Dioscorides was a standard reference on medicinal plants for more than a thousand years, until the eighteenth century when other works began to replace him. Nevertheless, his description of the mandrake remained the basis for countless botanists and writers on botany for years afterward.

2 For an evaluation of the system Dioscorides used to organize his botanical material, see Riddle 1985 and Scarborough 2008.

In Book IV, 75 of his *De Materia Medica*, Dioscorides says that there is both a male and female mandrake.³ He says the female plant has a black root, with leaves lying on the ground that are narrower and longer than lettuce and having a pungent smell. Among the leaves are little 'apples', pale in color and smelling sweet, inside of which are seeds like those of a pear. There are two or three roots wrapped around each other and they are black outside and white within. Their bark is thick, and there is no stalk. The male plant has larger leaves that are white, broad, and smooth like those of a beet, with apples twice as big and nearly saffron in color, which smell sweet and strong. The root is larger than the female's and it is whiter; it too has no stalk (Dioscorides (Beck) 2005: 280-281; Berendes 1902: 408-411). Because of his description of these morphological differences, it is obvious that for Dioscorides, the terms male and female do not refer to sex, but to two different species of *Mandragora*. He considered the plant with smaller fruits (or organs) to be female; the larger, male.

In early-modern times, the number of scientific names for mandrake in Europe grew faster than did solid species descriptions. Tercinet (1950) named three species for Europe, namely *Mandragora officinarum* L., *M. autumnalis* Bertol., and *M. caulescens* Clarke. This species nomenclature is widely accepted, and other names for European mandrakes are considered to be synonymous with them. Of Tercinet's three European species, Dioscorides' male fits best to *M. officinarum* L., while his female plant corresponds well to *M. autumnalis* Bertol.

Tutin *et al.* (1972: 199-200) include in their *Flora Europaea* only *M. officinarum* and *M. autumnalis*. On the basis of its present distribution in modern Europe, Tercinet (1950) names the Mediterranean area in general and South Italy, Spain, Greece, Crete, Asia Minor, Palestine, and a few localities in Northern Africa in particular as habitat for those species. *M. caulescens* is restricted to the Asian mountains, which explains why it is lacking in the *Flora Europaea*. *M. officinarum* differs from *M. autumnalis* in its moderate resistance to frost. Because of this, *Mandragora officinarum* can be grown in England as well (Müller-Ebeling and Rättsch, 2004: 12), where the Gulf Stream provides a moderate climate. In contrast to other authors, Tutin *et al.* restrict the occurrence of *M. officinarum* to Northern Italy and Croatia ('Western Yugoslavia') and place *M. autumnalis* in the Mediterranean region, including Portugal. We think that more collection data and reliable

3 Dioscorides (Beck) 2005; Berendes 1902, lists the mandrake as IV, 76.



Figure 1: *M. officinarum*: A mandrake plant with a number of flowers, photographed in early March 2008.



Figure 2: *M. officinarum*: Petals of the flower are whitish with a touch of violet.

determination of specimens collected are needed before conclusions can be drawn on the actual natural distribution of the *Mandragora* species. Despite its wide geographic distribution, *Mandragora* does not occur commonly. Even in capacious herbaria with collections dating back two centuries, mandrake is often poorly represented.

The characteristics of the *Mandragora* flower are consistent with those of the *Solanaceae* family. They are summed up in the flower formula $*K(5)C(5)A5G(2)$, i.e., a regular flower with 5 connate sepals, 5 connate petals and 5 stamens. The hypogynous ovary is built up by two carpels containing many ovules. These flower characteristics are not explicitly described by Dioscorides, but his arrangement of the many plant descriptions is clearly based on markers of the flower and of the inflorescence.

M. officinarum blossoms in spring with greenish-white flowers up to 2.5 cm long (Tutin *et al.*, 1972: 200). Sometimes, the color is slightly lilac. The flowers develop on short peduncles in clusters in the middle of a rosette of leaves. The corolla is campanulate, 5-lobed, plicate between the narrowly triangular lobes; the sepals grow up to 1.2 cm in length (see figures⁴ 1 to 3). In *M. autumnalis*, the flowers are violet and reach 3 to 4 cm in length; the lobes of the corolla are wide triangles.⁵ Together with the flower, the fruits provide the most important characteristics to describe or to determine a plant. In *Mandragora officinarum*, the berries are yellow when ripe and globose with a diameter up to 3.5 cm (see figure 4). We have seen cultivated plants with fruits of 5 cm in diameter. The fruits of *M. autumnalis* are smaller and ellipsoid or pear-shaped and yellow to orange, and the calyx is at least as long as the fruit, whereas it is much shorter than the fruit in the former species (Tutin *et al.*, 1972: 200).

4 Photographs copyright by Paul Blanz, University of Graz, reproduction with permission of the artist. All photographs were taken in the botanical gardens at the University of Graz.

Please note further that line drawings have been used for all the illustrations in this paper because they are intended primarily to show the relative changes in how the mandrake is depicted over time. Sources are indicated for all of them. Line drawings, if not stated otherwise, by Anne Van Arsdall, University of New Mexico, reproduction with permission of the artist.

5 Pictures of *M. autumnalis* can, for example, be found in *Wikipedia*. *Die freie Enzyklopädie*, s.v. 'Gemeine Alraune'; or on the website of Werner Arnold (category: 'Heilpflanzen'); both accessed July 2008.

Tutin *et al.* (1972: 200) describe the leaves of *M. officinarum* as petiolate, ovate to ovate-lanceolate, entire, undulate, sparsely villous on veins at least when young. According to Wittlin (1999: 21) the leaves are about 20-30 cm in length and up to 6 cm in width. In the mandrake plants growing in the botanical garden of the University of Graz, which are more than 20 years old, we found leaves 50 cm by 15 cm, the lamina about 35 cm and the petiole 15 cm. For the *Mandragorae*, it seems to be risky to determine the species exclusively on the basis of leaf size and shape.

With respect to mandrakes, in their book on poisonous plants and plant toxins, Roth *et al.* (1988: 444) describe *Mandragora officinarum* L. only. They mention that this species flowers in spring and in autumn as well, but the fall flowers are reportedly smaller. In the greenhouses of the botanical garden of the University of Graz, even *Mandragora autumnalis* flowers in spring, which complicates the separation of the two species. Whether they really are two distinct botanical species or rather two closely related subspecies might likely be decided on the basis of their geographical distribution pattern as well as on molecular analyses of DNA from collections from different regions.

For the mandrake plant generally, the most famous part of the perennial herb is its root. The aboveground parts of the plant die completely after fruits have been formed, and only the root survives. Every year, new leaves, flowers and fruits grow from the roots. Some authors differentiate the upper part as a rhizome, and the root underneath. Tutin *et al.* (1972: 199) characterize the root as a stout, erect, often bifid, occasionally anthropomorphic, fleshy tap-root. The growth rate of the root may have been recorded for cultivated plants, but we could not find any reports on this topic.

Mythic powers have been attributed to the root since prehistoric times. These powers are undoubtedly because of its anthropomorphic shape, but even more because of its toxic properties, which are more highly concentrated in the root than in leaves and fruits. *Mandragora* belongs to the *Solanaceae* family, which is characterized by the tropan-alkaloids atropine, scopolamine and hyoscyamine (Roth *et al.* 1988: 444; Duke 1985: 292, entry #215 on *Mandragora officinarum*). The effect of these alkaloids on humans is toxic and healing alike, depending on the concentration, and how they are applied.

The only medical field that makes use of the *Mandragora* today is homoeopathy, where it is still used against weakness of the bladder, shaking



Figure 3: *M. officinarum*: Young plant with two flowers on stalks.



Figure 4: *M. officinarum*, one older plant fruiting, in June 2008; with a 1 € coin.

palsy, insomnia *etc.* (Roth *et al.*, 1988: 444). The reputation of *Mandragora* as a magical plant definitely has eclipsed its medicinal value.

The evolution of the mandrake legend

In the modern world, the mandrake is associated with witchcraft and the occult, its medicinal value largely forgotten. At the heart of the modern mandrake legend is the association of its large root, purportedly shaped like a human, and a dog, which is used to pull it up. In 1816, a full-blown version of the mandrake legend by the Brothers Grimm was recorded in their book on German legends (Ward 1981: 93-94).⁶ To paraphrase what they write about the gathering ritual: The mandrake is a plant with broad leaves and yellow flowers, generated in the soil by the urine and semen of hanged men, especially hanged thieves. It is dangerous to pull a mandrake out of the ground because it groans and screams when pulled up, and those who hear the mandrake scream will soon die. So to safely pull up a mandrake root, stop up the ears and take a black dog to the site before sunrise on a Friday. Make three signs of the cross over the mandrake and loosen the soil around the root. Fasten a rope around the root and to the dog's tail. Take some bread, show it to the dog, and then run away from the dog. He will lunge to get the bread, pulling the mandrake out of the ground. The mandrake will let out a scream and the dog will die (*cf.* Thompson 1968: 168-170; Gerard 1597: 281; Turner 1568: 46).⁷

6 The exact sources the Grimm brothers used for this particular legend are not known; the authors only cite general information about sources in a foreword. The gathering ritual the Grimms describe is identical to one in *Dissertatio de Mandragora* written in 1671 by Johann Schmeidel (Randolph 1905: 491).

7 Thompson's *Mystic Mandrake* is widely cited as an authoritative work on the mandrake despite the fact that the author provides only a handful of incomplete details for his numerous citations (many are purported to be direct quotes) and absolutely no bibliography. For example, Müller-Ebeling and Rättsch use a direct quote from "ein deutscher Autor aus dem 16. Jahrhundert" about the mandrake (2004:102). Their source is Thompson and, just as in Thompson, the sixteenth-century German author remains unnamed and the source documentation is entirely missing. Hambel cites Thompson numerous times as well, including an undocumented statement that Otto Brunfels's *Herbal* of 1530 is the first place where the gallows and mandrake are associated (Hambel 2002: 52); see detailed

Like the work done by the brothers Grimm, a shared trait in many works devoted specifically to the mandrake⁸ is that they are essentially folklore studies. As such, and very much in the vein of the classic study of this type, Frazer's 1922 *Golden Bough*, is their method. First, they identify distinct *motifs* in the legend and then they make a laborious search for the origins of those *motifs*, no matter how far afield. For example, Randolph traces the source of the hanged thief motif to "an ancient fable about a so-called *herb of Prometheus*, described in the *Argonautica* of Apollonius of Rhodes: "[...] Prometheus was condemned to his punishment for *theft* (and wrongly condemned, we should say); the flower sprang from his gore as it dripped to the ground. [...] Since gore does not drip from the bodies of hanged thieves, a change had to be made in adapting the story to the mandrake, and so the plant is said to spring from the thief's urine" (1905: 494). Apollonius wrote in the third century B.C. The semen and urine of a hanged thief in connection with the mandrake legend is relatively late, entering written sources only about 1500 (see below). What the folklore study does not explain satisfactorily is how that *motif* lived its life in the many centuries between Apollonius and the sixteenth-century, landing then in, *e.g.*, Otto Brunfels's *Herbal*. Should a fifteenth- or sixteenth-century reader of the Prometheus fable be postulated, one who attached the story to the mandrake? But if the legend were widespread, as the Grimm brothers say theirs was, surely the source is not this ancient writer but the general pool of folklore in Europe.

Likewise, Müller-Ebeling and Rättsch find parallels between the mandrake legends and the legends of the Greek goddess of magic and spells, Hecate (the other mandrake scholars do not make this association, it should be noted). In a section titled "Die Wurzel der dunklen Göttin," they write, "Die Alraune, aber vor allem die Wurzel, war *die* Pflanze der Hekate. Die chthonische Göttin stammt aus Kairen (Kleinasien) und trägt viele asiatische Attribute," (2004: 59). In the ensuing discussion, the authors do not elaborate on their claim that the mandrake was *the* plant of this goddess; rather, they point out where the later mandrake legends intersect with those about Hecate, drawing upon a wide array of stories from various times and places. At no point are they credibly linked.

discussion below. *The Mystic Mandrake* is rife with unsubstantiated assertions and conjectures.

8 *E.g.*, Randolph 1905; Thompson 1968; Hambel 2002; Müller-Ebeling and Rättsch 2004.

At least Müller-Ebeling and Rätsch give reliable sources for their information. Thompson, on the other hand, builds his evidence about the mandrake legend in such a manner as the following:

[In his chapter 5, on the association of certain plants with demons and evil spirits] Frazer [no citation provided] tells us that in Rotti, an island to the south of Timor, when the natives fell a tree to make a coffin, they sacrifice a dog to it as compensation to the spirit that dwells within it. [...] It is noteworthy that among the Malays there is a common belief that certain trees which have a poisonous sap are the abodes of evil spirits and that the man who fells one of them is said to be sure to die within the year. It is curious that a similar tradition should become associated with the mandrake, and bears out the assumption that the idea that a demon was supposed to reside in the plant arose from its poisonous properties and its evil effects (1968: 63-64).

In their studies of herbals and mandrake illustrations, historians and art historians tend toward the same approach: seeking to identify mandrake legend *motifs* in entries on the mandrake plant and in manuscript illuminations and drawings – regardless of relative dates and almost always without regard to the accompanying text. The underlying assumption in both folkloric and art-historical approaches seems to be that a kind of Platonic ideal of a mandrake legend has existed since time immemorial, and only bits and pieces of it were manifested in various writings and illustrations. Thus, privy to all the manifestations, modern scholars seem to believe they can plausibly pull them all together and infuse the whole legend into every drawing and every mention of a mandrake. Quite the opposite, the argument in this study is that when making such assumptions, we may be erroneously be putting our own notions of what is meant by mandrake on the past.⁹

The editors of a new publication titled *Misconceptions about the Middle Ages* address in detail the problem of imposing contemporary ideas on the past. In the introduction to this collection of essays correcting many misconceptions, Stephen Harris writes:

⁹ Please see the paper by A. Van Arsdall, “Exploring what was understood by *mandragora* in Anglo-Saxon England”, in this volume. That paper, and the Graz symposium, was the nucleus for the present collaborative study.

In describing the past to a contemporary audience, one needs to be aware of the distorting effects of one's own convictions, concerns, and ideals. In unguarded moments, one risks projecting contemporary faults or ideals onto the data and records of the past. [...] Scholarship today and for the last century has borne the double burden of assessing the context of ancient books as well as the accumulated, serial prejudices of their readers. As we sift through scholarly inaccuracies and half-remembered critical goals, we come slowly to an agnostic position. In the pendulum swing of scholarship, we move from waning credulity to a confident doubt (Harris and Grigsby 2008: 1-2).

The dog in the mandrake legend

'A confident doubt' about one very famous mandrake illustration in part triggered the entire present study. The frontispiece to the Vienna Dioscorides manuscript (figure 5), also called the Juliana Anicia Codex of A.D. 512, (Wien, Österreichische Nationalbibliothek, Cod. Med. Gr. 1, fol. 4 v) shows Dioscorides¹⁰ seated, and the goddess of discovery, Heuresis, holding out a mandrake plant toward him.¹¹ Attached to the foot of the mandrake by a slender rope is a dog. Without fail, modern interpreters of this illustration state that the dog is dead. (In fact, many scholars fill in the whole legend when interpreting the illustration.) The assumption being made is that the piece of the legend about the dog dying after the mandrake is pulled from the ground (possibly because of its scream?) was so well-known by A.D. 512 that it is reflected in the illustration, and anyone at that time who saw the drawing would make the same inference. We question that assumption.

¹⁰ As mentioned above in the section on botany, Pedanius Dioscorides (ca. A.D. 40-90) was a Greek physician, pharmacologist and botanist who practiced in Rome. His *De Materia Medica*, a five-volume compendium on natural substances, many of them plants, employed as medicine was compiled over a lifetime of observation and experience and established the format for pharmacopoeias for centuries to come.

¹¹ The original illustration can viewed via the Internet in the *MacKinney Collection of Medieval Medical Illustrations*, s.u. 'mandragora' (verified July 2008).

In his study devoted to the mandrake, Randolph articulates the leap of faith typically made about the formation of the legend at an early time, using this particular image as the springboard:

Theophrastus and Pliny¹² are the only classic writers who mention a digging ceremony in connection with mandragora, and we evidently have in their account the form of the story as far as it pertained to this plant up to at least 100 A.D. But by the fifth century it had taken on some new features. In the Juliana Anicia manuscript of Dioscorides – written in that century – appears a miniature which represents the Goddess of Invention, Heuresis, offering the mandragora to Dioscorides and holding a dead dog by a cord. Here we see transferred to the mandragora the substance of two very similar digging stories told by Josephus and Aelian about two other plants, which, though bearing different names, were probably identical (1905: 489).

In actuality, historian Josephus¹³ relates in the *Jewish War*, ca. 70 A.D., how a plant growing in a **place** called Baaras should be collected (Josephus 1928: VII, 3, 178-186). Josephus says the plant sends out a ray like lightning in the evening, that it recedes from the hands when you want to take it, and that it will not be taken quietly, until urine of a woman, or her menstrual blood, is poured upon it. He cautions that certain death will come if you touch it, saying to take the plant without danger, dig a trench around it, then tie a dog to it, and when the dog tries to follow, the root is pulled up, but the dog dies immediately. An important detail that is often ignored is that Josephus does not name the plant, saying "There is a place called Baaras, which produces a root bearing the same name," (Josephus 1928: VII, 3, 178-186). Only the gathering ritual, which became attached to the mandrake much later, ties this unknown plant to the mandrake. It is a connection Josephus did not

12 Theophrastus (B.C. 371 to 286) was a pupil of Aristotle. A botanist, he wrote the comprehensive *Enquiry into Plants*. Caius Plinius Secundus Maior, (A.D. 23 to 79), better known as Pliny the Elder, wrote an encyclopedic work called the *Natural History*. He mentions mandrake several times [VIII, 101; XIV 111, XXV, 147-150 (under remedies for the eyes)], but the major discussion of uses for the plant is in XXVI (24, 93, 104, 105, 121, 145, 149, 156).

13 (Flavius) Josephus lived from A.D. 38 to 100 and was a Jewish historian and commander. He wrote the *Jewish War* to introduce Jewish conventions to the Romans.



Figure 5: Dioscorides, left, seated, a mandrake plant with a dog attached to its root, and the goddess Heuresis. Drawing based on Wien, Österreichische Nationalbibliothek, Cod. Med. Gr. 1, fol. 4v. (Drawing by Robby Poore, University of North Carolina, with permission of the artist.)

make, and he could have were he actually discussing the mandrake, a plant well-known in his time and mentioned by name in his *Antiquities* when retelling the story from *Genesis* 30: 14-16 of Jacob, Reuben, Leah, and Rachael.

Nearly two hundred years later, a similar ritual is recorded, but for a different plant. In about A.D. 220, in his book *On the Nature of Animals*,

Aelian¹⁴ writes about the peony (*aglaophotis* or *cynospastus*)¹⁵ that it “shines out like a star” at night (Aelian 1959: Vol. 3, 189). He says no one digs around it or pulls it up, because it destroyed the first person who touched it. Aelian then tells his readers how to gather the plant as follows:

And so they bring a strong dog that has not been fed for some days and is ravenously hungry and attach a strong cord to it, and round the stalk of the Peony at the bottom they fasten a noose securely from as far away as they can; then they put before the dog a large quantity of cooked meat which exhales a savory odour. And the dog, burning with hunger and tormented by the savour, rushes at the meat that has been placed before it and with its violent movement pulls up the plant, roots and all. But when the sun sees the roots the dog immediately dies, and they bury it on the spot. [...] (1959: Vol. 3, 191).

According to the *Lexikon des Mittelalters*, Aelian's works were not known *per se* in the Middle Ages, but excerpts from his accounts of animals, plants, and minerals made their way anonymously into the medieval *Physiologus* as it evolved. Pertinent to this study is the relationship of the *Physiologus*, later bestiaries, and the mandrake legend, discussed later in this paper.

Separated in time by two hundred years, both originally in Greek, both of questionable circulation in the West during the following centuries, these two descriptions of the gathering rituals for two different plants, one known and one unknown, are routinely cited as the origin of the dead-dog element in the mandrake legend. They would have to have been effectively combined and transferred to the mandrake in time for the dog to be widely assumed to be dead in the Juliana Anicia frontispiece. Such a combination has yet to be located in any contemporary written source.

To return to the image itself and what is actually shown: the dog's eyes and mouth are open; Heuresis looks as though she is rewarding the dog for pulling up the mandrake with a bite to eat; moreover, the dog appears to be lunging toward the mandrake plant. It seems plausible, then, that the reason

14 Claudius Aelianus (A.D. 165/170 – 230/235) was a Roman scholar who wrote in Greek. *On the Nature of Animals* is a collection of stories about animals derived from a variety of sources.

15 Randolph 1905: 490 says *cynospastus* means 'dog-dug.' *Aglaophotis* means “brightly glimmering”.

or reasons the mandrake was chosen for the goddess to give to Dioscorides may have much more to do with its medicinal properties than how it was gathered. That this was an esteemed plant whose medicinal qualities were revered is well known.¹⁶

On the very next *folio* after the scene with the mandrake and dog, Dioscorides again appears in an illustration, this time writing his book, an artist seated nearby. Another goddess, some call this one Wisdom, holds a mandrake plant up – in this scene, there is no dog.¹⁷ From the standpoint of understanding Dioscorides, his pharmacopoeia, and the numerous later texts based to a large extent on his work, doesn't it make sense to try to ascertain why this plant was so important that it is depicted twice at the beginning of this book? The dog is actually a minor detail in such a context. More important would have been the numerous medicinal qualities of the plant, an important one as an anesthetic, the somewhat wondrous ability to alleviate pain.¹⁸

Rather than repeatedly explaining the association of dog and mandrake in the customary ways outlined above, we suggest it would be enlightening to seek other quite practical reasons for the association (see Van Arsdall in this volume). The mandrake root is toxic, and pulling up or digging numbers of mandrake roots at one time might affect the root-digger's health.¹⁹ We know that root gatherers were specialists in the ancient world,²⁰ and they might have had trained dogs to help them find and dig the man-

16 The subject of what constitutes a wonder drug in any age is another subject, yet the mandrake certainly seems to qualify, for the classical and medieval worlds as a powerful narcotic; in later times, as the legend changed, as a tool of the devil. See Brévart 2008.

17 Charles Singer (Singer 1927: 5-7) argues that many illustrations in the Juliana Anicia go back to a lost work on plants by Crateuas (BC 120-63) whose writings on botany Dioscorides acknowledges. Singer thinks that Crateuas is the artist shown in the miniature mentioned here. However, the newest edition of the *Oxford Classical Dictionary* (2003) in its entry on Crateuas says that “recent opinion leans against direct borrowing” of the illustrations.

18 The use of mandrake as an effective anesthetic in classical times has been documented. See Scarborough 2006a and Mitchell 2004.

19 This may have been a reason for having to face a certain way when digging it, as Theophrastus and Pliny suggest. The various uses of the mandrake as a soporific also cite its numbing odor.

20 See Scarborough 2006b.

drake roots, just like using pigs and dogs to find truffles. This would have allowed collecting over a period of time and perhaps in unfamiliar locales. The dog could have distinguished mandrake roots from similar looking roots as well, especially in the absence of leaves during the resting period of the respective species to help with identification. For all or some of these reasons, the dog could have had a long-standing association with the mandrake in the ancient world. It may be that the dog in association with the mandrake root persisted as a marker in illustrations to warn people about the effects of the plant.

Much later, in the thirteenth century, a sequence of illustrations added to a late-classical compendium now called the *Medicina Antiqua*, shows the mandrake being gathered, and it includes a dead dog (see figure 6). And even later, an illustration from the fifteenth century, modeled on the old frontispiece, shows the same scene with the dog on its back, apparently, though not clearly, dead (see figure 7). Separating the illustrations in figure 5 and figures 6 and 7 are some eight hundred years. To date, no illustration of a dead dog in association with a mandrake has been located in any manuscript before the thirteenth century. The exception would be the Juliana Anicia frontispiece, and we argue here against the dead-dog inference made by so many. In addition, no text has been found either in the herbals or outside them suggesting a dead dog directly in association with the plant before the twelfth century. It is interesting that by 512, when the Juliana Anicia was created, a compilation of texts on medicinal plants known as the *Herbarius of Pseudo-Apuleius* was circulating in its various iterations throughout the West. (Pliny, Galen²¹, and Dioscorides are some of the sources.) The history of this compilation is complex, involving at least three families of manuscripts whose history and interrelationships can be traced,²² but suffice it to say that in some versions, the entry on mandrake includes a dog being used to help gather the plant. This source would provide a credible and contemporary aid in interpreting the mandrake and dog depicted in the Juliana Anicia manuscript and lends credence to the argument that the dog there is not dead, but alive.

21 Galen of Pergamum (A.D. 129 - after A.D. 210 [possibly 215]) was a high-ranking Roman physician and philosopher whose medical writings and theories were extremely influential for many centuries.

22 See for example D'Aronco and Cameron 1998; Howald and Sigerist 1927; Grape-Albers 1977; also the entry 'Pseudo-Apuleius' in the *Encyclopedia of Ancient Natural Scientists* 2008.



Figure 6: Drawing based on Codex Vindobonensis 93, Vienna, Österreichische Nationalbibliothek (117v, 118r), Southern Italy, early thirteenth century. Available in facsimile as *Medicina Antiqua*, ed. Peter Murray Jones (1999). It appears that the drawings depicting the gathering ritual and dead dog – represented here by figures drawn in dotted lines – were added after the female and male mandrake images were already on the page. In fact, but not specifically referring to the mandrake images, Jones says, “Fifty years later, another illustrator or illustrators seized on these spaces to add a new series of line drawings washed lightly with colour [...] Yet it is clear that this riot of illustrations is not purely decorative but is meant to enhance and comment on the texts in the manuscript” (1999: 3). Jones adds that no stylistic parallels have been found for the art in this manuscript (1999: 5). The authors of this paper have not had a chance to look at the original manuscript illustration, but a careful study of it might support what Jones says.



Figure 7: Drawing based on Bologna, Univ. Graec 3632 Appollonius MS (379r), showing Dioscorides, a mandrake, a dog, and Heuresis. Fifteenth century.

The classic edition of the *Herbarius* is by Howald and Sigerist in the *Corpus Medicorum Latinorum*, based on many extant manuscripts (Howald and Sigerist 1927). To summarize the pertinent part of the entry on mandrake (many medicinal uses are given as well): The upper part of the plant shines at night like a lantern. When you first see the plant, make a circle very quickly around it with an iron tool to prevent its escape (it wants to flee from anyone who is unclean). Do not touch it with the iron tool, but use an ivory stake to loosen the soil around it. When its hands and feet are visible, tie a new rope around it. Get a dog very hungry and tie the rope around its neck. Put food a little distance from the dog, and in going after the food, the dog will pull up the plant. If you do not want to deceive the dog in this way, because the plant has such powers it immediately deceives anyone who pulls

it up, make an apparatus with a pole and tie the rope to it, so that the pole pulls the plant out by the root. (See Howald and Sigerist 1927: 232.)

The Latin word *decipere* (to deceive) is clear and repeated several times in the version cited. It appears as such (*beswycen*) in the Anglo-Saxon translation of the *Herbarius* of about A.D. 1000 (De Vriend 1984: 170). Deceiving a dog is not killing it, and the gatherer is even given an option not to trick the dog. However, in at least one modern study of this very same mandrake gathering ritual, *decipere* is translated as to kill (*vernichten*). Quoting the same passage in Howald and Sigerist, Heidi Grape-Albers translates it: “Wenn du den Hund aber nicht vernichten willst, da die Göttlichkeit der Pflanze so groß sein soll, daß sie denjenigen, der sie ausreißt, im demselben Moment vernichtet, daher, wenn du also, wie ich oben sagte, den Hund nicht vernichten willst, so mache es [...]” (1977: 51).

Grape-Albers' primary concern is the relationship between textual and pictorial transmissions in many manuscript versions of the *Herbarius*. Her work can be misleading, because in discussing various illustrations, chronological considerations are (again) omitted or obscured. In fact, following the mistranslated material from Howald and Sigerist, she cites the thirteenth-century illustrations shown in figure 6, saying they represent the most complete sequence of illustrations, which is made up of four scenes (“die ausführlichste Illustrationsfolge, die aus insgesamt vier Szenen besteht” 1977:51). Her main concern is that in the manuscript itself, they are out of order.

To summarize to this point, by the time the Juliana Anicia manuscript was made in the sixth century, the way Theophrastus,²³ Pliny and others said to gather a mandrake was sometimes included, shortened, or omitted in the mandrake entry in many texts about medicinal herbs. In the *Herbarius* complex, a new version of the mandrake-gathering ritual was included in

23 Theophrastus wrote in chapter 9.8.8. of *Enquiry into Plants*: “Thus it is said one should draw three circles round mandrake with a sword, and cut it with one's face towards the west; and at the cutting of the second piece, one should dance round the plant and say as many things as possible about the mysteries of love” (1980, Vol. 2). The ancient writer remarks that some statements he records may be to the point, others contain exaggeration, and “... may be considered far-fetched and irrelevant ...” among them, the mandrake ritual (1980: Vol. 2, 257). Uses for the mandrake include the leaf mixed with meal for wounds, the root scraped and steeped in vinegar for erysipelas, and also for gout, sleeplessness, and for love potions.

some versions. The exact source of the ritual is unknown. It may be a strange combination of the entry on peony from Aelian and the unknown plant at Baaras described by Josephus, but it cannot be said with certainty that these are the demonstrable sources. Many interesting and crucial details would have had to be omitted for this to be true; the most important and most obvious for the present study is the fact that in both Josephus and Aelian, the dog is dead. In the *Herbarius*, it survives. That gathering rituals were well known, widespread, and customary in the ancient world has been documented, and the unknown author(s) who contributed to the *Herbarius* were drawing from a vast and largely undocumented pool.²⁴

In the eight hundred years between the Juliana Anicia frontispiece and the mandrake gathering ritual shown in figure 6, a variety of mandrake figures, both with and without dogs, can be found. They are in various collections of texts on medicinal plants, many of them versions of the *Herbarius*. Figures 8 - 12 give an idea of what can be found during this period, which encompassed the early to high Middle Ages. In many illustrations of herbals, the human features of the mandrake root began to be emphasized, and this trend grew stronger throughout time, showing both the male and female roots. Below, we tie this trend to the *Physiologus*/bestiary tradition.

As shown here, the dog and the mandrake were common in manuscript illustrations. Most of the time, the dog is attached somehow to the root and seems to be pulling it; some illustrations show the dog having a treat.

²⁴ Theophrastus, Aelian, Pliny and others document such rituals. For a comprehensive study of plant rituals, see Delatte 1938. Delatte mentions the rituals now associated with mandrake in Aelian and Josephus but does not tie them to the mandrake.

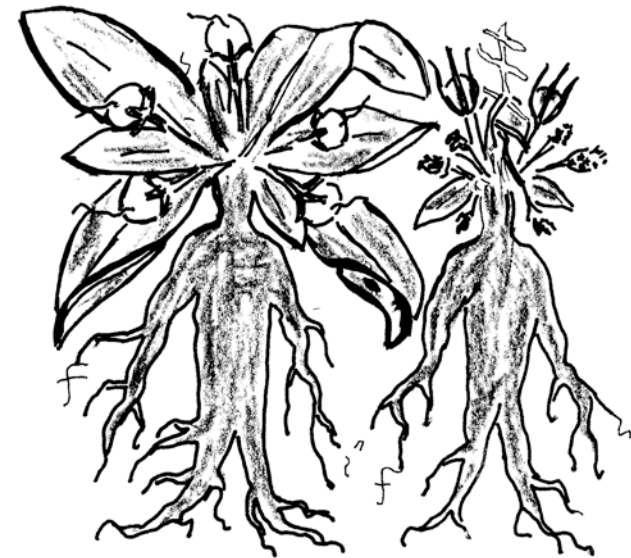


Figure 8: Drawing based on Codex ex Vindobonensis Graecus 1. Dioscurides Neapolitanus XC. Biblioteca Nazionale de Napoli. Sixth/seventh century.

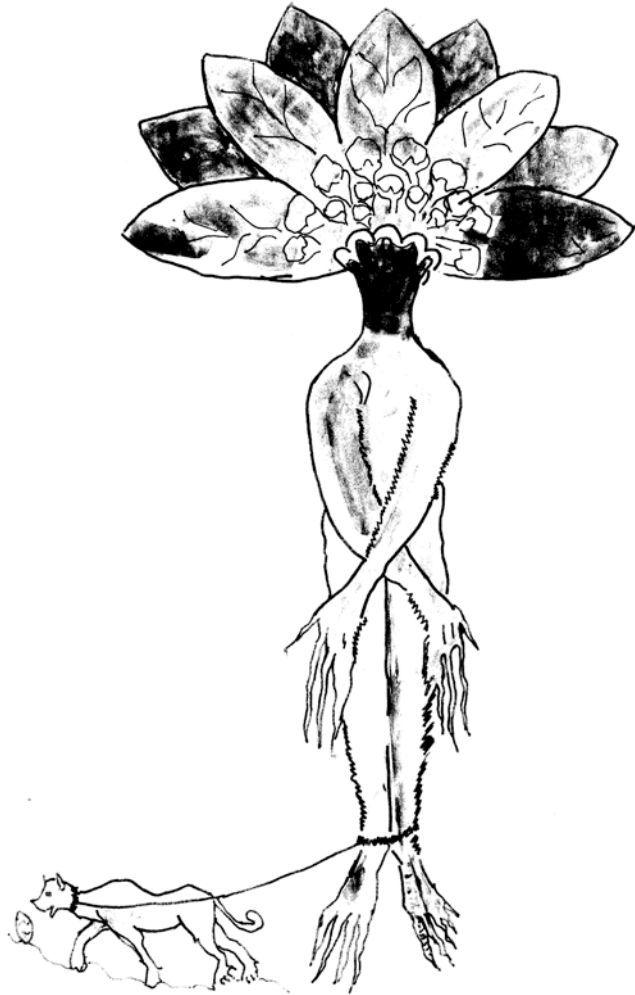


Figure 9: Drawing based on Kassel Landesbibliothek 2° Phys. et Hist. Nat. 10, folio 34r. Ninth century. [Destroyed in WWII. Can be seen in Howald and Sigerist (1927: 223) and accessed on-line in the *MacKinney Collection of Medieval Medical Illustrations*, s.u. 'mandragora' (verified July 2008).

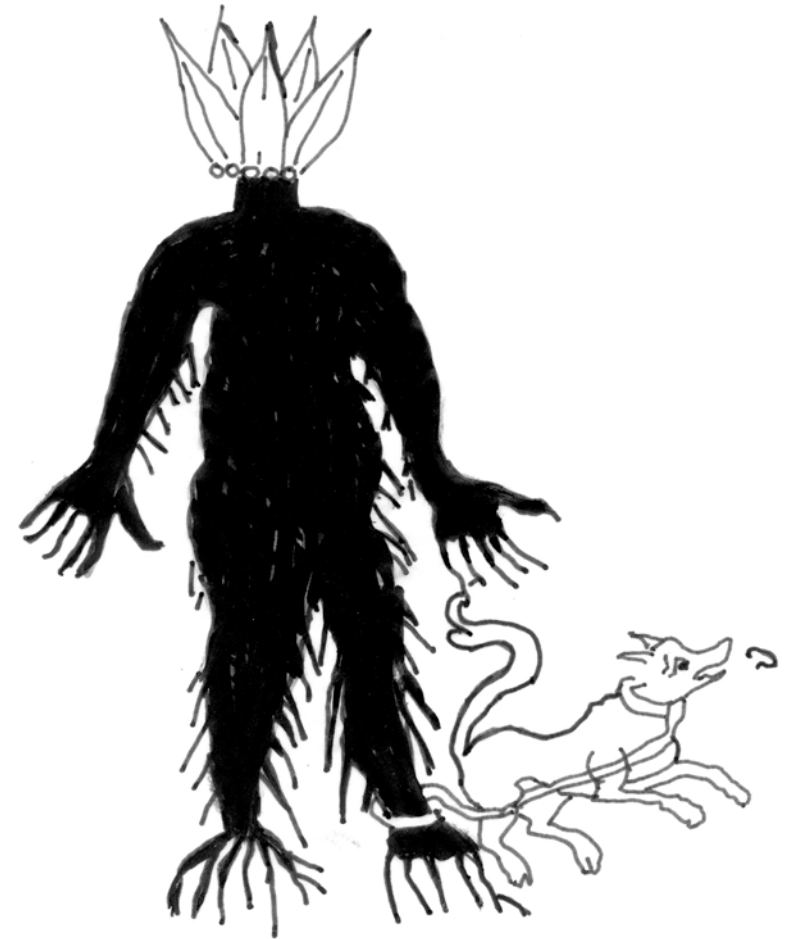


Figure 10. Drawing based on Montecassino, Archivio della Badia. Codex Cassinensis 97. Ninth century.

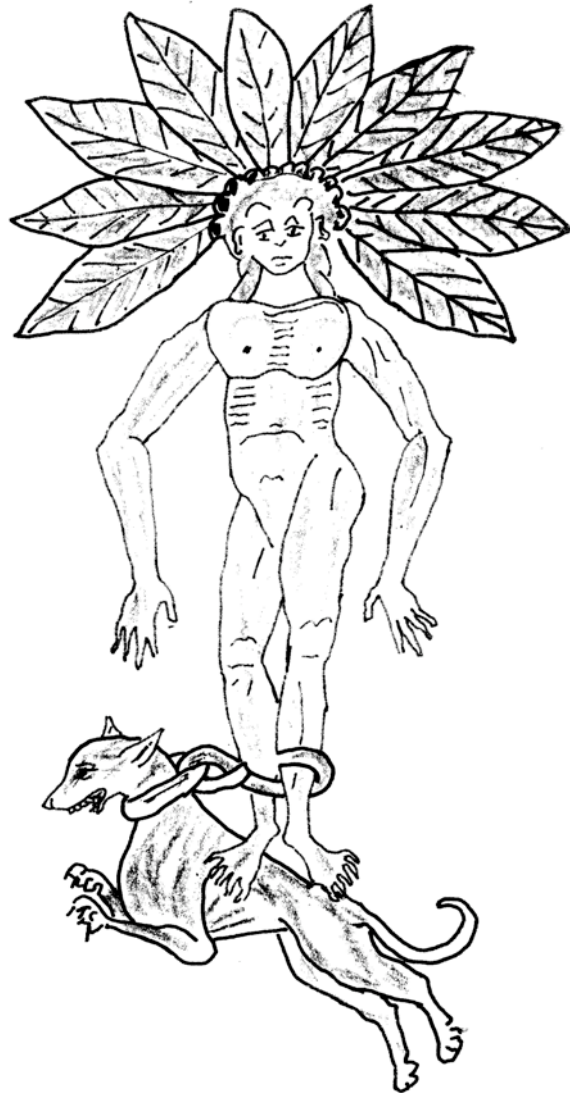


Figure 11: Drawing based on British Library. Harley 1585 (Pseudo-Apuleius), fol. 57r. Eleventh Century. The picture can be accessed on-line in *The Mackimney Collection of Medieval Medical Illustrations*, s.v. 'mandragora'.

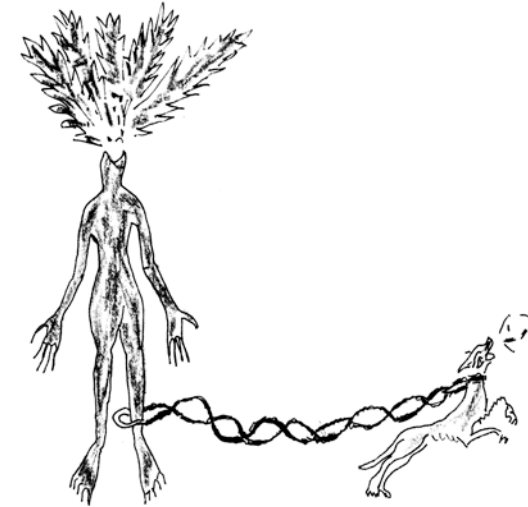


Figure 12: Drawing based on British Library. Harley 4986. Twelfth century.

The scream enters the mandrake legend

During this same period *ca.* A.D. 500-1200, the mandrake at first plays a minor role, then a major one, in a collection of fables known as the *Physiologus*. Like the *Herbarius* and its several manuscript families, the history of the *Physiologus* is a field of specialized study.²⁵ Its direct offspring is a medieval genre known as the bestiary. Originally written in Greek in about the third century A.D., the *Physiologus* is a collection of fables about animals and birds whose traits illustrate Christian precepts. Entertaining and easy to remember, the tales were widely popular and can be found in many languages. Once translated into Latin, the number of tales began to grow, and the forty original stories grew to more than 100 during the course of the early Middle Ages.

In the *Physiologus*, a mandrake is mentioned in the story of the elephant, many of whose attributes were considered worthy models for humans.

²⁵ See, e.g., McCulloch 1962; Carmody 1941.

There is an animal called an elephant, which has no desire to mate. [...] If, however, they want to have offspring, they go to the east, near the earthly paradise, where a tree called mandragora grows. The elephant and his mate go there, and she picks a fruit from the tree and gives it to him. And she seduces him into eating it; after they have both eaten it, they mate and the female at once conceives. . . .

The elephant and his wife represent Adam and his wife, who pleased God in the flesh before their sin, and knew nothing of mating or of sin. When the woman ate of the tree, that is, gave the herb mandragora which brought understanding to her husband, she became pregnant and for that reason left paradise (Barber 1999: 39-43; cf. translation by White 1954: 24-28).

There is much more to the elephant story than this, but the point is that the mandrake is in it as the tree of paradise and its fruit as apple in the Garden of Eden, associated with fertility, desire, sin, and knowing.

According to Florence McCulloch, the first widely disseminated vernacular versions of the *Physiologus* date to the early twelfth century and are in Anglo-Norman. The collection was called a *bestiarie*. The medieval bestiary begins to take shape beginning now, vernacular versions finally replacing the Latin *Physiologus* entirely. One distinguishing feature for these later bestiaries is their inclusion of material from Isidore's *Etymologies* (see McCulloch 1962: chapter 3).²⁶

Important to this study of the mandrake and the growth of its legend is one particular bestiary, the oldest one in French, ca. 1120 (McCulloch 1962: 47). Believed by some to come from a now-lost Latin original,

²⁶ Isidore of Seville (ca. A.D. 560-636) is considered one of the greatest scholars of the early Middle Ages. His *Etymologiae* was intended to be an encyclopedia of universal knowledge, and it was a standard reference for centuries. He says of the mandrake: "Mandrake (*mandragora*) is so called because it has sweet-smelling fruit the size of a Matian apple; hence Latin speakers call it 'apple of the earth'. Poets name it *ἀνθρωπομορφος* ("human-formed"), because it has a root that resembles the human form. Its bark, mixed with wine, is given for drinking to those whose bodies need to undergo surgery, so that they are sedated and feel no pain. There are two kinds of mandrake: the female, with leaves like lettuce's, producing fruit similar to plums and the male, with leaves like the beet's" (Isidore 2006: XVII,IX,30).

Philippe de Thaon's *Bestiary* contains a detailed mandrake gathering ritual immediately following the entry on elephants.²⁷ First, Philippe quotes Isidore on the mandrake, saying there is a male and female plant. Then, Philippe says it must be gathered by a 'stratagem' (*par engin*), recalling the words of the *Herbarius* (*decipere*; deceive).²⁸

The man who is to gather it must fly round about it, – must take great care that he does not touch it; – then let him take a dog bound, let it be tied to it, – which has been close shut up and has fasted

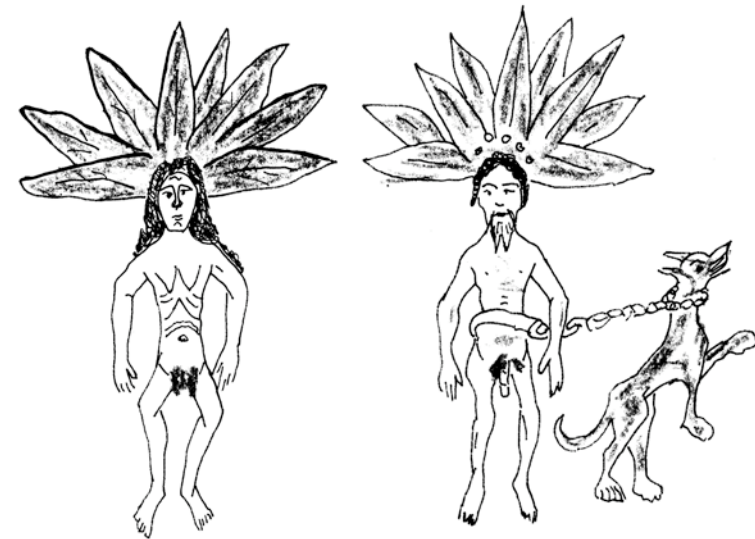


Figure 13: Drawing based on Bodleian, Oxford. MS Ashmole 1431 (Pseudo-Apuleius). AD 1070-1110. Female mandrake is on *folio* 34r; male is on 31r.

²⁷ An interesting illustration is in MS 249, Merton College, Oxford, one of the three manuscripts containing this poem. On *folio* 6v, next to the elephant-mandrake portion, Adam and Eve are drawn unclothed, hiding their genitals, with Eve reaching out to the mandrake tree for an apple. The elephants are not depicted. Note the drawing in figure 13, which is in a version of the *Herbarius*. It is contemporary with this bestiary and that of Henry of Huntingdon.

²⁸ Using Thompson's paraphrase of Philippe's poem, where one could infer that Isidore was the origin of the gathering ritual (as usual, with no sources cited by Thompson), Lee 1977: 50-51 flatly states Isidore is the source of the gathering ritual. Thompson is a major source for this dissertation, unfortunately.

three days, – and let it be shown bread, and called from afar; – the dog will draw it to him, the root will break, – it will send forth a cry, the dog will fall down dead – at the cry he will hear; such virtue this herb has, – that no one can hear it but he must always die. – And if the man heard it, he would directly die: – therefore he must stop up his ears, and take care – that he hear not the cry, lest he die, – as the dog will do which shall hear the cry. (Wright 1841: 101-102.)

In discussing the relationship of Philippe's work to certain other Latin versions of the *Physiologus*, about the mandrake entry, McCulloch says: "There are also obvious differences between the Latin B-Is versions and the French, which speak for Philippe's forgetfulness or his fancy, or for a different source for certain details. Where, for instance, did the author find the story of the Dog's pulling up the Mandrake?" (1962: 53). The other nearly contemporary French bestiaries by Guillaume le Clerc, Gervaise, and Pierre de Beauvais do not have anything similar to Philippe's details about gathering the mandrake. To date, his source or sources remain a mystery. However, from the time of this bestiary forth, the cry of the mandrake and the death of the dog that pulls it up become common in the literature and in illuminations, spilling over into the herbals.

A very similar mandrake-pulling ritual to that in Philippe is in a herbal by an English contemporary of the Anglo-Norman writer. In about 1140, archdeacon Henry of Huntingdon wrote a Latin herbal, much of it based on the *Macer Floridus* (ca. 1080, which was itself based to a large extent on Dioscorides, Pliny, and other ancient sources); however the source for Huntingdon's account of *Mandragora* is unknown.²⁹ It has all of the elements as Philippe's – including the scream and the dog perishing – with an aside suggesting at least one species of the plant was growing in England in the twelfth century. The attention to details of the human body and the form of the mandrake is striking.

Renowned mandragora stands high in an elevated bed, rightly to be placed first. If our garden did not have these, perhaps England would lack these riches. Since it is the leader of herbs, just as man is the leader of animate creatures, by its body this prince imitates the

29 Winston Black, Shippensburg University, Pennsylvania, is working on an edition of Henry's herbal, which was long thought to be lost and was only recently discovered in Prague. Black drew Van Arsdall's attention to this little-known work.

prince's body, his feet with its feet, his leg with its leg, his genitals with its genitals, his loins with its loins, his breast with its breast, his throat with its throat, and his head and hands with the shape of its head and hands. [...]

And as many people say (though I don't assert this firmly), if anyone plucks it and hears it torn from its mother's bosom, (they say) that the man dies like the herb. They dig round it and, while fleeing, attach a dog to the mandrake's body; the hungry dog seeks for food that has been placed far away; the mandrake is plucked and the dog dies (Rigg 2003: 263-264).

Whether these two contemporary works by Huntingdon and Philippe are in any way related, and whether they both depend on the same lost Latin work (if there indeed was one) remains to be determined.

The innovations to the elephant/mandrake story in the Anglo-Norman and English bestiaries are not found in nearly contemporary early Middle High German versions of the *Physiologus* (and they cannot be dated as accurately as their French and Norman counterparts).³⁰ None of them has an elaborate story about the mandrake: nothing is said about the human form, nothing about the scream or the dog. They contain the traditional version of the elephant story, as outlined above, although each gives a slightly different description of the plant: "[...] to paradise. There he [the elephant] finds a herb that is called mandragora. There they go first and eat from this herb."³¹

Although the Greek *Physiologus* speaks of a 'mandrake-tree', all German texts have the botanically correct nomenclature: 'herb'. The differences in content are believed to go back to an earlier version of the text,

30 Vienna manuscript 2721, the oldest of three surviving, dates roughly to the twelfth century (some say early, others late twelfth century); the other two manuscripts, Klagenfurt, Kärntner Landesarchiv, Geschichtsverein für Kärnten, MS 6/19 (known as the *Millstätter Physiologus*) and Vorau MS 276, are assumed to be younger (VL 1989: VII,629-630). Both the *Vienna* and *Millstätter Physiologus* are believed to stem from a lost intermediate manuscript. The Vorau manuscript is said to be related to the others via the lost original.

31 [...] zuo dem paradise. da uindit er eine wurze heizit mandragora. da gent si aller erist und chorot dere chrutel. (Papp 1980: faksimile part, fol. 139r). Translation above by H. Klug.

which was the basis for the available copies. However, the changes³² made by the writer of the *Millstätter Physiologus* (and by Philippe and Henry too) demonstrate that the original text was not blindly copied, indicating one thing: We cannot speak of one single concept that was universally associated with the mandrake at any given moment in time. We cannot even assume that one single conceptual image of the plant prevailed within a certain region.

Pertinent to the development of the mandrake legend is that the *Millstätter Physiologus* is illustrated.³³ The Millstätter drawing related to the passage on the elephant shows elephants, a dragon, and a human figure without a head (see figure 14).³⁴ The text itself contains the usual description of the elephant and its mating habits, which always involves the mandrake plant.³⁵ In seeking to determine the significance of the headless figure and its meaning for the illustrator who chose to use it for the elephant story in the *Physiologus*, our research revealed that the headless human figure reflects a contemporary concept of the mandrake, one the illustrator must have had in mind. It is a completely different concept of the plant from that described in the text.

This concept leads to yet another source for the changing mandrake legend: late-classical and medieval commentaries on the biblical *Song of Songs*, of which there are many. Although the mandrake is mentioned only once in this book of wisdom, and that because of its smell, as the commentaries grew, so did what commentators said about the plant.³⁶ The passage in the *Song of Songs* (7:13) that mentions the mandrake reads simply: “The mandrakes give forth fragrance, and over our doors are all choice fruits, new as well as old, which I have laid up for you, O my beloved” (*The New Oxford Annotated Bible*, 1991). How widely the commentaries could differ is illus-

32 In contrast to the writer of the Vienna manuscript, this writer modernizes the introduction, and tries to update the style and vocabulary of the text. He even puts the text into (crude) rhymes.

33 The Vienna manuscript has blank spaces reserved for illustrations.

34 Copies of the original can be found in Menhard (1962: 185) and the facsimile (1967: fol. 90r).

35 See the discussion on the *Physiologus* above.

36 Exegesis of the *Song of Songs* is a vast a topic of research. See for example, Rahner 1966; E. Ann Matter 1990; Ohly 1998; Dove 2004.



Figure 14: Illustration of the 'Elephant'-chapter in the *Millstätter Physiologus*, MS Klagenfurt, Kärntner Landesarchiv, Geschichtsverein für Kärnten, 6/19, fol. 90r. (Drawing by Helmut W. Klug, University of Graz, reproduction with permission of the artist.)

trated by the following text and the interpretations scholars have made of it.³⁷

The *St. Trudperter Hohelied* is the first³⁸ exegesis of the *Song of Songs* in the vernacular. It was written by an anonymous cleric for a convent of nuns in Admont (Styria / Austria) around 1160. Friedrich Ohly states that this is an independent commentary not only in style and composition but also in

37 For those not familiar with the *Song of Songs*, it is on the surface an erotic dialogue between a bride and bridegroom, full of sensual imagery. Naturally, why this particular book of the Bible was a popular focus for Christian commentators is a topic on which scholars do not agree (see for example works cited in the directly preceding footnote, to name only a few resources). The commentators early began to associate the bride with the Church (or the believer) and the bridegroom with Christ, or God himself.

38 There is an earlier version by Williram von Ebersberg (A.D. †1085). It has a three-column layout consisting of the Latin Bible text and a Latin and German commentary. The German commentary contains many Latin phrases – primarily to outline the main thoughts of the author. He translates the Latin *mandragora* as *ärzat uvürze* ('doctor's plant') and emphasizes the medicinal uses of the plant.

content (1998: 327-328). In most previous commentaries on the *Song of Songs*, the mandrake really does not feature prominently at all, being considered a plant with qualities that help mankind.³⁹ However, the Austrian commentary on the *Song of Songs* (7:13) reads as follows:

The noble roots smell sweetly in our gates, that is the exalted mandrake. This root is shaped similar to a human body and in German it is called *Alraune*. Those who hear her scream when she is uprooted must die. She smells pleasantly, her effect is stronger than medicine, the bark of her root brings stupefaction. This root denotes God, the image of whom was Christ. On earth he was a man. For us he is a medicine and a security for eternal life. He is the root [...] The root's bark is the Holy Ghost, this means the numbing vapor which makes all lovers of holy Christ sleep. Her scream is his mighty judgement, which kills all those who irritate him.⁴⁰

Equating the mandrake with Christ is a unique trait of this text (Ohly 1998: 1158). In the commentary to his edition, Friedrich Ohly provides a comprehensive list of references to the mandrake, and he summarizes current literature on the topic (1998: 1153-1161). Unfortunately, some of his assumptions cannot be left without discussion. He creates the impression (1998: 1154-1155) that the scream and the beheaded figure of the mandrake are common images, as he points out which sources use this part of the legend

39 See Dove 2004: 155-156 on the *Glossa Ordinaria*, the standard work of biblical commentary in the Middle Ages beginning about 1110. The *Glossa Ordinaria* says of mandrakes: “[They represent ...] the virtues of those who are proficient in medicines, bringing tranquillity in the face of the anxieties of the world, preventing sickness induced by the word of God, causing vices to be removed from men without pain, offering apples, that is, churches sweetly redolent with confessors” (Dove 204: 155).

40 *Die edelen wurzen die stinkent in un / seren porten. daz ist vürtreffelichen mandragora. / der wurze ist gelich eines menneschen bilde unde / haizet diutischen alrûn. der ir stimme / vernimet, der muoz des tôdes sîn, so man / si ûzzucket. si stinket wol, ir wuocher ist / vil kreftec zuo arzentuom, ir rinde machet twalm. / disiu wurze bezeichnenet got, des bilde was Christ. / in der erde was er eineme menneschen gelich. er / ist uns ein arzentuom unde ein pfant des / ewigen libes. er ist diu wurze [...] / sîn rinde daz ist der heilige / geist. daz ist der twalm, der slâfende machet alle / die minnaere des heiligen Christes. sîn stimme daz / ist sîn gewaltelech urteile. diu ertoetet alle sîne / reizære. [...]* (Ohly 1998: 264). Translation above by H. Klug.

and which do not. Later he correctly states that the scream is a very rare aspect: “Viel seltener [...] ist die [Tradition] über die von der Pflanze beim Ausgerissenwerden zu hörenden Schreie, die den Tod des Herausreißers bewirken” (1998: 1156). Following Rahner (1966: 214) and referring to the *Lexikon des Mittelalters* (LM: 'Alraune') he makes the assumption that this part of the lore (the scream) was imported from Arabic or other eastern sources. Neither he nor Rahner give examples or sources for this thesis. Reading his commentary also makes us believe that the beheaded figure of the mandrake is a common depiction, and he lists a number of texts that use this image. What he neglects to tell is that this is only common to exegetical literature – no herbal or other secular text hands down the image of a headless mandrake. (However, in the herbals, one will often find drawings of the mandrake as a human figure with leaves protruding from the neck/shoulders, but the intent does not appear to be to make it 'headless'. The point is, the leaves grow directly out of the root.) Aside from these flaws, the commentary to the edition is as outstanding as the edition itself.

In his discussion of death in medieval poetry, Hans Rolf gives detailed lists of sources for the mandrake description in the *St. Trudperter Hohelied* and states that it is composed from different parts of classical lore (1974: 41), wrongly indicating that the scream is also part of classical literature: “[...] von der Stimme der M[andragora] und ihrer für den unvorsichtigen Rhizotom tödlichen Wirkung wissen vor allem Antike und Volksglaube.” (1974: 42, note 43). Contrary to his description of all the other characteristics of the plant, he does not give any historical reference for this statement! So we do not know to which classical sources he is referring or what his definition of 'Volksglaube' would be. In this aspect, Rolf joins many others (some of whom have already been mentioned above) in assuming the whole legend came from Theophrastus, Josephus, and from classical herbal imagery.

As suggested in our introductory paragraphs, scholarly works in a number of disciplines reflect assumptions about the mandrake legend that have been handed down for many years without going to the sources or checking chronologies. Hence the number of contradictory assumptions that have been made, for example, in interpreting mandrake illustrations. As the examples above indicate, there was no clear-cut image or legend for the mandrake at any time during the Middle Ages, and this is particularly the case after ca. 1100 when several streams of mandrake lore begin to merge differently in different places. For this reason, to be able to interpret

accurately any reference to or image of a mandrake, it is vitally important to date the reference or image as precisely as possible and then to relate it to chronological changes in the mandrake legend.

To complicate the puzzle of the mandrake legend and how it grew, at (nearly) the same time as the bestiaries and the *Song of Songs* commentaries, Hildegard von Bingen⁴¹ wrote about the plant in chapter 56, on plants, of her *Physica*, ca. 1151-58. Quite a few new concepts about the mandrake emerge in this work, concepts that become enmeshed in the legend.⁴²

The mandrake takes on and holds the influence of the devil more than other herbs because of its similarity to a human. When dug from the earth, let it be placed immediately in a spring for one day and one night so that every evil humor in it is cast out and it has no more power for magical and fantastic things. If it is set aside with earth sticking to it and is not cleansed in a spring, it is harmful with acts of magic and fantasy, just as evil things were done earlier with idols. If a man suffers lewdness through magic or burning of his body, let him take the female species—cleansed in a spring—place it between his chest and navel for three days and three nights. Pulverize the left hand of the plant, add camphor to the powder, and eat it. He will be cured (Hozeski 2001: Ch. 56 – no page numbers).

Women are to use the male mandrake in the same way for the same affliction. Used as an antidote to melancholy or sadness, Hildegard directs sufferers to take the mandrake next to them in bed and to say this prayer: “Oh God, you made me from the slime of the earth without suffering. Now I place this earth next to me so that my earth may know that peace as you created it,” (Hozeski 2001: Ch. 56.) The connection here with man's creation out of earth is obvious. In her description of how to use the plant as analgesic, Hildegard, like Philippe de Thaon, emphasizes the anthropomorphic features of the plant.

41 Hildegard von Bingen, A.D. 1098-1179 was abbess in the Benedictine cloister of Rupertsberg near Bingen. She is considered one of the earliest mystics and is renowned for her writings on religion, medicine, ethics, and many other topics.

42 To date, we have been unable to locate Hildegard's sources. Obviously, more work is required on the sources of the later mandrake legend as witnessed in these three nearly contemporary writers (Hildegard, Philippe, and Henry). Their possible relationships would also be of interest.

This striking resemblance of both texts triggers the question whether Philippe's text can be taken as a source of Hildegard von Bingen's chapter on the mandrake, or – as McCulloch suspects – that there is another, yet unknown, source known to both Philippe and Hildegard.

The mandrake legend and the negative image of the plant

Within only a few years of each other, Philippe de Thaon in France, Henry of Huntingdon in England, Hildegard von Bingen in Germany, and the anonymous author of the *St. Trudperter Hohelied* in Germany witness to a dramatic change in the mandrake story in Western Europe, a change also mirrored in the illustrations. In addition, it is evident that the changing mandrake lore in the herbals and *Physiologus*/bestiary literature has an analogy in the contemporary Christian *Song of Songs* commentary tradition, in which mandrake lore went from being insignificant to important from A.D. 200 to A.D. 1300, and added considerably to the negative connotation of the plant.

Although scholars question the correct identification for the Hebrew plant named *dūdà'im*, which is in *Genesis* 30:14-16 and in *Song of Songs* 7:13, that name was translated into Greek as *μανδραγόρας* in the *Septuagint*. Subsequent interpretations of these biblical passages provided rich imagery in the lore associated with the herb. Although exegeses of *Genesis* emphasized the reputation of the mandrake as an aphrodisiac, an aspect of lesser interest for this study, the mandrake in the *Song of Songs* provided an opportunity for a broad variety of interpretations.⁴³ Almost all commentators provide a more-or-less detailed background on the herb, and a number of them influenced mediaeval clerical writers.

In the early years of Christendom, the main emphasis of exegesis was to bring a text that initially had no obvious connection to Christian theory into a Christian religious context. The first writings were strongly influenced by Jewish exegesis, but only partial texts have been handed down, so that it

43 Christian exegesis of the *Song of Songs* started in early Christendom, with texts in Hebrew and Greek. The present paper may suggest an exaggerated role for the mandrake in exegesis texts generally. In fact, the plant generally plays only a minor role (if any at all), with the exception of the second commentary by Honorius Augustodunensis (see below). An outline of *Song of Songs* exegesis from late antiquity to the early Middle Ages is in Ohly 1958 and Matter 1992.

is not possible to give a clear-cut picture of them. Generally considered the 'founder' of Christian exegetical thought is the writer Origen⁴⁴ and his work greatly influenced the Church fathers, one of them Ambrose.⁴⁵ In his *Commentarius in cantica canticorum* Ambrose says about the mandrake: "There I will give my fertility where mandrakes give their odor. Many distinguish the sex of mandrakes and think that there are male and female (plants); the females have a strong smell."⁴⁶

In addition, an unknown⁴⁷ commentator on the *Song of Songs* in the fifth century wrote:

The mandrake is an aromatic herb, the root of which resembles a human figure. Its fruit has a pleasant smell and is similar to the Matian apples, which we call earth-apples. This herb is most useful for medical things: A potion of its fruit makes those who suffer from insomnia sleep. Those who have to be cut as means of therapy proceed in a similar way: if they drink from the bark of the apples [=paring] they neither feel incision nor cauterization [...]⁴⁸

Close to the time of this commentary, at the beginning of the fifth century, Apponius added in his *Cantica canticorum expositio* to the description of the plant: "The mandrake is a herb, the root of which is shaped like a human

44 Origen is one of the most distinguished – if controversial – early Christian Church fathers, a scholar and theologian. He was an Egyptian who lived and taught in Alexandria from A.D. 185 to A.D. 254. He produced a corrected *Septuagint* and commented on all books of the Bible.

45 Ambrose (339-397) was Bishop of Milan and is considered a Father of the Church. A prolific writer, he mentored and baptized St. Augustine, whom he greatly influenced.

46 *Ibi, inquit, dabo ubera mea, ibi mandragorae dederunt odorem. Plerique discernunt quemdam inter mandragoras sexum; ut et mares et feminas putent esse, sed feminas gravis odoris* (MPL 015,1951A). Translation above by H. Klug.

47 The author is associated with Cassiodorus Vivariensis (A.D. 490 to A.D. 583).

48 *Mandragora herba est aromatica, cujus radix similitudinem habet humani corporis. Poma ejus optimi sunt odoris in similitudinem pomi Matiani, quod nostri terrae malum vocant. Haec herba rebus medicinalibus aptissima est. Nam ferunt eos qui incommodo vigiliarum laborant, haustu hujus pomi relevari, et posse dormire. Item ferunt eos qui ob curam secandi sunt, si exteriorem hujus pomi corticem biberint, non sentire sectionem vel adustionem [...]* (MPL 070,1099A-B). Translation above by H. Klug.

body without a head."⁴⁹ Even though references or allusions to what the herbals say about mandrakes exist in the commentaries, there are two major differences. First, the main emphasis in the commentaries is on the mandrake root being shaped like a human figure, which is sometimes expanded by the fact that this figure has no head. The other emphasis – this, of course, because of the biblical passages – is the focus on the odor of the mandrake fruit. The herbals do not dwell on either aspect.

Throughout Antiquity and the early Middle Ages, the description of the plant normally conveys a positive connotation, as in the following line from an anonymous exegesis text: "The mandrake, though, denotes the fragrant virtues."⁵⁰ Besides this favorable description, the image of the mandrake as 'a human figure without a head' lives on in several exegetical texts⁵¹ but it is considerably less used; in all these texts the mandrake has a negative connotation: it is associated with the unbelievers. Exegesis of the *Song of Songs* continued throughout the early Middle Ages with no major changes in what was being said about the mandrake.⁵² However, a flowering of the genre occurred in the twelfth century and the role of the mandrake changed considerably.⁵³ Several factors influenced this development: there was a change not only in the audience but also in authorship – the emphasis

49 *Mandragora herba est cuius radix per omnia, absque capite, humanum corpus deformat* (CLCLT Cl. 149; 11,154). Translation above by H. Klug.

Here we can witness the shift in interpreting the mandrake from that of a vaguely human figure to a human body without head. Rahner (1966: 230) notes that Apponius's exegesis also shows the author's knowledge of contemporary herbals: [...] in which it is often said that this herb [...] should not be pulled out of the ground by a man, but with a flexible staff: [...] *sicut praedicta herba [...] non ab homine sed reflexo stipe euelli de suis sedibus refertur*. (CLCLT Cl 149; 11,171). The connection with the herbals (the mandrake being considered a medicinal herb) in addition to its meaning in the Bible, persisted after this time in the commentaries.

50 *mandragorae autem fragrantiam virtutum designant* (MPL 070,1099B). Translation above by H. Klug.

51 The headless mandrake can be found in the texts of (Pseudo) Hieronymus (forth cent.), Burginda (seventh cent.), Wolbero of Cologne (+1176), or Philipp of Harvenst (1100-1183).

52 For a complete list of works, see Ohly 1958.

53 This is at the same time as the bestiary/*Physiologus* mandrake lore was changing, when Hildegard wrote, and the mandrake images in the herbals began to look more human.

shifts from a 'global' interpretation of the Bible text to the needs of smaller (monastic) groups. New areas of interest emerged, such as mysticism or the increasing worship of the Virgin Mary, and expositors began to feel a new self-esteem, which led to innovations in form and content.

A dramatically different image of the mandrake occurs in one important commentary on the *Song of Songs* in the early twelfth century. Honorius Augustodunensis⁵⁴ wrote two commentaries on the *Song of Songs* that greatly differ from each other: the *Sigillum beatae Mariae*, written around 1100 in England, and *Exposito in cantica canticorum*, the date of which is debated. The most plausible date of origin seems to be the years from 1126 to 1132, the place Regensburg (Rooth 1939: 133 and Flint 1974: 197). Ohly and Flint differ in their appraisal of the two texts but we need not discuss these details here. It is sufficient to point out that in the *Sigillum*, Honorius makes use of a very new association between the bride in the *Song of Songs* and the Virgin Mary, but otherwise generally sticks to traditional lines of thought. His other work, as far as the exegetical details are concerned, also follows well-known paths of interpretation (Ohly 1958: 257-262).

In the *Exposito*, Honorius puts the commentary in a completely new setting. Based on a strict number symbolism, he invents a drama of salvation in four acts, each of which has a section of the *Song of Songs* as its basis. The divisions for the acts in the text are at 2:17, 6:9 and 7:10, the four underlying epochs are *ante legem*, *sub lege*, *sub gratia*, and *sub Antichristo*.⁵⁵ It is the protagonist of the fourth act that concerns us most: the fourth bride is 'Mandrake, the girl without a head'. Ohly admires the author's genius: "Den kühnsten Schritt in seiner symbolschaffenden Phantasie tut Honorius bei der Erfindung der vierten Braut [...]" (1958: 259) Her description carries well-known traits, both from earlier exegetical texts and herbals.

54 Honorius was educated in England, possibly under Anselm, between 1093 and 1097, and later was a priest, teacher, monk and recluse in the cloister of St. Jacob in Regensburg (see Rauh 1979: 235-237, and BBKL: Honorius Augustodunensis; accessed May 2008.). He was widely known and appreciated throughout Europe, and produced a great amount of work on various religious topics (see Flint 1974: 196). He died A.D. 1151.

55 Before the law, under the law, under grace, under the Antichrist; each is associated with a different bride.

But Mandrake – the girl without a head – comes from the north. Mandrake is a herb, which has a human form but the head is missing. The unbelievers are conceived as the Antichrist, whom the head of the mandrake is cut off, when the Antichrist, who is marked as the head of all evil, is killed. She [= Mandrake] comes back to the true head [= Christ] from the north, away from unbelief and in the end she will be subdued with sanctity.⁵⁶

This description of the mandrake, from the prologue, is repeated almost verbatim at the beginning of the fourth act, and variations of it can be found several times throughout Honorius' exposition. The connection of mandrake and Antichrist is established in the most pictorial of terms. We can only guess at the sources Honorius used, but several have already been mentioned in this article: we have found the image of the 'mandrake without a head' in Apponius' exegesis of the *Song of Songs* and know that this tradition, although less prominent, was steadily handed down from the time of the Church fathers.

We know that the mandrake was seen as a powerful, magic herb throughout Antiquity, and we have already dealt with a text that explicitly associates the mandrake with negative forces – the *Herbarius of Pseudo-Apuleius*: "If you do not want to deceive the dog in this way, because the plant has such powers it immediately deceives anyone who pulls it up [...]."⁵⁷ The 'decipere', which spared the life of the dog in the discussion above, indicates that the plant does not 'kill' but 'deceives', a feature associated with the Antichrist since the fall of Adam and Eve: "Then the LORD God said to the woman, "What is this you have done?" The woman said, "The serpent deceived me, and I ate." (Genesis 3, 13).⁵⁸ The *Herbarius* was a standard

56 *Mandragora vero, hoc est puella sine capite, venit ab aquilone. Mandragora est herba formam hominis habens, sed capite carens. Et multitudo infidelium intelligitur post Antichristum, cui mandragorae caput est amputatum, dum Antichristus occiditur, qui caput omnium malorum scribitur: quae tunc ad verum caput recurrit ab aquilone, id est de infidelitate, et subditur ei in sanctitate.* (MPL 172:353B-C). Translation above by H. Klug.

57 *Quo si nolueris canem decipere quia tantam fertur ipsa herba habere divinitatem, ut qui eam evellet, eodem modo illum decipat [...]* (de Vriend 1984: 171).

58 Quoted from the *New International Version*. The Latin text reads as follows: [...] *et dixit Dominus Deus ad mulierem quare hoc fecisti quae respondit serpens decepit me et comedi.* (*Biblia Sacra Vulgata*).

reference on medicinal plants throughout Europe for centuries, even being translated into Anglo-Saxon quite early (as mentioned above; also see Beccaria 1956; DeVriend 1984). Given the scholar that he was, it is most probable that Honorius knew the mandrake description from this well-known herbal. For this reason, the image of the mandrake associated with the Antichrist in the *Exposito in cantica canticorum* can most probably be linked to the negative image of the mandrake in the herbal.

As an example of misleading and largely undocumented statements about the mandrake in connection with its medicinal properties, in his discussion of the Antichrist in Honorius's exegesis, Rauh gives a description of the plant with which we must take issue: "[Es] ist damit eine Pflanze mit menschenähnlichem Wurzelstock gemeinet, die seit ältester Zeit im ganzen Mittelmeerraum zu allerlei Arznei, vor allem aber zum Liebeszauber Verwendung fand." (1979: 262). A close look at Classical literature on the mandrake shows this portrait to be wrong. The number of medicinal uses for the plant by far surpasses its use as an aphrodisiac in almost all texts.⁵⁹ In fact, the fertility-promoting qualities of the herb are over-accentuated in biblical exegesis because of the story in *Genesis* 30:14-16. As a consequence, Rauh's description does not give a correct historical perspective.

Honorius, in turn, was a major influence on the theological writings of his time. He not only influenced Hildegard von Bingen's quite negative portrait of the plant, but a depiction of his headless mandrake can also be found in an illustration to the elephant-chapter of the *Millstätter Physiologus*, both of which are discussed earlier (see figure 14). According to Menhard (1962: 173) the illustrator must have either known the text of *Exposito in cantica canticorum* or he might have even been one of the illustrators of one of Honorius' manuscripts in Regensburg – but this thesis is speculation and cannot be supported by the illustrations available.

At least one scholar believes that the enormous interest in the *Song of Songs* during the eleventh and twelfth centuries greatly influenced literature during the following centuries. E. Ann Matter (1992) argues that, for one, the commentaries on this biblical text became a genre of their own, and also that vernacular adaptations, which first appeared in France, greatly affected the synthesis of, for example, mediaeval love poetry, *Minnesang*, and generally spawned echoes and offshoots in vernacular literature. Based on this thesis, it seems likely that this would be one major path by which the

⁵⁹ One example is the chapter on the mandrake in Dioscorides' *Materia Medica*, where the use of the plant as aphrodisiac is a minor item; one use among many.

mandrake came into mediaeval vernacular literature: the *Song of Songs* became part of liturgy and was, of course, used at festivities celebrating the Virgin Mary. Another important factor is that cloisters were the educational institutions of this time: the *Summarium Heinrici*, for example, which is a comprehensive school book and one of the most extensive glossaries arranged by subject matter, was composed in the middle of the twelfth century and does feature the mandrake in more than one entry.⁶⁰

The mandrake legend in the high and late middle ages

To get a feeling for what was indeed said about the mandrake in one vernacular literature, we traced the development of the topic in German literature between A.D. 900-1500. We used electronic and printed sources that provide references to the texts,⁶¹ so that a chronological list could be built of all available occurrences of *alrûne* (and variants) from the tenth to the fifteenth century (see table I and figure 15). The result was striking: most of the instances are recorded in plant-name glosses, the number of literary texts containing the mandrake are marginal. One of the earliest texts, the *Kaiserchronik*,⁶² puts the herb in a magical context but without giving any details at all. Konrad von Würzburg⁶³ uses the plant in a praise of the Virgin Mary, and Heinrich von Meißen⁶⁴ refers to the anesthetic qualities of

⁶⁰ See LM, 'Summarium Heinrici' on general facts and Wegenstein, 2001 on the problem of dating the text. The occurrences of the mandrake were collected for the analysis discussed below.

⁶¹ Printed sources: Graff 1834-1846, Diefenbach 1857, Grosse 1968, Wells 1990, Marzell 2000; electronic sources: *Mittelhochdeutsche Wörterbücher online*, *Middle-High German Conceptual Database*

⁶² This text was written in the middle of the twelfth century in Regensburg and it was handed down in more than 50 manuscripts in at least four different versions.

⁶³ Konrad von Würzburg (born A.D. 1230, died A.D. 1287) wrote *Die Goldene Schmiede* (The Golden Forge) presumably after A.D. 1273, and it was handed down in seven parchment manuscripts, fourteen fragments, and thirteen paper manuscripts.

⁶⁴ Heinrich died in A.D. 1318. He mentions the mandrake in his *Marienleich*, a praise of the Virgin Mary, and in the *Minneleich* – both written between A.D. 1290 and 1305.

the plant. It would be interesting to run a similar study for other languages. For all these texts, we can assume that there were meanings for contemporary readers that are outside the text itself, but we do not learn anything verbatim that would shed any light on the mandrake legend and its growth (see Klug 2005: 67-72).⁶⁵

In addition, the herbals and medical literature written during this period do not give any new details that would add to our understanding of the growth of the mandrake legend. At about this time, a newer type of medical reference book evolved. Called a *Rezeptbuch* or collection of medicinal remedies, these books gave little room to discussions of lore associated with plants. Wittlin (1999: 116-152) establishes that the mandrake was still considered an important ingredient in these remedies. And, for example, Albertus Magnus⁶⁶ gives a long list of uses for mandrake in his botanical treatise *De Vegetabilibus* but only a few facts on the plant itself: "Mandragora is a herb, its root is called Iabro. It is a big root which resembles the form of a human being, as Avicenna says, and this is why it is also called mandragora."⁶⁷ This quote typifies what was said about the mandrake in technical literature from 1200 to 1500. Considering the pieces of the mandrake legend and the factual evidence presented in texts to this point, what happens to the legend in years to come could be considered surprising because of the scarcity of material outside the world of medicinal plants and their illustrations, biblical commentaries, and bestiaries.

65 In this regard, a study of the changing mandrake illustrations in herbals and other works should be undertaken and correlated chronologically with the literature.

66 Albertus Magnus lived from A.D. 1200 to A.D. 1280. One of his aims was to reconcile the work of Aristotle with Christian lore.

67 *Mandragora est herba, cuius radix iabro vocatur. Et est radix magna, habens similitudinem cum forma hominis, ut dicit Avicenna: et ideo etiam mandragora vocatur, quod sonat hominis imago* (Albertus Magnus 1992: 94). Translation above by H. Klug.

This study is predominantly concerned with the historico-cultural aspects of the mandrake lore, therefore we omitted the etymological aspects of the plant name on purpose: analysing these aspects could provide sufficient material for an independent study. The general argument is that the etymology of the Greek plant name, which is the basis for the Latin name, is difficult to ascertain. One possibility (as attributed to Avicenna above) is that it goes back to a Persian word (*merdum-giah*) meaning 'man plant'. Further information on this topic can, for example, be found in Wittlin 1999: 30-32; Marzell 2000: III, 52; Genaust 2005: 365; OED 2008, *s.v.* mandragora.

Date of Origin	Text
10th - 11th cent.	Notker (Psalm translation)
11th cent	gloss (unnamed)
~1070	Wiliram von Ebersberg
~1147	<i>Kaiserchronik</i>
11th -13th cent.	gloss (cod. vind. 2524), 3 entries
11th - 14th cent.	<i>Heinrici Summarium</i> , 11 entries in differnt ms
~1160	<i>St. Trudperter Hohelied</i>
12th cent	gloss (Glossemata XII)
13th cent.	gloss (clm 614)
first half of 13th cent.	gloss (clm 17403)
13th cent.	gloss (cod. vat. pal. 1259)
13th cent.	gloss (Codex Oenipontanus)
second half of 13th cent.	<i>Versus de herbis</i>
~1280	Konrad von Würzburg: <i>Die goldene Schmiede</i>
13th - 14th cent.	gloss (clm 27329)
~1290	Frauenlob: <i>Marieneich</i>
~1305	Frauenlob: <i>Minneleich</i>
14th cent.	gloss (clm 615)
14th cent.	gloss (cod. cassellanus Phys et h. nat.)
~1350	Konrad von Megenberg: <i>Buch der Natur</i> , 11 entries
14th cent.	gloss (clm 13057)
14th cent.	gloss (Glossemata XIV)
1349	<i>Macer de herbis</i> , Germanice, 12°
1420	Lateinisch-niederdeutscher Vocabularius
1420	Vocabularius rerum
1425	Vocabularius ex quo 4°, nr. 418
1425	Vocabularius rerum, 4°, nr. 322
1425	Vocabularius ex quo 4°, nr. 318
1429	Vocabularius rerum Fol.
1433	Vocabularius rerum a 1433
1140	Vocabularius ex quo, 4°, Nr. 305
15th cent.	gloss (Glossarium saec XV)
15th cent.	Vocabularius rerum 4°
second half 15th cent.	L recepies with G words
1485	<i>Herbarius Patauie impressus</i>
~1490	gloss (Brack, <i>vocabularius rerum</i>)
1512-1518	<i>Gemma Gemmarum</i>
1518	<i>Hermannii Torrentini Elucidarius</i>
1616	<i>Thesaurus &c. Henischij</i>

Table I: List of texts and glosses that contain OHG *alrûn* and MHG *alrûne* with estimated date of origin.

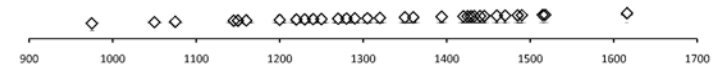


Figure 15: The distribution of the written mandrake records listed in Table I on a time scale: German mandrake references in manuscripts multiply in the 15th century.



Figure 16: Drawing based on Bibliotheque Nationale. Latin 9333. *folio* 31. Late fourteenth/early fifteenth century, showing the mandrake in a manuscript of the *Tacuinum Sanitatis*, a work on health translated from Arabic.

In the twelfth century, then, a sea change occurs in the mandrake legend and in associated images as seen in the illustrations and witnessed in several kinds of texts. During this time, depictions of the mandrake (mainly found in herbals) are like little men and women with leafy headdresses, instead of the earlier human-like, faceless hulks. By the fourteenth century, newer details of the legend surrounding the plant show up in illustrations (see figures 6 and 16, for example).

This shift helps demonstrate the humanization of the mandrake over the centuries; however, it is difficult to pinpoint exactly when or why this process of humanizing the mandrake took place. Although the human form of the root was definitely known in Antiquity, the sources for Christian meanings and interpretations of the mandrake and the increasingly human illustrations of the plant in herbals and other texts must be sought for elsewhere. Scholars such as Rahner (1966), Müller-Ebeling and Rättsch

(2004), and others mentioned in this study, give some interesting sources and ideas, but most do not handle the stories/legends and images chronologically, nor do many tap into Church writings. The connection of medieval religious writings to the growth of the mandrake legend, which we only briefly trace here, is another area that is definitely in need of further research.

The mandrake legend in early modern times

Recalling the nineteenth-century mandrake-gathering ritual cited at the beginning of this paper, the Grimm brothers describe another aspect of the mandrake legend as well, one immediately following directions for how to gather it. Similar to Hildegard's directions for handling a mandrake plant, the Grimm Brothers say to wash it in red wine, wrap it in red and white silk, and place it in a small chest. The mandrake should be bathed every Friday and given a new white shirt on each new moon. The mandrake will answer questions posed to it, and it will ensure prosperity and good luck (including doubling money placed in the chest). Other details about the care and legacy of the mandrake are included, but the main point here is its use as an amulet or a familiar.

In a 2002 diploma thesis, Vera Hambel asserts that between 1500 and 1700 the magical powers of the plant totally eclipsed its medicinal uses. She traces what she calls "countless" superstitious beliefs about the mandrake recorded in botanical writings from this period. The height of witchcraft in Europe belongs to these centuries (see Obermeier 2008), and, sure enough, the mandrake became associated with witches and their salves and brews undoubtedly because of its narcotic and hallucinogenic properties.

Hambel reports that during the fifteenth century, mandrake roots (and imitation roots made of bryony) began to be used as amulets throughout Western Europe, recalling the end of the Grimm brothers' mandrake legend. In fact, during her trial in 1431, Joan of Arc was accused of possessing such a root, which she denied. In the report of her trial, we read the following:

Asked what she had done with her mandrake, she said that she does not nor ever did have a mandrake. She heard that there is one near her village, but she has never seen it. She heard that it is a dangerous

and wicked thing to keep. She does not know its proper use.

Asked where this mandrake is that she has heard of, she said she had heard it is near the tree she mentioned earlier, but she does not know the location. She has heard that a hazel grows on top of the mandrake.

Asked what she has heard the mandrake is good for, she said she has heard that it attracts money, but she does not believe in it. Her voices never told her anything about this (Hobbins 2005: 75).

The description of the tree in the articles of accusation (article 5) is interesting because it suggests that by this time, the mandrake plant was clearly associated with magic.

Near the town of Domrémy stands a large, thick, ancient tree, which common people call *l'arbre charmine fée de Bourlément* (the charmed fairy-tree), and near this tree is a spring. Evil spirits called fairies, fées in French, are said to gather near there, and those who cast spells are accustomed to dance with them at night around the tree and spring (Hobbins 2005: 126). [Joan was also accused of dancing with fairies at the tree in the following article of accusations.]

Hambel reports that little “mannekins” (little mandrake roots or imitations) were widely sold throughout Europe as bringers of good luck and fortune and as protection against evil. The little roots had to be carefully dressed, laid in special small containers, fed, tended to, and finally, passed on to another ritualistically. In parallel with this phenomenon was a growing widespread belief that these roots grew under the gallows of hanged men, engendered by their semen or urine. This part of the legend seems to be first recorded, in greater or less detail, in the works of the early-modern scholars, such as Hieronymus Brunschwig,⁶⁸ Otto Brunfels,⁶⁹ Hieronymus Bock,⁷⁰

68 Brunschwig lived 1450-1539 in Strasbourg, and was a physician and surgeon. He published books on surgery and distilling.

69 Brunfels was born in 1488 in Mainz and died in 1534 in Bern. He was not only a botanist but also a theologian, humanist, and physician. His main achievement was that he primarily relied on his own empirical research. Based on it, he wrote quite a number of treatises on medicine and botany without solely copying classical sources.

70 Bock was a botanist, physician and a Lutheran preacher. He lived from 1498 to

and Leonhard Fuchs.⁷¹ Its origin is not known at the present time. Research in the incunabula of their writings produced interesting results: all botanists have the new information about where the mandrake grows, but – except for Fuchs – the first editions of their herbals do not feature the mandrake in the main part of the herbal but in additional chapters. Later editions feature the plant in the main part.⁷² All three herbals, and the work on distillation, only mention this new addition to the mandrake legend – that it grows beneath the gallows – and do not discuss any of the other parts of the legend (*i.e.*, the scream, the dog used to pull it up, *etc.*).

According to Wittlin, the first writer to deal with this new part of the legend was Hieronymus Brunschwig in his *Buoch der rechten kunst zu Distillieren* of 1515. He distinguishes two plants (male and female) and relies on Dioscorides for many details. But he says that the plant has to be dug up beneath a gallows, where it grows out of the urine of a hanged thief. Brunschwig complains about false mandrake roots being sold and used as amulets. He also seems to have known the plant itself, although Wittlin points out that his account of it is inconsistent (1999: 157).⁷³

Otto Brunfels does not deal with the mandrake in the main part of his Latin

1554. Like Brunfels he based his work on his experience as a physician and on empirical research.

71 Leonhard Fuchs was a doctor of medicine and lived from 1501 to 1566.

72 Both Brunfels and Bock concentrated on describing plants native to Germany, *i.e.* plants they knew and studied themselves. Their discussion of the mandrake, despite this restriction, in the main section of their works leads to several conclusions: a) the mandrake was widely known and used, and a detailed discussion was called for; b) the plant was not native to Germany but cultivated in gardens (we have evidence from England for this: see below) and so they added the chapter; c) the plant was not used much medicinally, but different parts of the legend were known, as were (forged) mandrake roots. Their discussion was meant to enlighten their readers. Fuchs did not restrict himself to native plants; therefore he discusses the mandrake in the first edition of his herbal.

73 Unfortunately we were not able to verify Wittlin's statement because the alphabetical edition of 1515, to which she refers, was not available. Using her reference and the contents listed we could not find a discussion of the mandrake in any of the editions available. We used the 1512 German edition of *Liber de arte Distillandi de Compositis. Das Büch der waren kunst zü distillieren die Composita und simplicia*; the 1519 edition *Das buch zu distillieren die zusammen gethonen ding*; and the 1532 edition *Das Buoch zuo Distillieren zuosammen gethonen ding*

herbal *Herbarium vivae eicones* of 1532. In the second part of his book, in a later chapter which deals with simplicia and is called 'Apodicis Germanica', he writes:

This herb, which is called 'Mandragora' in Latin, is of two sexes: male and female. Several say, like Avicenna, that the root of this herb is formed after its sex. It can be dug up under gallows where it springs from the semen of a urinating thief. This is wrong. But they are only herbs with big roots.⁷⁴

Brunfels wrote a German herbal in 1532, the *Contrafayt Kreüterbuch*, in which he does not mention the mandrake at all.⁷⁵

A similar development can be seen in the works of Hieronymus Bock: in his 1534 edition of the *New Kreütter Buoch*, the main part does not contain an entry for mandrake. The medical uses for the plant are only briefly discussed in a separate chapter of this volume titled 'Naturbuoch von nutzeigenschafft wunderwirkung und Gebrauch aller Geschoepf Element und kreaturen. Dem menschen zu guet beschaffen'⁷⁶ (Bock 1534: fol. LIIII). In the 1546 edition of his herbal, however, we do find an extensive discussion of the legend along with all the newly introduced facts mentioned above. Bock rejects the gallows story as gossip and lies, and he laments the lack of education of his countrymen. (Bock 1546: chap. CCCXXXVI).

Leonhard Fuchs, in turn, does discuss the mandrake in the first edition of his *New Kreütterbuoch* in 1543. He deals with the supposed habitat of the root under the gallows, and discusses the shady practices of root dealers:

The land-lopers – or to call them by their right name: the land-

74 *Das kraut in Latein Mandragora / ist zweyerley geschlechts / maennlichs / und weiblichs. Und etlich sprechen / als Auicenna / das die wurtzel der selbigen kreüter yedes geschaffen sey nach seinem geschlecht / und werd gegraben under dem galgen / kumen von der natur eines harnenden diebs. dz doch falsch. Sunder es seind kreütter mit grosser wurtzeln.* (Brunfels 1532: *Apodicis Germanica: Alrun*). Translation above by H. Klug.

75 He also does not discuss it in the edition of 1543 nor in the edition of 1546.

76 A free translation of the title by H. Klug: 'Nature-book about qualities, wondrous virtues and use of all beings, elements, and creatures for the benefits of mankind.'

swindlers – sometimes deal with roots, that did not grow on their own but are cut into human forms from rhizomes like those we discussed before. Then they [the carved roots] are planted again and they grow into roots which have hair, beard and other things that likens them to a human. In addition they lie even more by saying that these roots have to be gathered under the gallows with many ceremonies and devilish illusions which cannot be told here. This is all lies and swindle. I had to illustrate this here, so that everyone knows how to beware these rouges.⁷⁷

The German writers and two sixteenth/seventeenth century English works substantiate Hambel's assessment of the mandrake legend as it continued to evolve from about 1500 to 1700. William Turner (1508 – 1568), often called the father of English botany, wrote his *New Herball* between 1560 and 1563.⁷⁸ In a chapter titled 'Of the Mandrage', Turner includes a brief introductory paragraph in which he mentions some of the legends around the mandrake (he does not include the dog used to pull it up).

[Turner describes the two kinds of mandrake plants, female and male.] This kind [the male] of mandrake I have often seen in England and it is the herb we commonly call 'mandrag'. The roots, which are counterfeited and made to look like little beings and are sold in England in boxes with hair and the form of a human being,

77 *Die Landstreicher / oder das ich sie recht nenne / die Landbescheisser / tragen wurtzel hin und wieder feyl / die seind nit also von sich selbs gewachsen / sonder aus den rohrwurtzeln vorhin also geschnitten das sie ein menschliche gestalt überkommen / dieselbigen setzens darnach wiederumb in / so werden soelche wurtzeln darauff / mit har / bart und andern dingen einem menschen aehnlich. Darzuo liegen sie noch vil mhr / das man soelche wurtzeln mueß under dem galgen graben / mit etlichen Ceremonien und Teufels gespensten / hie on not zuo erzelen / welches lauter lug und betrug ist. Das hab ich hie woellen anzeygen / darmit sich ein yeglicher vor soelchen buoben wisse zuhueten.* (Fuchs 1543: chap. CCI). Translation above by H. Klug.

78 This William Turner is not to be confused with the William Turner (1653-1701) who wrote about fake mandrakes in a chapter titled "strange vegetables" for his *Compleat History of the Most Remarkable Providences* (1697), outlining in detail how fakes are made out of bryony roots, with grains of barley and millet being embedded in the places where hair would grow on a human, and the grains then sprouted to make the little root look more life-like.

are nothing but foolish fabrications and are not natural. They are made by cunning thieves to make fun of poor folks and rob them both of their senses and their money. I have in my lifetime at several times pulled up the roots of mandrake from the ground, but I never saw anything on or in them like the peddlers' roots that are commonly sold in boxes. The mandrake is named *mandragoras* in Latin, in German, Alraun. It only grows in gardens in England and Germany, but it is more common in England than there. It does not grow under gallows as a certain doctor of Cologne taught his listeners in his lectures, nor does it grow from the semen of a man that drips when he is hanged. And it is not called *mandragoras* because it comes from a man's semen, as the foresaid doctor dreamed (Turner 1568: 45-46).⁷⁹

Following this introductory paragraph is a lengthy discussion in which Turner evaluates in detail the medicinal uses for mandrake.

John Gerard (A.D. 1545 to A.D. 1612) was a botanist who established a well-known herbal garden in London. Chapter 60 of his *Herbal* of 1597 records many details about the mandrake, including even more details of the legend than are in Turner, but largely in order to debunk them. Lucky for us, he preserves what was currently circulating about the mandrake plant.

There have been many ridiculous tales brought up of this plant, whether of olde wives or some runnagate surgeons or phisickmongers, I know not. [...] They adde further, that it is never or verie

⁷⁹ This kind [the male] of Mandrage I have oft tymes sene in England and it is y herve that we call comenly Mandrag. The rootes whiche are conterfited and made like little puppettes and mammettes, which come to be sold in England in boxes with heir and such forme as a man hath, are nothing elles but folishe feined trades and not naturall. For they are so trymmed of crafty theves to mocke the poore people with all and to rob them both of theyr wit and theyr money. I have in my tyme at diverse tymes taken up the rootes of Mandrag out of the grounde but I never saw any such thyng upon or in them as are in and upon the peddlers rootes that are comenly to be solde in boxes. The Mandrag is named in Latin Mandragoras, in Duch Alraun. It growth only in gardens in England and in Germany, but it is more comen in England than it is there. But it growth not under gallosses as a certain dotyng doctor of Colon in hys phisic lecture dyd tech hys auditores nether doth it ryse of the seed of man that falleth from hym that is hanged nether is it called Mandragoras because it came of mans sede ad y forsaid Doctor dremed (Turner 1568: 45-46). Translation above by A. Van Arsdall.

seldome to be founde growing naturally: but under a gallows, where the matter that hath fallen from the dead bodie, hath given it the shape of a man: and the matter of a woman, the substance of a female plant; with many other such doltish dreames. They fable further and affirm, that he woulde take up a plant thereof must tie a dogge thereunto to pull it up, which will give a great shriek at the digging up; otherwise if a man should do it, he should certainly die in short space after: besides many fables of loving matters, too full of scurrilitie to set forth in print, which I forbear to speake of – all which dreames and olde wives tales, you shall from henceforth cast our of your bookes and memorie, knowing this that they are all and every part of them false and most untrue (Gerard 1597: 281).

Gerard says that he has grown many mandrakes in his garden, successfully dug them up and planted them in the usual manner, and that he has observed they do not look any more like a man or woman than a parsnip or carrot with an oddly formed root. Gerard reports that bryony roots are being fashioned into little talismans and sold as mandrake roots. The main use he cites for mandrake is for sleep and he questions its use in promoting fertility. The remainder of the chapter discusses the mandrake plant and its medicinal uses in the time-honored manner of herbals, listing its habitat, various names, its qualities, and uses (which Gerard calls 'virtues'). His listed sources are Dioscorides, Galen, and Turner, though there may have been others.

From the sources cited here, it appears that the little talisman made out of real or fake mandrake roots and certain legends about the plant were completely overtaking its reputation as a medicinal by at least the sixteenth century, if not even earlier. It might be fair to say that after the time of Fuchs, Gerard, and Turner, the mandrake root itself became only a legend, used less and less in medicine and increasingly distant from the world of actual plants. However, it took nearly a thousand years for this phenomenon to occur.

As late as 1898, the most persistent elements of the mandrake legend were recorded in a reference work not restricted to botany or medicinal plants. Dr. James Hastings wrote in his *Dictionary of the Bible: Dealing with its language, literature, and contents* (1898):

Mandrake: The Hebrew word (in Gn 30:14ff, CA 7:13) means "love plants". [...] The parsley-shaped root is often branched. The natives mould this root into a rude resemblance to the human figure,

by pinching a constriction a little below the top, so as to make a kind of head and neck, and twisting off the upper branches except two, which they leave as arms, and the lower, except two, which they leave as legs. [A description of the plant follows.] The ancients used the mandrake as a love philter (Gn 30:14-16). They believed that he who incautiously touched a root of it would certainly die. Josephus (BJ vii.vi.3) gives the following directions for pulling it up. [Hastings gives the same ritual from Josephus that we include above.] The ancients also believed that the root gave a demoniacal shriek as it was pulled up. The 'smell' of the mandrakes (Ca 7:13) is the heavy narcotic odour of the Solanaceous plants. The allusion to it in this connexion doubtless refers to its specific virtues. (Hastings 1898: n.p.)

No medicinal uses for mandrake are listed in this work. Henceforth, the mandrake will lose almost all of its reputation as a wonder drug from the world of medicinal plants and will be known solely as something from legend.

Conclusion

As we demonstrate here, it is important to distinguish different stages in the mandrake legend throughout the centuries and not assume that all concepts we know today were associated with the plant at any given time or place in the past. In fact, more research is needed to pinpoint when and where various elements of the legend originated and how (and how far) they spread, using illustrations, literary, and botanical/pharmaceutical texts carefully correlated in time, especially for the early-modern period.

As a reminder, the primary elements of the mandrake legend are its human form (roots that look like little men and women) and the fact that they develop underground; the mandrake's scream when being pulled out of the ground, fatal to anything that hears it; and using a dog to pull the root up so the dog will die on hearing the scream, not the digger. Other elements – its association with the devil and with evil, and its function as an amulet, for example, were introduced at later stages and were not as long lived. The very real narcotic properties of the mandrake must have always contributed to the legend as well. As we demonstrate here, perceptions of the mandrake differed, sometimes even within small regions and closely related in time.

So, to infuse the entire legend onto any mention or illustration of a mandrake, particularly before the fifteenth century, is misleading. In fact, the existence of the full-blown mandrake legend from ca. A.D. 500 to 1500 is a major misconception about the Middle Ages and the era directly preceding it, as we outline above.

Looking at the chronology of texts and illustrations in which the mandrake is mentioned or shown during these centuries, several threads merge in unpredictable ways to form the full mandrake legend as we know it today. They include factual and legendary material in herbals, originally drawn from classical sources (illustrations with live dogs and mandrakes are ubiquitous in them for centuries), moralistic tales in the *Physiologus* and bestiaries (where the human and powerful magical aspects of the plant are increasingly emphasized), and Christian exegesis, in particular of the *Song of Songs* (where the image goes from positive to negative and the human aspects become stronger). The mandrake's scream when being pulled up is not introduced to the legend before the first half of the twelfth century, as is the detail that the dog dies when hearing the scream. Scholars in the early sixteenth century record a new part of the legend: the mandrake's origin beneath the gallows from the semen or urine of a hanged thief. They also complain about a flourishing trade with fake mandrake roots, and tell of rituals worshipping the human-shaped root and using it as a lucky charm. Taking into account this list of elements that were continually added to the mandrake legend, it has to be concluded that the legend with all its details as it is known today was not put together before the sixteenth/seventeenth centuries.

Our research into this highly complex topic clarified many of the 'confident doubts' the authors had about what scholars were saying in the literature concerning the mandrake and its legend, particularly as regards writings and illustrations from ancient times through the Middle Ages. It also raised a series of new questions, the most important being the origin of the mandrake's scream and the story of the plant growing beneath a gallows. We believe grounding conclusions about the mandrake legend only in what can be demonstrated historically brings an important corrective to many assumptions that have been handed down and accepted at face value for many years. Though more work needs to be done – for example, to correlate mandrake illustrations with textual evidence through the ages – we demonstrate here that one-sided approaches to this topic, such as the traditional non-chrono-

logical folkloric approach, cannot give a true picture of the growth of the mandrake legend.

Bibliography

- Aelian. *On the Characteristics of Animals*. 3 vols. Ed., transl. A.F. Scholfield. London and Cambridge, Mass.: Wm. Heinemann and Harvard University Press, 1958-1959.
- Albertus Magnus. *De Vegetabilibus*. Buch VI, Traktat 2. Lateinisch – Deutsch. Transl. and comm. Klaus Biewer. Quellen und Studien zur Geschichte der Pharmazie. 62. Stuttgart: Wissenschaftliche Verlagsgesellschaft, 1992.
- Arnold, Werner. *Heilpflanzen – Pilze – Hauskatzen*. July 20th, 2008. <<http://www.awl.ch/>>.
- Barber, Richard, ed. *Bestiary: Being an English Version of the Bodleian Library, Oxford MS Bodley 764 with all the original miniatures reproduced in facsimile*. Woodbridge: The Boydell Press, 1999.
- BBKL: *Biographisch-Bibliographisches Kirchenlexikon*. Bautz: 2007. <<http://www.bbkl.de/>>
- Beccaria, Augusto. *I Codici di Medicina del Periodo Presalernitano (Secoli IX, X e XI)*. Roma: Edizioni de Storia e Letteratura, 1956.
- Berendes, J., transl. and comment. *Des Pedanios Dioskurides aus Anazarbos Arzneimittellehre in fünf Büchern*. Stuttgart: Ferdinand Enke, 1902; rptd. Wiesbaden/Schaan (Liechstenstein): Sändig, 1983.
- Bock, Hieronymus. *New Kreütter Buoch von vnderscheydt / Würckung und namen der kreütter so in Teutschen landen wachsen*. Straßburg: 1534.
- . *Kreüterbuch. Darin Vnterscheidt / namen unnd Würckung der Kreüter / Staudenn / Hecken vund Beumen [...]*. Straßburg: Riehel, 1546.
- Brévart, Francis B. "Between Medicine, Magic, and Religion: Wonder Drugs in German Medico-Pharmaceutical Treatises of the Thirteenth to Sixteenth Centuries". *Speculum* 83.1 (January 2008): 1-57.

- Brunfels, Otto. *Contrafayt Kräuterbuch*. Straßburg: Schott, 1532a.
- . *Herbarium vivae eicones*. Straßburg: Schott, 1532b.
- . *Contrafayt Kräuterbuch*. Straßburg: Schott, 1534.
- . *Contrafayt Kräuterbuch*. Frankfurt am Main: Hermann Bülfferich, 1546.
- Brunschweig, Hieronymus. *Liber de arte Distillandi de Compositis. Das Büch der waren kunst zü distillieren die Composita und simplicia*. Straßburg: 1512.
- . *Das buch zu distillieren die zusammen gethonen ding*. Straßburg: Johannes Grüninger, 1519.
- . *Das buch zu distillieren die zusammen gethonen ding*. Straßburg: Bartholomäus Grüninger, 1532.
- Carmody, F.J. "The Latin Physiologus". *Publications in Classical Philology* 12(7) (1941): 95-134.
- CLCLT: *Library of Latin Texts. CLCLT 4*. Ed. Paul Tombeur, Centre Traditio Litterarum Occidentium. CD-Rom. Brepols, 2000.
- D'Aronco, M.A. and M.L. Cameron. *The Old English Illustrated Pharmacopoeia*. Copenhagen: Rosenkilde and Bagger, 1998.
- De Vriend, Hubert. *The Old English Herbarium and Medicina de Quadrupedibus*. Early English Text Society. London: Oxford University Press, 1984.
- Delatte, A. *Herbarius: Recherches sur le cérémonial usité chez les anciens pour la cueillette des simples et des plantes magiques*. Paris: Librairie E. Droz, 1938.
- Die deutsche Literatur des Mittelalters. Verfasserlexikon*. Vol. 7. Eds. Kurt Ruh et al. 2nd rev. edition. Berlin: de Gruyter, 1989.
- Diefenbach, Laurentius. *Glossarium Latino-Germanicum Mediae et Infimae Aetatis. E Codicibus Manuscriptis et Libris Impressis*. Frankfurt am Main: Bär, 1857.
- Dioscorides. *Dioscurides Codex Vindobonensis Med. Gr. 1 der Österreichischen Nationalbibliothek*. Codices selecti. 12. Graz: ADEVA, 1970.
- (Pedanius). *Dioscorides of Anazarbus De materia medica*. Trans. Lily Y. Beck. Hildesheim: Olms-Weidmann, 2005

- Dove, Mary. *The Glossa Ordinaria on the Song of Songs*. Kalamazoo, MI: Medieval Institute Publications, 2004.
- Duke, James A. *Handbook of Medicinal Herbs*. Boca Raton: CRC Press, 1985.
- Encyclopedia of Ancient Natural Scientists*. London and New York: Routledge, 2008.
- Flint, Valerie. "The Commentaries of Honorius Augustodunensis on the Song of Songs". *Revue Bénédictine* 84 (1974): 196-211.
- Frazer, Sir James G. *The Golden Bough: A Study in Magic and Religion*. 1922. Abridged Version. New York: Macmillan, 1940. [The full work runs into many volumes; see <http://www.bartleby.com/196/>. URL verified July 2008]
- Fuchs, Leonhard: *New Kreütterbuch [...]*. 1543. Wiesbaden: VMA, 2002.
- Genaust, Helmut. *Etymologisches Wörterbuch der botanischen Pflanzennamen*. 3rd completely revised ed. 1996. Hamburg: Nikol, 2005.
- Gerard, John. *The Herball or General Historie of Plantes*. London: John Norton, 1597.
- Graff, E.G. *Altdeutscher Sprachschatz oder Wörterbuch der althochdeutschen Sprache*. 7 vols. Berlin: Nicolaische Buchhandlung, 1834-1846.
- Grape-Albers, Heide. *Spätantike Bilder aus der Welt des Arztes: Medizinische Bilderhandschriften der Spätantike und ihre Mittelalterliche Überlieferung*. Wiesbaden: Pressler, 1977.
- Grosse, Rudolf, ed. *Althochdeutsches Wörterbuch*. Vol.1: A und B. Based on the collections of Elias von Steinmeyer. Eds., Elisabeth Karg-Gasterstädt and Theodor Frings. Berlin: Akademie-Verlag, 1968.
- Hambel, Vera. *Die alte Heydnische Abgöttische Fabel von der Alraun: Verwendung und Bedeutung der Alraune in Geschichte und Gegenwart*. Dipl. University of Passau, 2002.
- Harris, Stephen J., and Byron L. Grigsby, eds. *Misconceptions about the Middle Ages*. New York: Routledge, 2008.
- Hastings, Dr. James, ed. *Dictionary of the Bible: Dealing with its language, literature, and contents*. New York: C. Scribner's Sons, 1898.
- Hobbins, Daniel, transl. *The Trial of Joan of Arc*. Cambridge, MA: Harvard University Press, 2005.

- Holy Bible. New International Version*. International Bible Society. 1984. Accessed May 2008. <<http://www.biblegateway.com>>
- Holy Bible. Biblia Sacra Vulgata*. 4th ed. 1994. Accessed May 2008. <<http://www.biblegateway.com>>
- Howald, E. and H. Sigerist, eds. *Corpus Medicorum Latinorum*. Vol. 4. Leipzig and Berlin: Teubner, 1927.
- Hozeski, B.W., transl. *Hildegard's Healing Plants*. Boston: Beacon Press, 2001.
- Isidore of Seville. *The Etymologies*. Transl. Stephen A. Barney, W.J. Lewis, J.A. Beach, and Oliver Berghof. Cambridge: University Press, 2006.
- Jones, Peter M. *Medicina Antiqua: Codex Vindobonensis 93, Vienna Österreichische Nationalbibliothek*. London: Harvey Miller Publishers, 1999.
- (Flavius) Josephus. *The Jewish War*. Vol. 3: Books IV-VII. Ed., transl. H. St. J. Thackeray. London and New York: Wm. Heinemann and G.P. Putnam, 1928. [Now published in the Loeb Classical Library by Harvard University Press. An older translation has the Baaras/rue account at VII, 6,3; see W. Whiston, *The New Complete Works of Josephus*, various printings beginning in 1845 and going to at least 1999.]
- Klug, Helmut W. *Kräuter in der deutschsprachigen Dichtung des Hochmittelalters: Vorkommen, Anwendung und Wirkung in ausgewählten Texten*. Schriften zur Mediävistik. 5. Hamburg: Kovač, 2005. (Also Dipl. University of Graz, 2005.)
- Lee, A.D. *The Emerald, The Mandrake and the Unicorn: Development of medieval lapidaries, herb lore, and bestiaries*. Diss. University of North Carolina at Chapel Hill, 1977.
- LM: *Lexikon des Mittelalters*. CD-Rom. Stuttgart: Metzler, 2000.
- [The] Mackinney Collection of Medieval Medical Illustrations. <<http://www.lib.unc.edu/dc/mackinney/>>.
- Marzell, Heinrich. *Wörterbuch der deutschen Pflanzennamen*. 1972. 5 vols. Köln: Parkland, 2000.
- Matter, E. Ann. *The Voice of My Beloved: The Song of Songs in Western Medieval Christianity*. Philadelphia: University of Pennsylvania Press, 1992.

- McCulloch, Florence. *Medieval Latin and French Bestiaries*. Chapel Hill: University of North Carolina Press, 1962.
- Menhard, Hermann. "Die Mandragora im Millstätter Physiologus, bei Honorius Augustodunensis und im St. Trudperter Hohelied". *Festschrift für Ludwig Wolff zum 70. Geburtstag*. Ed. Werner Schröder. Neumünster: Wachholtz, 1962.
- Middle-High German Conceptual Database*. Universität Salzburg. <<http://mhdbdb.sbg.ac.at>>.
- Millstätter Genesis und Physiologus*. Vollständige Facsimileausgabe der Sammelhandschrift 6/19 des Geschichtsvereines für Kärnten im Kärntner Landesarchiv, Klagenfurt. Einführung und kodikologische Beschreibung von Alfred Kracher. Codices selecti phototypice impressi. 10. Graz: Akademische Druck- und Verlagsanstalt, 1967.
- Mitchell, P.D. *Medicine in the Crusades: Warfare, Wounds, and the Medieval Surgeon*. Cambridge: Cambridge University Press, 2004.
- Mittelhochdeutsche Wörterbücher online: Mittelhochdeutsches Wörterbuch; Mittelhochdeutsches Handwörterbuch von Matthias Lexer; Nachträge zum mittelhochdeutschen Handwörterbuch von Matthias Lexer; Findebuch zum mittelhochdeutschen Wortschatz*. Das Wörterbuchnetz. Kompetenzzentrums für elektronische Erschließungs- und Publikationsverfahren in den Geisteswissenschaften an der Universität Trier. 2007. <<http://germazope.uni-trier.de/Projects/WBB/woerterbuecher>>
- MPL: *Patrologia Latina Database*. CD-Rom. Version 5.0b. Chadwick-Healy, 1996.
- Müller-Ebeling, Claudia and Christian Rätsch. *Zauberpflanze Alraune: Die magische Mandragora*. Solothurn, Switzerland: Nachtschatten, 2004.
- [The] *New Oxford Annotated Bible: New Revised Standard Version*. New York: Oxford University Press, 1991.
- Obermeier, Anita. "Witches and the Myth of the Medieval Burning Times". *Misconceptions about the Middle Ages*. Eds. S.J. Harris and B.L. Grigsby. New York: Routledge, 2008.
- Ohly, Friedrich. *Hohelied-Studien. Grundzüge einer Geschichte der Hoheliedauslegung des Abendlandes bis um 1200*. Wiesbaden: Steiner, 1958.

- Ohly, Friedrich, ed. *Das St. Trudperter Hohelied. Eine Lehre der liebenden Gotteserkenntnis*. Bibliothek des Mittelalters. 2. Frankfurt am Main: Deutscher Klassiker Verlag, 1998.
- The Oxford Classical Dictionary*. Oxford: Oxford University Press, 2003.
- Oxford English Dictionary*. Online. 2008. <www.oed.com>.
- Papp, Edgar, ed. *Codex Vindobonensis 2721. Frühmittelhochdeutsche Sammelhandschrift der Österreichischen Nationalbibliothek in Wien. 'Genesis' – 'Physiologus' – 'Exodus'*. Göppinger Beiträge zur Textgeschichte. 79. Göppingen: Kümmerle, 1980.
- Pliny. *Pliny Natural History*. Books XXIV- XXVII. Ed. and transl. W.H.S. Jones. 2nd ed. Cambridge, Mass. and London: Harvard University Press, 1980.
- Rahner, Hugo. *Griechische Mythen in christlicher Dichtung*. Darmstadt: Wiss. Buchgesellschaft, 1966.
- Randolph, Charles B. "The Mandragora of the Ancients in Folk-Lore and Medicine". *Proceedings of the American Academy of Arts and Sciences* XL(1905): 485-537.
- Rauh, Horst Dieter. *Das Bild des Antichrist im Mittelalter: Von Tyconius zum Deutschen Symbolismus*. Beiträge zur Geschichte der Philosophie und Theologie des Mittelalters. NF. 9. Münster: Aschendorff, 1979.
- Riddle, John M. *Dioscorides on Pharmacy and Medicine*. Austin: University of Texas, 1985.
- Rigg, A.G. "Henry of Huntingdon's Herbal". *Medieval Studies* 65 (2003): 213-292.
- Rolf, Hans. *Der Tod in mittelhochdeutschen Dichtungen*. Medium Aevum. Philologische Studien. 26. München: Fink, 1974.
- Rooth, Erik. „Kleine Beiträge zur Kenntnis des sog. Honorius Augustodunensis“. *Studia Neophilologica* 12.1-2 (1939): 120-135.
- Roth, Lutz, Max Daunerer, and Kurt Kormann. *Giftpflanzen – Pflanzengifte: Vorkommen – Wirkung – Therapie / Allergische und phototoxische Reaktionen*. 3rd Ed. Ecomed-Verlag: Landsberg/Lech, 1988.

- Scarborough, J. "Mandrake in Ancient Surgery". Paper presented at the Society for Ancient Medicine/American Philological Association, Montréal (Québec) January 2006a. [Copy kindly provided by the author.]
- . "Drugs and Drug Lore in the Time of Theophrastus: Folklore, Magic, Botany, Philosophy, and the Rootcutters". *Acta Classica* XLIX (2006b): 1-29.
- . "Dioscorides of Anazarbos". *Encyclopedia of Ancient Natural Sciences*. Ed. Paul T. Keyser and Georgia Irby-Massie. London: Routledge, 2008 [forthcoming].
- Singer, Charles. "The Herbal in Antiquity and Its Transmission to Later Ages". *Journal of Hellenic Studies* 47 (1927): 1-52.
- Starck, Adolf Taylor. *Der Alraun. Ein Beitrag zur Pflanzensagenkunde*. 1917. Berlin: VWB – Verlag für Wissenschaft und Bildung, 1997.
- Tercinet, Louis. *Mandragore, Qui-es-tu?* Paris: [private print], 1950.
- Theophrastus. *Enquiry Into Plants*. 2 Vols. Transl. Sir Arthur Hort. Loeb Classical Library. Cambridge, MA: Harvard University Press, 1980.
- Thompson, C.J.S. *The Mystic Mandrake*. New York: University Books, 1968.
- Turner, William. *A new herball, wherein are conteyned the names of herbes [...]*. Collen: Arnold Birkman, 1568.
- Tutin, T.G. *et al. Flora Europaea*. Vol. 3. Cambridge: Cambridge University Press, 1972.
- Ward, Donald, ed., transl. *The German Legends of the Brothers Grimm*. Vol. 1. Mandrake is Legend #84. Philadelphia: Institute for the Study of Human Issues, 1981.
- Wegenstein, Werner. "Datierungsprobleme des 'Summarium Heinrici' und die zeitliche Abgrenzung des Althochdeutschen". *Mittelalterliche volkssprachige Glossen. Internationale Fachkonferenz des Zentrums für Mittelalterstudien der Otto-Friedrich-Universität Bamberg 2. bis 4. August 1999*. Ed. Rolf Bergmann, Elvira Glaser, and Claudine Moulin-Fankhänel. Heidelberg: Winter, 2001. 529-536.
- Wells, John C. ed. *Althochdeutsches Glossenwörterbuch*. Einschl. des von Taylor Starck begonnenen Glossenindexes. Heidelberg: Winter, 1990.

- White, T.H. *The Bestiary: A Book of Beasts*. New York: Putnam's Sons, 1954.
- Wikipedia. Die freie Enzyklopädie*. 2001-2008. <<http://de.wikipedia.org/>>.
- Wittlin, Dorit. *Mandragora. Eine Arzneipflanze in Antike, Mittelalter und Neuzeit*. Basler Dissertationen zur Geschichte der Pharmazie und Naturwissenschaften. 14. Basel: Deitikon, 1999.
- Wright, Thomas. *Popular Treatises on Science Written During the Middle Ages in Anglo-Saxon, Anglo-Norman, and English*. London: R. and J.E. Taylor, 1841.

Contact Information:

Anne Van Arsdall
 Institute for Medieval Studies
 MSC 06 3620
 University of New Mexico
 Albuquerque, NM 87131-0001
 USA

E-mail: herb@unm.edu

Helmut W. Klug
 Institut für Germanistik
 Karl-Franzens-Universität Graz
 Universitätsplatz 3
 8010 Graz
 Styria / Austria

E-mail: helmut.klug@uni-graz.at

Paul Blanz
Institut für Pflanzenwissenschaften
Karl-Franzens-Universität Graz
Holteigasse 6
8010 Graz
Styria / Austria

E-mail: paul.blanz@uni-graz.at