

From Chaperones to Chaplets: Aspects of Men's Headdress, 1400-1519

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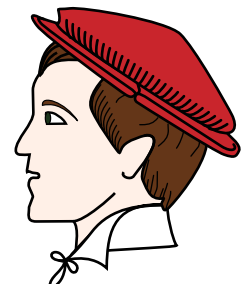
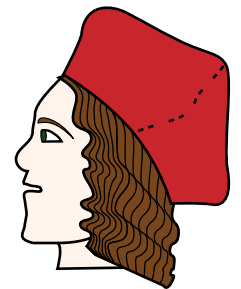
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A Note on This Edition

This thesis was written in 1992 to complete the requirements of my Master of Science degree in Textiles given by the University of Maryland, College Park. While converting the original thesis to a Web-viewable version, some errors in the original have been corrected.

Dedication

To Ken Reed and Teulu Celli Caregl

Acknowledgements

There are many people without whom this thesis would not have been possible. I am extremely grateful to them for their help, guidance, advice, and moral support. I would like to thank the following people:

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Most importantly, Ken Reed, my beloved husband, who gave his full support to this project, moral, physical, financial and otherwise.

A Note about the 2021 Version

I looked at my layout from 2003 and realized how much I had grown as a designer. Changes to this document are about presentation, not content. I have changed fonts, modified colors and created a more consistent layout. The text is unchanged other than the addition of page number references for some figure and table callouts to make it easier for the reader to find them. Some of the charts in Chapter 4 had incorrect x-axis labels and these have been corrected.

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List of Abbreviations

| | |
|---------|--------------------------------|
| BFN | Burgundy/Flanders/Netherlands |
| BI | British Islands |
| BM | Burgher/merchant |
| Chaper. | Chaperone |
| Chapl. | Chaplet |
| CPO | Courtier/professional/official |
| DF | Degree(s) of Freedom |
| FR | France |
| HRE | Holy Roman Empire |
| IT | Italy |
| Rond. | Rondelle |
| Sig. | Significance |
| SP | Spain/Portugal |
| Stiff. | Stiffened hat |
| Sugar. | Sugarloaf hat |
| Stock. | Stocking hat |
| YAL | Yeoman/artisan/laborer |

CHAPTER I

Introduction

The period from 1400 to 1519 marked a transition point between the medieval world and the modern world. Despite the differences in Northern and Southern European art, it was an internally consistent period in art history. For material culture studies, it was rich for the study of the changes from a pre-industrial society to an industrial society, the development of capitalism, and the development of more materialistic attitudes. It is a basic assumption of material culture studies that the larger culture is reflected by the material objects produced and owned by that culture. One such set of material objects, men's headdress from 1400 to 1519, is the focus of this research.

Studies of late medieval and early Renaissance clothing have not been abundant. There are many restrictions with the quantity and quality of sources of information that hamper study of clothing and other aspects of material life during this time. This thesis will use a quantitative approach that has worked well in studies of headdress and other clothing articles for other time periods to help overcome some of the limitations that sources present to the researcher.

Purpose of Study

A Material Culture Perspective

Material culture attempts to study objects as historical documents that can give information not readily available through verbal documents. Some of the types of information sought are implicit attitudes, beliefs, or mental structures of the world; things so obvious to a people of a given time and place that they did not feel or see a need to express them explicitly.¹

In the literature on the purposes and methods of material culture, the goal is to use objects or artifacts as historical documents. However, the differences between verbal documents and artifactual documents have not been sufficiently explored.² The study of individual objects, in and of themselves, would be inadequate to discover the kinds of information that material culture analysts would like to find. It is implied, but not stated in much of the literature that the most effective study of artifacts should be in the aggregate, and studied in both the context of changes over time and in the context of other types

1. Jules David Prown, "Mind in Matter: An Introduction to Material Culture Theory and Method," in *Material Life in America, 1600–1860*, ed. Robert Blair St. George, (Boston: Northeastern University Press, 1988) 17–38.
2. Thomas J. Schlereth, "Material Culture Studies in America, 1876–1976," in *Material Culture Studies in America*, ed. Thomas J. Schlereth, (Nashville, TN: The American Association for State and Local History, 1982) 1–75; and Wilcomb E. Washburn, "Manuscripts and Manufacts," in *Material Culture Studies in America*, ed. Thomas J. Schlereth, (Nashville, TN: The American Association for State and Local History, 1982) 101–113.

of contemporary objects. In other words, objects need to be studied in groups by comparing changes in a particular group over time and comparing this group of objects with other contemporary groups of objects. Information from individual objects would need to be combined into some kind of database to enable these types of contextual studies. Only Craig Gilborn, in his study of Coca-Cola bottles, and James Deetz and Edwin Dethlefsen, in their study of tombstone ornamentation styles, have come close to making this inference about studying objects in aggregate.³

Description of Study

This study of fifteenth and early sixteenth century European men's headdress is an attempt to create a database of aggregate information that can be used to re-examine some basic research questions about stylistic change over time and geography and to be used in further research that involve other aspects of 15th-century life and culture.

The database is to be composed of information on men's headdress derived from fifteenth- and early sixteenth-century artwork that is systematically gathered from a large range of sources over a geographic and temporal range. It is created by defining a series of characteristics of men's headdress and coding each headdress used in the sample for each of these characteristics. Each headdress is also coded with information about geographic area of origin and date. This information could be sorted in a number of ways to examine headdress by type, complexity, color, how the hat is

worn, geographic area, time, social class, and other aspects. These data could then be used with other types of information to analyze such issues as literary and verbal correspondences, aesthetic ideals, the relationships between headdress and other articles of clothing, or the social uses of headdress.

Research Questions

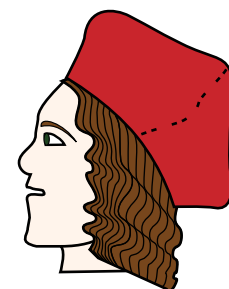
The data gathered for this thesis are grouped into thirteen categories designed to answer basic research questions about late medieval and early Renaissance headdress that either have been neglected or have not been studied in sufficient detail to be of use in material culture studies. These research questions include:

1. How did headdress types change over time, and what types were especially associated with a particular region?
2. What were some of the major characteristics of these headdress types? How did these characteristics change over time and by region?
3. How did the physical features of depicted headdress change over time and by region? What do these changes tell us about the practices of wearing headdress, about the preferences for simplicity or complexity, or about the preferences verticality or horizontality?
4. What were the social statuses of the wearers of these headdress? What associations were there with headdress types with different social classes?

3. Craig Gilborn, "Pop Pedagogy: Looking at the Coke Bottle," in *Material Culture Studies in America*, ed. Thomas J. Schlereth, (Nashville, TN: The American Association for State and Local History, 1982) 183–191; and James Deetz and Edwin N. Dethlefsen, "Some Social Aspects of New England Colonial Mortuary Art," *Society for American Archaeology: Memoirs* 25 (1971): 30–38.

Before any answers can be found, one must have basic understandings of the historical background for the fifteenth and early sixteenth century, of the other types of studies

done on medieval and early Renaissance clothing, and of the nature of the sources used in this study and their art-historical background.



Chapter II

Review of Literature

Historical Setting: Fifteenth-Century Life and Culture

European society in the fifteenth and early sixteenth century was a pre-industrial society. Change occurred slowly in such societies, but the pace of change abruptly accelerated in the fifteenth century. The factors in this acceleration were complex, but it is not within the scope of this project to describe all of them. The following is a brief description of a few of the mental and cultural structures that have some relevance to this topic. These are: the shift from a religion-based identity to a geographic-based identity, and the development of regionalism and nationalism; the growth of literacy; changes in religious practice and religious reform; and the hierarchical social structure.

Definition of Terms

The terms, “Middle Ages” and its adjective “medieval;” “Renaissance,” and “humanism” as used in the secondary literature have conflicting definitions and usages. Since “the Renaissance” did not occur at the same time all over Europe, and its

ideas were adopted more rapidly in some places than in others, it can be said that the fifteenth century is simultaneously the later Middle Ages and the Renaissance. The word “renaissance” literally means “rebirth.” The word, “rinascimento,” which also means “rebirth,” was coined by the Italians and is imbued with their perspective. The Italian states never really developed feudalism, but produced their own peculiar institutions in its place. In the fourteenth and fifteenth centuries the remnants of Roman Empire, both visual and literary, were being rediscovered and reinterpreted. To the Italians this rediscovery and reinterpretation seemed to be a renewal of their ancient Roman heritage, so they called it a “renaissance.” For this discussion “Renaissance” will refer to the adoption of an aesthetic and of a philosophical system based on an interpretation of Graeco-Roman ideals or the period of time or places in which these ideals held sway. This philosophy was most readily adopted by the Italians, and only started to infiltrate Northern Europe at the end of the fifteenth century. “Middle Ages” is also a term developed by the Renaissance Italians; to them it meant the period between the glories of the Roman Empire and the rebirth of classicism. In this thesis, the

1. *Webster's Third New International Dictionary*, 1981 ed., s.v. "Humanism."
2. Frederick B. Artz, *The Mind of the Middle Ages AD 200-1400: An Historical Survey*, 3d ed., (Chicago: The University of Chicago Press, 1980), 432–442; Margaret Aston, *The Fifteenth Century: The Prospect of Europe*, (New York: Harcourt, Brace & world, Inc., 1968), 30–31; Albert E. Elsen, *Purposes of Art: An Introduction to the History and Appreciation of Art*, (New York: Hold, Rinehart and Winston, Inc., 1967), 105; E. H. Gombrich, *The Story of Art*, 14th ed., (Oxford, UK: Phaidon Press, Limited, 1984), 167–169; Denys Hay, *Europe in the Fourteenth and Fifteenth Centuries*, (New York: Holt, Rinehart and Winston, Inc.; 1966), 348; and Daniel Waley, *Later Medieval Europe: from St. Louis to Luther*, (London: Longman Group Limited, 1985), 136–138 and 146.

The distinction in the literature between "humanism" (see below) and "Renaissance learning" is often blurred. Waley originally defines "humanistic learning" as learning or scholarship concentrating on non-theological issues. The contrast is "humanistic" learning opposed to "divine" learning. This is the definition the author prefers. Aston, Hay, Artz, and Gombrich

"Middle Ages" refers to a period in which the leading aesthetic and philosophic systems are derived from non-Graeco-Roman European ideals and "medieval" is the descriptive adjective describing that philosophy. "Humanism," or a "doctrine, set of attitudes or way of life concerned with human interests and values,"¹ is a more universal concept. Elements of humanism can be found everywhere in Europe as early as the thirteenth century and humanism was an ongoing trend in European culture that accelerated its influence in the fifteenth century regardless of whether it was within a classical or medieval cultural milieu.²

Growth of Nationalism; Concept of Europe

To a person living in 1400, to speak of "Europe" would have had less meaning than to speak of "Christendom." In a world in which religion was the dominant factor, or, indeed, the purpose of existence, and in which encroachment and challenge was coming not from a nation or geographic entity, but from a rival religion, a person living in Europe would more readily identify with a person who shared a religion than with a person who shared a geographical location, but did not share the religion. By the sixteenth century, with the exploration and expansion of the Christian religion to the New World, a place with very different geographic and ethnic characteristics, and with the contraction of Christendom in the east by the expansion of Islam through Turkish invasions, people were starting to conceive of themselves as Europeans. Unity and diversity, cosmopolitanism and provincialism existed side by side. The

Europe that sprung from Christendom had consciously diversified loyalties. This represented a shift in consciousness from a religion-based identity to a secular, geography-based identity.³

At the beginning of the century, life and faith seemed to be beset on two sides. As we noted before, the expansion of Islam from the east ate away eastern Christendom. The long-term effects of the Black Death, or bubonic plague, which destroyed up to one-third of European population in the previous century, gave rise to social and religious confusion and unrest. From these two factors came an age of redefinition, realignment, rediscovery, and reform.

One of the cultural effects of the plague was an acute awareness of death that permeated art, literature, and lifestyle. Images of death, as reminders of the transitory nature of life, were to be found in sculpture, illumination, painting, and the development of new types of religious devotions.⁴ Perhaps this awareness of death also spurred an awareness of humanity, which may have accelerated the growth of "humanism." It is around this time that clothing radically changed from being shapeless and body denying to being shaped to emphasize the human body. This process seems to have occurred all over Europe, and was not restricted to or initiated in Italy, which is often credited with the humanistic revival.

The plague was not the only devastation of the time. War was a frequent disrupter of life, economic growth, and population increase. This was the time of unrelenting religious and regional wars in Germany and Italy, the Hundred-Years' War between

England and France, and civil wars of succession in England. The easiest way to cripple an enemy was to destroy his crops, and soldiers foraged the lands they traveled through or fought in for provisions. This often brought famine and social disruption to the lower orders of these war-stricken lands. Heavy taxation to finance wars further devastated local and regional economies, and the peasantry, who had few resources to begin with, bore the heaviest brunt of all of these pressures.⁵

Other factors in this geography-based divergence were diversification in the visual arts and the development of vernacular languages and literature. In the visual arts, at the beginning of the century, the basic elements found in painting, sculpture, book illumination, and architecture were found all over Europe, so much so that we still call this style “International Gothic.” At the end of the century, major divergences in art styles in different geographic regions had appeared and contemporaries had become aware of these differences.⁶

In the fifteenth century, educational opportunities expanded both geographically and socially. One occurrence was the formation of new universities in Northern Europe. Higher education was no longer concentrated in a few university centers such as Oxford, Paris, and Bologna, but could be obtained throughout the German states, Flanders, Northern Britain, the Baltic countries, Spain, Scandinavia and in the provinces of France. Formerly, the purpose of higher education had been to educate upper-class lawyers, doctors and the clergy; in the fifteenth century, courses of study

changed to be applicable to a wider range of professions and to commerce, and were open to the expanding merchant classes and wealthier artisans. Primary education also expanded as it came to be believed that “farmers and burghers” should be able to read the Bible for themselves and schools were instituted to teach them to do so. Many of the courses at the new universities and at these new schools for the lower orders were taught in the vernacular tongue. This encouraged the use of the vernacular and promoted a local or national identity as well.⁷

At the same time, renewed pride in one's own region and one's own language came into being. The vernacular was used in translations of the Bible, in the keeping of legal and governmental records, and in writing and publishing contemporary literature.

All of these factors worked together to produce Europeans who were more likely to define themselves by the region or “nation” they lived in and as Europeans rather than fellow-Christians.

Changes in Religious Practice and the Desire for Religious Reform

The Middle Ages and the Renaissance remained essentially religious times. The increasing secularization we see is not so much a turning away from religion, but the turning away from the organized Church and its unwieldy and often corrupt structure. Priests, especially at the higher levels

define “humanism” as learning based on Graeco-Roman literature and philosophy. However, as Hay, Gombrich, and Artz continue their discussions on this issue, it becomes clear that they conceive of “humanistic” learning as being distinct from “divine” learning, and that some type of non-Graeco-Roman “humanism,” although they do not call it that, was present in Northern Europe at the same time as Graeco-Roman-based “humanism” was present in Italy.

3. Aston, 9.
4. Aston, 15–20; Waley, 81–82; and Hay, 32–33.
5. Aston, 22; Waley, 83–84; and Hay, 33–34.
6. Aston, 36; Elsen, 145; Gombrich, 204–207; and Hay, 354–355.
7. Aston, 37–43; Artz, 305–321; and Hay, 334–338.

8. C.A.J. Armstrong, *England, France and Burgundy in the Fifteenth Century*, (London: The Hambledon Press, 1983), xii–xiii and 135–156; Johan Huizinga, *The Waning of the Middle Ages: A Study of the Forms of Life, Thought and Art in France and the Netherlands in the XIVth and XVth Centuries*, (London: Edward Arnold, 1924), 135–204; Aston, 149–175; and Artz, 419–432.
9. Carolyn Merchant, *The Death of Nature: Women, Ecology and the Scientific Revolution*, (San Francisco: Harper and Row, 1980), 69–76.
10. Artz, 290–292; Hay, 26–77; and Huizinga, 46–51.
11. Stephanie Coontz, *The Social Origins of Private Life* (New York: Verso, 1988), 96–102. Although Coontz is writing specifically about 17th- and 18th-century American life, its social structure and its philosophical underpinnings had not changed substantially since the Middle Ages.
12. Keith Moxey, *Peasants, Warriors, and Wives: Popular Imagery in the Reformation*, (Chicago: The University of Chicago Press, 1989), 35–39.

of the Church hierarchy, often abused their positions, seeking worldly wealth and power. As piety and spirituality turned inward, and as education and literacy increased, laymen came to demand that the priesthood live up to a higher standard of morality and to return to the ideals of poverty and charity of the early Christian Church. Increases in literacy among laymen, especially among the artisans and better-off yeomanry, prompting more widespread reading of the Bible and the increase of internalized devotional activity encouraged questioning of conventional wisdom regarding the sacraments, the uses and abuses of priesthood, and the structure of the Church. The nature of personal spirituality had changed, but the Church did not change enough to meet its new demands. Thus the stage was set for massive changes in organized religion, and in the next century, these newer concepts of spirituality would lead to the Reformation.⁸

Social Hierarchy

The medieval and renaissance concept of the world was highly hierarchical and organic. It would not be until the 18th century that the organic metaphor of the world would be replaced in most people's minds with a more mechanical metaphor. The prevailing view was that the world was like the human body. The body was ruled by the head and all the other parts had their place and function within the body. The limbs and the torso was subordinate to the head, the organs subordinate to the torso, and the parts of an organ subordinate to that organ.⁹ Nature was turned upside down and disease reigned if a subordinate part of the body tried to

dominate. Similarly, each person had his or her place and function in society and was subordinate to the person who had a higher place and function. Thus the peasant was subordinate to his master; his master was subordinate to his lord who was in turn subordinate to a higher lord and so on to the king. The Church had a similar hierarchy. And, again, chaos and disruption could occur if people of a lower status tried to raise their status or tried to rule.¹⁰

The subordination of women under the law was as attributable to this conception of the natural order as to any belief about the biological or mental inferiority of the sex. Women were inferior because God ordained that their place in the natural order was to be inferior to men. By the same idea, most men were also inferior to other men.¹¹

In the fifteenth century, however, questioning about social conditions and social status was occurring. Many religious reform movements and heretical movements had elements of social change as part of their reform ideas. Within these movements, the efficacy of the priesthood and obedience to Church hierarchy were questioned when the priesthood and the hierarchy were perceived to conflict with scripture. Questioning the religious hierarchy also lead to questioning the temporal hierarchy. Early on, Martin Luther supported peasant aspirations for more egalitarian social reform, but, horrified by the destruction and challenge to his own merchant class by the Peasant's Revolt of 1525, he reverted to supporting the established "natural" order as the way to prevent societal anarchy and loss of power by his own class.¹² However, even with the reaffirmation of organic natural

order, previously disregarded sectors of society, specifically the wealthier middle classes, gained greater influence in both local and national governments.¹³

Religious beliefs, social status, and concepts of one's national or regional identity were often reflected in the material objects that were owned, used, and treasured. One of the most personal classes of objects was clothing. Next is an exploration of the secondary literature on the clothing of the fifteenth and early sixteenth century.

Clothing History

Due to the scarcity of extant garments and to the limited nature of other types of primary sources for the study of medieval and early Renaissance clothing, the secondary literature pertaining to fifteenth century clothing is sparse. Most of the literature is descriptive of a few chosen examples and little or no attempt is made to examine the overall patterns of change of styles over time or to examine the social or culture implications of the clothing. This review will first examine the literature on late medieval and early Renaissance clothing found in general surveys of western clothing that cover all time periods to the twentieth century, then examine the literature devoted specifically to medieval and early Renaissance clothing, and finally examine literature concentrating on headdress from the study period. The secondary sources were reviewed for their intended audience, use of primary and secondary sources, method of study and information about fifteenth and early sixteenth century clothing, especially headdress.

Surveys of Western Clothing from Ancient Times to the Twentieth Century

Some of the most commonly available overall surveys of western clothing are Blanche Payne's *History of Costume*, Milia Davenport's *The Book of Costume*, James Laver's *Costume & Fashion*, and François Boucher's *20,000 Years of Fashion*.¹⁴ Since these books are intended for a popular audience, the information found in them is very brief and over-generalized, and tends to be based on the subjective, impressionistic study of a few visual sources. These surveys are also accounts of what was new or unusual, or of what belonged to the social elites. Little or no attention is paid to the typical, to the lower classes, or to places that lagged behind in the adoption of the latest styles.

Of these four, James Laver's *Costume & Fashion* has the briefest and most over-simplified description of medieval and early Renaissance clothing. The number or nature of the sources in his exposition are not stated nor is the method of study, but the method seems to be a subjective evaluation of artwork. His bibliography is a mix of scholarly works with outdated and often unreliable works. The most useful parts of the book are the clearly reproduced illustrations. Only one page of the text is devoted to men's headdress of the fifteenth century and is primarily descriptive of one type of headdress.

Somewhat stronger is François Boucher's *20,000 Years of Fashion*, which uses the development of French upper-class civilian clothing as the basis for comparison for

13. Aston, 130–133 and 142–147; Waley, 111–114; and Hay, 37–38.

14. Blanche Payne, *History of Costume: From the Ancient Egyptians to the Twentieth Century* (New York: Harper & Row, Publishers, 1965); Milia Davenport, *The Book of Costume* (New York: Crown Publishers, 1948); James Laver, *Costume and Fashion: A Concise History* (New York: Thames and Hudson, Inc., 1985); and François Boucher, *20,000 Years of Fashion* (New York: Harry N. Abrams, Inc., n.d.).

the development of clothing in Europe. His primary sources include extant garments when they are available and visual artworks, which are studied qualitatively. The secondary sources are noted English and French costume historians mostly from the early 20th century. He does not specifically mention verbal sources, but does quote from contemporary chronicles and literature in the text. Boucher acknowledges societal influences upon clothing such as economics, religion, politics, status delineation, and personal expression, but does not demonstrate the role these factors play in the changes in fashion. The material on fifteenth-century men's headdress is brief and simplistic.

Both Davenport and Payne have produced more detailed texts. Milia Davenport's *The Book of Costume* was written as much for theatrical designers as for a general audience interested in costume. Her primary sources include extant garments, extant textiles, art works, contemporary literature, contemporary sermons and commentary, sumptuary laws, correspondence, and printed inventories of notable persons (primarily royalty). Her main secondary sources include Jacob Burckhardt, Max von Boehn, numerous art historians, but generally disdains costume historians. Davenport states that the ideal book on costume would "... provide so many pictures (all documents, arranged chronologically, and in color) that the story would tell itself without words."¹⁵ However, pictures alone cannot tell the whole story and some interpretation is necessary for a modern viewer to understand the times that produced the picture. She has tried to produce such a

book of mostly primary source pictures, albeit in black and white and poorly reproduced, with supplemental descriptions to provide color, sometimes, literally. As such, the book is comprehensive and shows many visual sources of clothing from several regions and all social classes. However, the supplemental commentary on the reproductions focus on the unusual and the different rather than what may be typical, and on the clothing of the social elites. Little attempt is made to integrate all the visual information given into coherent patterns, or to make comparisons between regions or times. Her commentaries include unsubstantiated "conventional wisdom" about garments and their use or meanings and her assumption seems to be that there is a linear progression of fashion.

Headdress is often shown in the sources but not much discussed in the commentaries unless it is showy or otherwise unique. Social or cultural uses of headdress is not discussed.

Blanche Payne's *History of Costume* is a history of western clothing from about 3000 BCE to 1900 CE devoted to the clothing of the upper and upper-middle classes, and appears to be an impressionistic analysis of a few art works depicting notable persons. It is often used in undergraduate courses on the history of costume. Her primary sources include extant garments, and garment and textile fragments, when they exist, and art works, but she does not seem to use verbal documentary sources. Her main secondary sources include Max von Boehn, Herbert Norris, Kelly and Schwabe, Milia Davenport, and C. Willett and Phillis Cunningham. Many of the illustrations used are redrawings from

15. Davenport, ix.

original sources rather than reproductions of the originals.

For headdress, and for clothing in general, Payne concentrates on the new and unusual, ignoring commonplace items. The basic assumption seems to be that there is a linear evolution of fashion, rather than there being a number of different trends from different regions and/or social classes that are adopted differentially by the fashionable. Payne also makes broad generalizations about fashion from a few selected sources that depict the powerful, the social elites, and the rich. The working classes are dismissed in three paragraphs and only agricultural workers are discussed.

She does acknowledge regional differences, and gives a summary of the main trends for each of the regions studied (Italy, Burgundy/Flanders, France, Germany, and England), but fails to compare and contrast each of the regional trends. Rather, Payne studies the “fashion” trends of each region by applying the standard of French fashion to each of them. She also states that Italy was the fashion leader due to the imagination and sumptuousness shown in its clothing, but does not demonstrate that Italian clothing has any influence on the clothing of other regions.¹⁶

Headdress is only mentioned in passing and only if it is unusual or bizarre. No attempt is made to examine wearing patterns of headdress for various social classes or demographic groups, and no systematic attempt is made to examine regional similarities or differences.

Penelope Byrde's *The Male Image: Men's Fashion in Britain 1300–1970* is a both

a survey of English upper-class men's clothing and an interpretation of the development of men's examined in the light of the ideals of masculine image, aesthetic ideals, and delineation of social status.¹⁷ The structure of the book includes a chapter on the influences on men's clothing, a chapter on showing a pictorial survey of English men's clothing, and chapters on individual clothing items. The chapter devoted to headdress gives a more detailed narrative about the development of head-dress and is more sensitive to variations in type and structure than the text describing headdress in the other general surveys reviewed here.

Byrde examines visual works of art, contemporary literature, diaries, letter and memoirs, and extant garments. In addition to these primary sources, for fifteenth-century clothing, Byrde relies heavily on secondary sources by Elizabeth Birbari, C. Willet and Phillis Cunningham, and J. R. Planché. The text is extensively annotated and the notes provides excellent sources, but the bibliography is better suited to a non-specialist audience.

Byrde attempts to examine the changes in men's clothing in the context of gender roles: how men perceived themselves and how they structured their images to accord with these perceptions. Also she looks at how and what clothing can communicate within a society and how men's dress have developed and changed to adapt to communicate new messages about social status, moral values, and contemporary aesthetics. She does sometimes broadly attributes concepts about male and female roles predominant in one time period

16. Payne, 200.

17. Penelope Byrde, *The Male Image: Men's Fashion in Britain 1300–1970* (London: B. T. Batsford Ltd, 1979).

to all time periods in her range. While nineteenth-century concepts of male and female roles may satisfactorily explain the differences in the character and pace of change of men's clothing and women's clothing in the nineteenth century, they do not adequately explain the similarities in men's clothing and women's clothing prior to the eighteenth century.

Surveys of Medieval/ Renaissance Clothing

Literature concentrating on the dress of the Middle Ages, such as *Medieval Costume in England and France*, by Mary Houston; *Dress in Medieval France*, by Joan Evans; *The Handbook of English Mediaeval Costume*, by C. Willett Cunnington and Phillis Cunnington; or *The Visual History of Costume: The Fourteenth & Fifteenth Centuries* by Margaret Scott is also intended for a popular audience and has many of the same problems as the previous sources.¹⁸ These surveys are also accounts of what was new or unusual, or of what belonged to the social elites with little or no attention paid to the typical, or to classes or countries that were outside of the main trends of fashionable change. They do, however, often supplement their analyses with contemporary literature and such historical records as household accounts and customs records, and have more detailed descriptions of clothing.

Medieval Costume in England and France, by Mary G. Houston surveys fashionable change in the clothing of the social elites of thirteenth-, fourteenth-, and fifteenth-century England and France. She uses manuscript illumination, tomb effigies, paintings,

stained glasses, and extant church vestments as primary sources, but she relies heavily on nineteenth-century secondary sources. Unlike the other authors, she does cover the development of ecclesiastical vestments for these three centuries, the sight of which would have been most frequent in medieval society, and of professional and academic dress. For the most part, her information is composed of descriptions of the garments worn in a few visual sources without placing them into an aesthetic, cultural or social context. The 350 illustrations consist of line redrawings of original images.

Joan Evans in *Dress in Medieval France* also mainly describes some of the garments seen in visual sources, but she also includes commentary in contemporary chronicles and literature. Her scope of study is French and Burgundian clothing from 1060 to 1515 CE of the upper and occasionally, upper-middle classes. Evans's source materials for fifteenth century clothing include extant garments and garment and textile fragments, when they exist, but she does not describe them accurately.¹⁹ Her other primary sources are art works, contemporary prose and poetry, and correspondences and inventories of notable persons. The main secondary sources include Viollet-le-Duc, Quicherat, Demay, and Harmand, the works of which were published more than twenty years prior to the printing of her book. Evans also makes extensive use of 19th-century transcriptions of medieval texts and documents rather than using the original sources themselves. She includes a section of black and white reproductions of the visual sources to illustrate the text, but uses renderings of Viollet-le-Duc's redrawings within the text.

18. Mary G. Houston, *Medieval Costume in England and France: The 13th, 14th and 15th Centuries* (London: Adam & Charles Black, 1939); Joan Evans, *Dress in Medieval France* (Oxford, UK: Clarendon Press, 1952); C. Willett Cunnington and Phillis Cunnington, *Handbook of English Mediaeval Costume* (Boston: Plays, Inc. 1969); and Margaret Scott, *A Visual History of Costume: The Fourteenth & Fifteenth Centuries* (London: B. T. Batsford Ltd, 1986).

19. Evans, 30 and 48. On these two pages, she shows drawings of the cutting diagrams of two pourpoints. One of the drawings on page 30 is captioned as the pourpoint belonging to Charles of Blois. The cut of the pourpoint attributed as belonging to Charles of Blois, has been documented in many others sources and its cutting diagram is generally depicted as the one she shows on page 48. One might think that this is merely a typographical error except that she discusses them in the accompanying text as they are captioned and drawn.

Overall, *Dress in Medieval France* has much fragmented description with little interpretation and synthesis of general trends.

Much better with delineating general trends, at least with regards to change over time, is *The Handbook of English Medieval Costume*, by C. Willett Cunnington and Phillis Cunnington. As the title suggests, the scope of the book is English clothing of the upper and middle classes from 800 to 1500 CE. The intention was to create a general reference of the main features of English medieval clothing for an interested general audience and for theatrical designers. Their study uses some manuscript illuminations, memorial effigies, and contemporary literature. Secondary sources include noted nineteenth- and early twentieth-century clothing historians and art historians. The subject matter is primarily descriptive and social and cultural contexts are kept to a minimum. Contemporary literature is used to illustrate a particular garment rather than to analyze that garment. The material is arranged first chronologically, then by sex of the wearers, and for each sex, by type of garment. Each type is then described chronologically to give a sense of an evolution of style. The verbal descriptions are supplemented by line redrawings of original images, but the original sources are cited. Often, features from one period are related to features from the previous period and to features from the next. As an overview of the main features of dress, it is well organized and lucidly written, but it is not detailed enough for use in interpretive analyses.

The Visual History of Costume: The Fourteenth & Fifteenth Centuries by Margaret

Scott is also a general pictorial survey of upper class English, Burgundian, Flemish, French, and some German clothing from 1300–1500 CE. Unlike the previous surveys, this survey is rooted in a strong, scholarly evaluation of manuscript illumination, paintings, funerary sculpture, royal wardrobe accounts, sumptuary legislation, household accounts, contemporary chronicles, wills and inventories, and contemporary literature. Each type of information is considered in terms of the other types to see if each supports or contradicts each other. Her secondary sources include scholarly works of later-twentieth-century historians, clothing historians and art historians. The introduction to the book frankly describes the types of primary sources available for research into the clothing of the late Middle Ages and their limitations, her methods for using these sources, and a brief overview of the general trends of fashionable change while acknowledging, but not describing in detail, national and cultural complexities. The rest of the book is comprised of 150 reproductions of visual sources, arranged in chronological order, each with a description of the treatment of the head, body, and accessories worn by the persons portrayed. Some of these descriptions discuss briefly the aesthetic, cultural, or social contexts of the item described. The bibliography provides a solid starting point for more detailed study of the subject.

Accounts of Fifteenth- and Early Sixteenth-Century Clothing

Most of the previous literature was published before 1970. More recent writers,

while still using a subjective method of analysis, have brought more discipline to the study of fifteenth century clothing. The last two decades saw the publication of several books concentrating on the clothing of the fifteenth or fifteenth and early sixteenth century. These include *Dress in Italian Painting 1460–1500*, by Elizabeth Birbari; *Renaissance Dress in Italy, 1400–1500*, by Jacqueline Herald; *Late Gothic Europe: 1400–1500*, by Margaret Scott; and *Hispanic Costume: 1480–1530*, by Ruth M. Anderson. Most of these are more complete than the previous surveys, using a variety of documentary sources to interpret clothing in a social setting. A better attempt to examine clothing of the lower classes and men's clothing is made, but these sources still concentrate on the clothing of the fashionable elites and of women. Scott, Herald, and Anderson attempt to firmly place their narrative of the changes in dress into a social and cultural context, while Birbari concentrates on what can be perceived in painting alone, almost divorced from a social context.²⁰

Dress in Italian Painting 1460–1500, by Elizabeth Birbari is a primer on how to look at the portrayal of dress in works of art and how to interpret its construction and components, provided one looks with an open mind and without unsupported assumptions about the nature of the art. Unfortunately, Birbari makes the assumption about Italian art that the portrayal of every object, especially clothing, was a literally true and faithful recording of that object to the most minute detail.²¹ Art historical scholarship does not support that assumption and a further discussion of the characteristics of Italian fifteenth-century art will be given in

Chapter III. This assumption creates conclusions about the types of garments worn in daily life and how it was constructed that are highly questionable. Birbari does not recognize the role that fantasy, idealization, and symbolism often play in the portrayal of human figures in art, and consequently garments that were most likely to be theatrical adaptations of clothing, she takes as clothing worn in daily life.

Although the title implies that all of Italian dress is discussed, the one hundred paintings Birbari analyzes comes mostly from Northern Italy as most of the innovative artists whose works she uses were employed in these areas. She then uses these paintings as guides to the construction of various items of Italian men's clothing and women's clothing. For some of the illustrated garments, she shows photographs of reconstructions based on her analysis of the paintings. Other than women's veils, headdress is not analyzed.

Most of Birbari's secondary sources are the works of art historians of Italian painting writing in the 1930s and 1940s, more than thirty years before this book was written. Comparison of Italian painting with Northern European painting may have contributed to a revision of her assumption of the absolute veracity of Italian painting, as may have knowledge of clothing and textile production, the general social structure, and the concepts of Renaissance thought.

In contrast to the narrow focus on painting as the only source material of *Dress in Italian Painting 1460–1500* is Jacqueline Herald's *Renaissance Dress in Italy, 1400–1500*.²² This is a much broader

20. Elizabeth Birbari, *Dress in Italian Painting 1460–1500* (London: John Murray Ltd, 1975); Jacqueline Herald, *Renaissance Dress in Italy 1400–1500*, History of Dress Series (Atlantic Highlands, NJ: Humanities Press, Inc., 1981); Margaret Scott *Late Gothic Europe, 1400–1500*, The History of Dress Series (Atlantic Highlands, NJ: Humanities Press, Inc., 1980); and Ruth M. Anderson, *Hispanic Costume: 1480–1530* (New York: Hispanic Society of America, 1979).

21. Birbari, 1–3.

22. It is interesting to note that Byrde, Birbari, and Herald all received their academic training in the history of dress at the Courtauld Institute, University of London with Birbari preceding Herald and Byrde by about five years.

interpretative and descriptive study using a wide variety of primary sources to analyze and place Italian clothing into a social context. Like Birbari, the sources Herald uses come primarily from the northern half of Italy since this area was the leader in the development of Renaissance thought and aesthetics.

Primary source materials include works of art, fabric fragments, inventories, wills, household accounts, personal correspondence, and literature, all carefully considered together to give a comprehensive picture of the use of clothing in the life of upper-class Italians. Although the surviving evidence is strongly biased to representation of the upper classes, Herald does moderately discuss the role of clothing in the lives of the middle and lower classes based on the evidence she has found.

The main portion of the book intersperses chronologically arranged chapters descriptive of the types of garments worn and their physical characteristics placed into cultural contexts such as concepts of beauty, the spread of Renaissance aesthetics and the decline of the Gothic, or the use of dress as a method of communicating status, taste, or moral values, with chapters detailing textiles and textile production used for clothing, jewelry and accessories and heraldry.

Margaret Scott has also written a more detailed history of fifteenth century upper class French, Burgundian, and Flemish clothing and contains some descriptions of English and German clothing as well. The focus of *Late Gothic Europe: 1400–1500* is the interpretation of clothing

in aesthetic and cultural contexts. Much of the structure of the book and the sources and method of study mirrors Jacqueline Herald. Scott evaluates manuscript illumination, paintings, funerary sculpture, royal wardrobe accounts, sumptuary legislation, household accounts, contemporary chronicles, wills and inventories, and contemporary literature synthesizing the historical evidence into a coherent narrative. Her secondary sources include scholarly works of later-twentieth-century historians, clothing historians and art historians.

Scott's chronological account of the changes in fashionable dress is preceded by chapters describing the political historical setting and how it affected the visual arts and the aesthetic concepts held by Northern European artists of the fifteenth century. The clothing described in the chronological chapters are placed in the context of changes in aesthetics and the decline of medieval thought.

Another well-organized and scholarly survey has been written by Ruth M. Anderson. *Hispanic Costume: 1480–1530* concentrates on a region and time period not often examined: Spain and Portugal of the late fifteenth and early sixteenth centuries. The book is divided into two sections, one for men's clothing and one for women's clothing. These are subdivided into types of clothing items and of personal adornment starting with the head (hair and headdress) proceeding systematically to the toes (shoes and other foot coverings) and including outer garments and accessories.

Anderson's primary sources include art works, correspondences and inventories of

notable persons (primarily royalty and nobility), contemporary chronicles, sumptuary laws, guild and town regulations for producers of clothing, and some contemporary literature. There are numerous illustrations for each type of garment or accessory discussed. Her main secondary sources include the works of Carmen Bernis Madrazo, C. Willett and Phillis Cunnington, Maurice Leloir, James Laver, Rosita Levi Pisetsky and numerous scholars of Spanish history.

This is a systematic qualitative analysis of many art works and verbal sources primarily concerning notable persons. Anderson analyzes clothing items in the contexts of their makers and their wearers and integrates this information into a comprehensive interpretation of clothing worn on the Iberian peninsula in the late fifteenth and early sixteenth century. She examines the clothing items in terms of their construction and their material components, who would have worn them and for what occasions, and their cultural and social meanings.

Anderson does not make the assumption that clothing developed along a single line of evolution, but rather acknowledges that different elements of clothing had their own independent evolutions and so she examined each element in isolation. The illustrations for each type show only the headdress or the doublet or the sleeves, and one does not always get a sense of an integrated outfit or a sense of what often goes with what. Another of the few weaknesses of this book is that the degree to which changes in one element may effect changes in another element is inadequately explored. The separation of men's from women's clothing, in a book that stresses social context, also made it difficult

to see the interrelationships between men's and women's clothing. Otherwise, this is a brief and readable, yet scholarly and well-documented source for information about clothing for this period and place.

Headdress is discussed in its own section with ample illustrations of each type of headdress discussed. Anderson also briefly examines the uses of headdress in courtesy rituals, the qualifications for master's status in hat- and cap-makers guilds, as well as a discussion of various headdress types, their changes, and their appearances in inventories and literature.

The following two articles describe social aspects of fifteenth-century clothing or of the way clothing is portrayed in art. They both discuss two facets of the topic, how clothing is used to mark one's social status and the importance of firmly delineated status to a culture that stressed adherence to the proper place and duties of each estate. Laura Rinaldi Dufresne examines the contrasts among the depictions of a popular author, Christine of Pisa, in fifteenth-century manuscript illumination, her actual social status, and her advice and commentary on dress and status in the article, "A Woman of Excellent Character: A Case Study of Dress, Reputation, and the Changing Costume of Christine de Pizan in the Fifteenth Century."²³ Dufresne compares Christine of Pisa's textual admonishments to dress for one's status with Christine's depiction in five French and Flemish manuscript copies of her works. Christine of Pisa, court author and scribe, had advised women to always dress appropriately for their social statuses, and while she was alive to control her portrayal in manuscripts, only approved of her image shown dressed in

23. Laura Rinaldi Dufresne, "A Woman of Excellent Character: A Case Study of Dress, Reputation and the Changing Costume of Christine de Pizan in the Fifteenth Century," *Dress* 16:2 (1990), 105-117.

clothing appropriate to her status. Her works were immensely popular in the fifteenth, and after her death in 1430, she was increasingly portrayed in clothing appropriate to a social status far above her own in keeping with her reputation.

John Scattergood analyzes the phrasing of English sumptuary legislation and compares it to such literary sources as poetry, song lyrics, sermons, chronicles, and correspondence to seek underlying attitudes and beliefs towards innovation and luxury in clothing in “Fashion and Morality in the Late Middle Ages.”²⁴ He concludes that the overriding concerns spurring the creation of sumptuary laws and contemporary commentary on dress were the fear that those adopting new “skimpy” fashions were indulging in the mortal sin of pride and those adopting costly fashions and materials beyond their means were blurring class distinctions and violating the concept of a rigid social hierarchy.

Accounts of Fifteenth- and Early Sixteenth-Century Headdress

Literature specifically about fifteenth century headdress is, of course, more scarce than literature about clothing in general. Four articles were found that discussed fifteenth-century headdress or have fifteenth-century headdress within its purview. Three of the articles are descriptive, sometimes baldly so; the latter examines the role of headdress in concepts of gender and religious priesthood.²⁵ Cheunsoon Song and Lucy Roy Sibley's article, “The Vertical Headdress of Fifteenth Century Northern

Europe,” discusses the evolution and construction of fifteenth-century Northern European women's headdress of the upper and upper-middle classes. Her primary sources include artwork by different artists of the same period. Her main secondary sources include Margaret Scott, François Boucher, Millia Davenport, Blanche Payne and Herbert Norris. Margaret Scott is cited in 31 of 55 footnotes and they seem quite dependent on her work. Song and Sibley examined art works and developed a classification of women's headdress by perceived method of construction, using the depicted shape, and types of elements used.

The article primarily describes their six categories of women's headdress, suggests how they could have been constructed, and shows examples of each type. It would have been beneficial if some of their proposed constructions could have been tested by trying to recreate them to see if they would really work. Song and Sibley also make some suggestions as to how social class may be depicted through the use of different types of headdress for each class, through the use of larger headdresses for higher classes, or the amount of decoration.

Finally they suggest an evolution of this type of headdress based on a small sample. From the article, it appears that the evolution is based on the dating of about 12 sources; more sources should be examined before drawing a conclusion about the evolution of a headdress type.

These two articles from *Textile History* are merely descriptions of the physical characteristics of extant men's hats. Karen Finch's “A Medieval Hat Rediscovered,” comprises a description of a late fourteenth- or early

24. John Scattergood, “Fashion and Morality in the Late Middle Ages,” in *England in the Fifteenth Century: Proceedings of the 1986 Harlaxton Symposium*, ed. Daniel Williams, (Woodbridge, Suffolk, UK: The Boydell Press, 1987) 255–272.

25. Cheunsoon Song and Lucy Roy Sibley, “The Vertical Headdress of Fifteenth Century Northern Europe,” *Dress* 16:1 (1990), pp. 5–15; Karen Finch, “A Medieval Hat Rediscovered,” *Textile History* 14 (Spring 1983), pp. 67–70; S. M. Levey, “Illustrations of the History of Knitting Selected from the Collection of the Victoria and Albert Museum,” *Textile History* 1:2 (1968–70), pp. 183–205; and Beverly Chico, “Gender, Headwear and Power in Judaic and Christian Traditions,” *Dress* 16:2 (1990), pp. 127–140.

fifteenth-century hat containing the dimensions, construction details, and materials of the hat. Photographs of the hat from various angles and of details of construction are included. S. M. Levey briefly describes an early sixteenth-century knitted hat in her article, "Illustrations of the History of Knitting Selected from the Collection of the Victoria and Albert Museum." This briefly gives the physical characteristics of the hat and discusses such knitted hats in context of royal legislation and of other verbal documentation. A photograph of the hat is included.

"Gender, Headwear and Power in Judaic and Christian Traditions," by Beverly Chico is an examination of the meanings of covering one's head in the Judaic and Christian religions. Chico contrasts the different functions of head coverings for men and women within these traditions using extant ritual headdress, photographs, scripture, religious commentaries, histories of Judaic religious garments and Christian ecclesiastical garments, and literature on the role of women in the Judaic and Christian faiths. Chico identifies the headdress worn by both Jewish and Christian male religious leaders as symbols of power and of men's relationship to God; and women's traditional headdress, such as veils, as symbols of submission and modesty and of women's relationships to God through their relationships with men.

Methods of Study: Content Analysis and Seriation

The above studies are based on traditional historical methodologies that can give a

rich analysis of the role of clothing in a social and cultural context. Yet a weakness of traditional historical methods in the history of clothing is that too general a conclusion can be drawn from too few sources of information. Systematic studies that concentrate on the typical and cover a wider range of geographic territory and all classes are needed to give a more complete picture of fifteenth century clothing.

It could also be desirable to study the quantitative aspects of clothing as well. Two useful methods of creating and arranging quantitative data from visual sources are form analysis and seriation. Content analysis is a systematic method of data collection for items that are difficult to study because of their volume or particular nature.²⁶ Form analysis is a variant of content analysis that creates quantitative data from formal (in an art-theoretical sense) or physical characteristics of the sources of information.²⁷ Seriation is a technique for analysis used in archaeology in which the frequency of occurrence of features or characteristics of an object is arranged sequentially in time.²⁸ In archaeology, the object is often to arrange these frequencies of occurrence in the best possible time sequence without knowing the absolute dates of the objects. Seriation can also be used when the objects are firmly dated to analyze the rates of change in physical features of objects, the modes of occurrence, and other characteristics of temporal distribution. In this thesis, the physical and formal qualities of fifteenth- and early sixteenth-century headdress as portrayed within art objects are analyzed using form analysis.

26. Ole R. Holsti, *Content Analysis for the Social Sciences and Humanities* (Reading, MA: Addison-Wesley Publishing Company, 1969) and Jo B. Paoletti, "Content Analysis: Its Application to the Study of the History of Costume," *Clothing and Textiles Research Journal* 1 (1982): 14–17.
27. Lisa Heidel, "Men's Nineteenth Century Wedding Clothing Found in Museum Collections" (M. S. Thesis, University of Maryland, 1992), 36.
28. Robert C. Dunnell, "Seriation Method and Its Evaluation," *American Antiquity* 35 (1970): 305–319.

Although it comes from the field of anthropology, James Deetz and Edwin N. Dethlefsen's study of mortuary art in colonial New England provides an instructive example of form analysis combined with seriation.²⁹ The images found on cemetery monuments located in Boston and several other small towns surrounding Boston were placed into categories derived from three basic motifs. The mortuary images were firmly dated so the frequency of appearance of the various motifs were plotted against time for a given location. Comparison of the dates of appearance and the distribution of the different motifs by location enable Deetz and Dethlefsen draw conclusions about the diffusion and acceptance or rejection of mortuary images and by extension the diffusion and acceptance or rejection of religious concepts of death symbolized by the different motifs.

Form analysis and seriation were first applied to the study of clothing in Sarah Turnbaugh's study of women's 19th century headdress.³⁰ In this study, she used physical characteristics of headdresses portrayed in *Godey's Lady's Book* from 1830 to 1898 to classify these headdresses into types. She

then graphed the frequency of appearance of these types against time to analyze changes in fashion in women's headdress over time.

Jo Paoletti, Catherine Beeker, and Diana Pelletier also used form analysis and seriation to study stylistic changes in men's jacket styles from 1919 to 1949.³¹ The sources of study were illustrations of Sears catalog offerings and extant clothing in museum. The data collection instrument classified physical features of the jackets such as lapel width, location of the bridge line, silhouette shape, and pocket style. Seriation charts of the studies features were created to aid in interpretation of similar garments in museum collections.

This thesis uses form analysis and seriation when appropriate to analyze the patterns of distribution of men's fifteenth and early-sixteenth headdress over time and geography in an attempt to create a detailed foundation of knowledge of what kinds of headdresses there were, what were their dominant features, who wore them, and where were they worn, as well as how often the dominant modes changed and how long they lasted.

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29. James Deetz and Edwin N. Dethlefsen, "Some Social Aspects of New England Colonial Mortuary Art," *Society for American Archaeology: Memoirs* 25 (1971): 30–38.
 30. Sarah Turnbaugh, "The Seriation of Fashion," *Home Economics Research Journal* 7 (March 1979): 241–248.
 31. Jo B. Paoletti, Catherine Beeker, and Diana Pelletier, "Men's Jacket Styles, 1919–1941: An Example of Coordinated Content Analysis and Object Study" *Dress* 13 (1987): 44–48. See also Catherine Beeker, "Seriation and Object Study of Men's Suit Jacket Characteristics, 1919–1949" (M. S. thesis, University of Maryland, 1989).

CHAPTER III

Methodology

This study of fifteenth- and early sixteenth-century European men's headdress is an attempt to create a database of aggregate information that could be used to re-examine some basic research questions about stylistic change over time and geography and which can be used in further research that involve other aspects of fifteenth- and early sixteenth-century life and culture.

Basic Research Design

Systematic studies that concentrate on the typical and cover a wide range of geographic territory and all classes are needed to give a more complete picture of fifteenth-century clothing. This study is based on content analysis, a systematic method of data collection for items that are difficult to study because of their large frequency or volume.¹ It can be used with verbal or nonverbal communications, and is often used to study the hidden or implicit meanings of those communications. Form analysis is a variant of content analysis that creates quantitative data from formal (in an art-theoretical sense) or physical characteristics of source of information. In this case, the physical and formal qualities of fifteenth- and early sixteenth-century

headdress, or rather from the art object in which the headdresses were portrayed.

The database is to be composed of information on headdress derived from fifteenth-century artwork that is systematically gathered from a large range of sources over a geographic and temporal range. It is created by defining a series of characteristics of men's headdress and coding each headdress used in the sample for each of these characteristics. Each headdress is also coded with information about geographic area of origin and date. The information can then be sorted in a number of ways to look at headdress by type, complexity, geographic area, time, age-status of wearer, social class, how the hat is worn, and other aspects. These data can then be used with other types of information to examine literary and verbal correspondences, aesthetic ideals, social uses of headdress, and so on.

Nature of the Source Material

The Original Art Works

A form analysis technique is used to analyze the distribution of some formal

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1. Jo B. Paoletti, "Content Analysis: Its Application to the Study of the History of Costume," *Clothing and Textiles Research Journal* 1 (1982), 14–17.

and social characteristics over time and space. The two basic requirements for form analysis are well-documented sources, and a systematic data collection instrument. The sources used in this analysis are not original garments, but contemporary depictions of garments in art. In order to understand why portrayals of clothing were used rather than existing garments, the sources of clothing information for the fifteenth and early sixteenth centuries must be examined, and the relative availability of the different types of sources, and the limitations of those sources that are available must be understood.

While the preferred way to study clothing would be to study the extant artifacts of the time supplemented by the study of other contemporary objects and in comparison with artifacts of the same type along the dimension of time, and by the study of other visual and verbal documents relating to that artifact. For the fifteenth century, surviving masculine headdresses are so few and so unrepresentative as to be all but useless as a source of study of style change and geographic distribution. There are only a handful of existing hats and hoods tentatively dated to the fifteenth century and most of these are archaeological finds from Iceland, Scandinavia and England.

That leaves us with contemporary visual and verbal descriptions of headdress. Of these, verbal descriptions are less than adequate because few writers fully describe headdress other than to say that someone was wearing a red bourrelet, assuming that his reader would automatically know what a bourrelet was. If one does not have extant garments in sufficient numbers to study,

the next best sources are visual renderings of clothing.

Clothing is a visual product. It has all the elements of visual design: line, color, shape, rhythm, balance, and so on. Just as words are insufficient to give a comprehensive description of a visual work of art, words likewise are insufficient to give a comprehensive picture of the effect of clothing in its context. Words can amplify a description, convey how an author may consciously feel about items of dress, and give information about such surrounding systems as costs of clothing production and purchase, methods of production, purchasing habits, materials, trade and distribution, and sumptuary legislation. Clothing, however, should be seen, and preferably seen worn in its original environment. From the fifteenth century, there are no candid photographs, no film, nor videotape that show people wearing clothing in everyday situations. The visual arts of the time are our best source for viewing clothing in its context.

All visual arts are limited as a source for costume study in that they are interpretations of how things look and how close that image is to what the eye sees depends on the goals and conventions of the artists of a particular time and place. The purposes of art are rarely to give a photographic depiction of what one sees. Medieval art is a particularly clear example of art used for purposes other than the imitation of visual perception.

Art in the Middle Ages had the purpose of teaching and exalting sacred truth rather than the representation of what the eye saw.² The artists did not bother to show

2. Michael Baxandall, *Painting and Experience in Fifteenth Century Italy: A Primer in the Social History of Pictorial Style*, 2d ed., (Oxford, UK: Oxford University Press, 1988), 40–41; Albert E. Elsen, *Purposes of Art: An Introduction to the History and Appreciation of Art*, 2d ed., (New York: Holt, Rinehart and Winston, Inc., 1967), 100–102; Creighton Gilbert, *History of Renaissance Art throughout Europe*, (Englewood Cliffs, NJ: Prentice-Hall, Inc. and New York: Harry N. Abrams, 1973), 15; and Gottfried Richter, *Art and Human Consciousness*, trans. Burley Channer and Margaret Frohlich. (Spring Valley, NY: Anthroposophic Press, Inc., 1985), 186.

realistic seam lines or drape in clothing; the colors chosen were more likely to be symbolic than an example of what was actually worn. For clothing before 1400, medieval art can only be a guide to medieval clothing and it must be combined with other artifactual and verbal documents. Even with these, conclusions are highly speculative. After 1400, the emphasis in art is still on religion, but the nature of religious devotion had changed, becoming more internalized, more personal, and, dare we say, more humanistic. The art styles changed to reflect these new trends in religious practice and societal mentalities. Fifteenth century art did not abandon the purpose of teaching Christianity to the illiterate masses. Many of the art works commissioned for private use were often used for meditation and prayer. Fifteenth century art aided these goals through the portrayal of scenes set in contemporary settings and figures in contemporary clothing. This was believed to make the faith accessible and personally real to the individual believer. This was also a time when the mundane object could be suffused with mystical meaning. This encouraged the inclusion of accurately rendered everyday objects, including clothing, into art.³

Given the prevalence of religious art in the fifteenth century, it is fortunate for the costume historian that religious figures are so often portrayed in contemporary clothing. The time period of this study ends at 1520 because changing tastes produced religious artworks with figures wearing classical draperies rather than contemporary clothing, losing a major source of costume information.

In the fifteenth century, a renewed interest in humanism became strong enough that artists all over Europe grew interested in a naturalistic depiction of people in a natural-looking environment.⁴ This was approached differently by Italian and Northern European artists. Northern European artists, especially Flemish artists, tried to achieve naturalism by using atmosphere, light, and the depiction of minute surface detail. Because of the latter, their artworks are often very informative about the details of clothing materials and construction.⁵ Italian artists approached naturalism by discovering (or rediscovering) classical laws of ideal beauty and proportion. Highly idealized human figures are set into mathematically-constructed space, and Italian artists often ignored, idealized or distorted some of the details that are useful to the study of clothing, but would interfere with their pursuit of the ideal.⁶

These were some of the objectives of fifteenth century art. What follows is a brief discussion of where art was being used, who the patrons and viewers of the art were, and finally what biases may be found in fifteenth century art regarding depicted clothing.

Public art was displayed in such public buildings as guild halls, town halls, and especially churches. This art was made to be understandable to an illiterate population. Even when it did not have an overtly religious subject, public art was often moralizing in tone using popular stories and mythology as allegories to promote virtuous behavior. Private art, while produced for better-educated patrons and more likely

3. Frederick Artz, *The Mind of the Middle Ages AD 200-1500: An Historical Survey*. 3d ed., (Chicago: The University of Chicago Press, 1980), 400; Johan Huizinga, *The Waning of the Middle Ages: A Study of the Forms of Life, Thought and Art in France and the Netherlands in the XIVth and XVth Centuries*, (London: Edward Arnold, 1924), 240–244; Baxandall, 40–48; Elsen, 106–107; Richter, 186–191.
4. Hugh Honour and John Fleming, *The Visual Arts: A History*, 2d ed., (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1986), 329–331; Elsen, 145; Gilbert, 272–276; and Richter, 183.
5. E. H. Gombrich, *The Story of Art*, (Oxford, UK: Phaidon Press Limited, 1984), 17–182 and 207–208; and Elsen, 105–122.
6. Honour and Fleming, 333–335; Baxandall, 46–48; Elsen, 123–144; Gombrich, 167–175; 183–191, and 199. Baxandall discusses in great detail how Italian educational methods helped to educate patrons and artists who would be predisposed to this kind of mathematical and proportional bias in art on pages 86–108.

to be avant garde in technique, theory, and skill, also shared in this moralizing character.⁷ Book illumination might have a broader range of subject matter as it was used both to illustrate books on technology, accounting, and practical skills, books on popular tales and chronicles, as well as religious books such as Bibles, Breviaries, Books of Hours, and other liturgical or prayer books.⁸

Most art works were commissioned. The exceptions were books and decorated household items that were usually commissioned, but also often produced and then sold at market to the middle and artisan classes. The patrons were, in contrast, either wealthy people of the noble or gentle classes, very wealthy merchants and tradesmen, the Church and religious orders, or guilds and religious or trade confraternities. They wrote the contracts for the art works produced and dictated specifications, not only for materials, but also for the design, that the artists had to follow. The imagery seen in these works of art reflected the views of the wealthier classes that initiated its creation.⁹ Since most artwork was for public viewing, the values depicted had to be religiously orthodox and were likely to instruct the public socially in ways that were to the advantage of the patrons in power.

In terms of clothing, how might these patterns of patronage and artist training and practice affect what we see in art? We would expect that the landed gentry and learned classes would be more often depicted than their proportion in the population. However, since much of the art is designed to appeal to and to teach the lower classes, it would have to have imagery that would not

alienate them. There were some images of the lower classes used, and where the lower classes were not obviously being satirized or used as examples of vices, the images might be fairly accurate, since it does not appear that fifteenth century art idealized or glorified peasant simplicity.¹⁰ Books produced for and by the lower classes should reflect a greater number of images of those classes. Books of Hours, with their calendar pages showing the proper labors of the month, often have numerous and sympathetic portrayals of laborers and artisans.

Colors of objects portrayed in the art products of any time are limited to the available pigments. Pigments are not dyes, and the colors of the clothing shown may not match what was actually worn. During this time, color had both religious and social meanings, and it may well be that, at least in the cases of allegorical and symbolic figures, the colors used to portray garments had more to do with their symbolic functions than with the colors the garments really were.¹¹ However, we can get an idea of colors used in real garments by examining such verbal records as household accounts for colors of cloth or garments purchased or for dyestuffs purchased for home use, trade accounts and customs records on the import and export of dyestuffs, and descriptions given in contemporary literature. Nothing has been found in the literature to contradict the assumption used in this study that the *basic* hues of everyday garments shown in art works were the same as those worn in real life.

In this period, there was also a tendency of portraying certain stock figures wearing stereotyped clothing. These included

7. Honour and Fleming, 351, and 357–360; and Elsen, 119.

8. Christopher de Hamel, *A History of Illuminated Manuscripts*, (Oxford, UK: Phaidon Press Limited, 1986), 156.

9. Frederick Antal, *Florentine Painting and Its Social Background*, (London: Kegan Paul, Trench, Trubner & Co., Ltd., 1947). 281–283, and 374; Baxandall, 1–14.

10. Keith Moxey, *Peasants, Warriors, and Wives: Popular Imagery in the Reformation*, (Chicago: The University of Chicago Press, 1989), 35–66, 140 ff. While the time period covered by Moxey's book is outside of the period covered by this study, his discussion of the theme of the peasant in art is instructive.

11. Baxandall, 81–85; and Honour and Fleming, 11.

ceremonial garb for kings, emperors, popes, and upper-level clergymen; fools clothing, symbolic clothing for allegorical characters, angels, and some saints; and clothing symbolic of exotic or non-Europeans such as Moors, Jews, or Asian, African, or other exotic peoples.¹² The headdress worn by these people were not typical dress (and they rarely appear in scenes strictly from everyday life) and were often fantastic variations of everyday headdress, similar to the way that science fiction costumers create alien or futuristic clothing based on contemporary clothing. Only experience and some background in art history and iconography would enable one to distinguish between headdress portrayed as being worn in everyday life, and headdress serving particular symbolic functions in art. Iconographic headdresses were defined for this study but were not included in the analyses.

Contemporary Survivals

We have lost many artworks from this period. Many of the materials used were highly perishable, and many art works disintegrated over the last 500 years. Textile materials and many books were used until worn out. Most of the art that has survived have done so because they were of a very high artistic quality, were collected because they were particularly good examples of artistic style changes or were by noted artists, contained inherently precious materials such as gold or gemstones, or were very rare. Some pieces of less high artistic merit survived because they were heirloom items that were passed down along generations. Other less artistically superior works were discovered

by chance within other objects into which they had been integrated. A number of informative manuscript pages have been found in book bindings as these were used to produce books produced years later.¹³

This selective survival of historical artifacts may bias our knowledge of a period. Clothing items often survive because they were garments used for atypical occasions, because they were worn by someone deemed famous or important, because they were unable to be adapted into the newest style, or because they could not be worn by someone else until they fell apart.

The selective survival of art objects may bias the understanding of art production and style, masking what may have been a more widespread level of production that has been judged as mediocre, or is outside of the perceived mainstream of artistic development. However, for the study of clothing shown in artworks, no difference between clothing shown in surviving inferior works and that shown in works considered superior could be found. However, works of art outside of the mainstream of art historical development were less likely to have been collected; and consequently, less likely to have survived. Less information can be found on the developments of clothing represented in non-mainstream art works that did not survive.

For reasons that will be discussed later, reproductions of artworks were used in this study. Because fewer artworks from outside of the mainstream of artistic development were reproduced, reproductions of art works from such places as Germany, Britain, and Spain with which to make

12. Margaret Scott, *Late Gothic Europe, 1400–1500*, The History of Dress Series, (Atlantic Highlands, NJ: Humanities Press, Inc., 1980), 34, and 70–72; Jacqueline Herald, *Renaissance Dress in Italy 1400–1500*, History of Dress Series, (Atlantic Highlands, NJ: Humanities Press, Inc., 1981), 96, and 113–116.

13. De Hamel, 186.

geographic comparisons were scarce. So for clothing, regional variations may be underrepresented.

Source Selection Process

Since measurements were a part of the analysis, physical handling the original artworks would have been necessary, and that would have been destructive to them, and is usually not permitted. It was decided to use photographic reproductions of artworks rather than to use original works. This would also broaden the range of artworks that could be studied as original works present in European or Asian collections could be studied by using photographs or prints of those works available locally. As stated before, for the particular type of classification system devised, the use of photographs and prints rather than originals should not have an effect on the headdresses studied. The only category that might be affected by the use of photographic reproductions was color. Comparison of color reproductions with their originals in the National Gallery of Art showed that for the type of color classification system used, there was no difference between color shown in the reproductions and the color used in the originals. Color reproductions were used most of the time, except when works for a geographic region could only be found in black and white. Certain types of artworks, sculpture, wood cuts, some styles of book illumination were not originally produced in color.

The reproductions were selected from those available in the University of Maryland Art Library, the Arlington Central Library (which has a good selection of

popular-market art books), the Fairfax County Library system (which has numerous illustrated histories), and the Library of Congress from illustrations in books on art history, reproductions from museums having collections rich in fifteenth and early sixteenth century European art, and from illustrated histories.

These reproductions had to meet certain criteria: they had to be dated by historians or art historians, and not by costume historians; they had to be dated to a ten-year period; they had to show men wearing everyday headdress clearly. It was preferred that if the original artwork had been produced in color, that a color reproduction was used. Exceptions were made to get examples from full geographic spectrum, and the only category this seemed to affect was color.

It is impossible to know how many original fifteenth century art works there are. There is no known database of all the existing art works from the period of study. Many pieces are in private hands and are unknown to scholars. To sift through all the art works, even if they could all be known, for all that met the criteria, then draw a statistically random sample would take years, if not decades. Even cataloging all the reproductions that met the criteria found the University of Maryland Art Library and the Library of Congress alone would have taken one or more years to accomplish. After examining the sources, no reason could be found that a sample drawn subjectively from the sources used would have any systematic difference in terms of the types and characteristics of the headdresses found therein from those found in a statistically random sample.

Characteristics of the Sample

Table 1 displays the decade and place of origin of the sample used for this study. Relatively more works of art were available for particular places and times and these decades and places were better represented in the sample.

Classification System

The data collection instrument consisted of thirteen categories; each of which involved two or more classes into which the headdress, the wearer, or the environment in which the wearer was set, could be classified. Each class in a category was defined in such a way that it was mutually exclusive of the other classes. The criteria for each class were not shared by any other class in that category. The thirteen categories were headdress type, brim type, color, materials, decoration type, position of headdress,

coverage of the hair-growing area, coverage of the ears, social class of wearer, interior or exterior use headdress, aspect ratio, place of origin, and source decade.

In defining the categories and the classifications, both verbal and pictorial definitions were used as it was easier to use an image to get the general idea of a visual type, and then to use the verbal definitions to draw the boundaries between one type and another. A verbal and visual definition packet was created that gave both a verbal description of each classification and a series of visual examples of common variations.

Pre-test and Reliability

The instrument was pre-tested to refine categories and improve the description. The revised instrument was tested for reliability using a panel of four judges and a sample of forty (40) headdresses. Each judge categorized each headdress for each of the

Table 1. Temporal and Spatial Characteristics of Sample

| | BFN | British Islands | France | HRE | Italy | Spain/ Portugal | Total |
|--------------|-----|-----------------|--------|-----|-------|-----------------|-------|
| 1400 to 1409 | 1 | 12 | 22 | 13 | 7 | 10 | 65 |
| 1410 to 1419 | 33 | 1 | 13 | 6 | 4 | 3 | 60 |
| 1420 to 1429 | 11 | 9 | 12 | 2 | 5 | 0 | 39 |
| 1430 to 1439 | 13 | 6 | 0 | 0 | 16 | 1 | 36 |
| 1440 to 1449 | 8 | 8 | 1 | 12 | 15 | 0 | 44 |
| 1450 to 1459 | 6 | 0 | 16 | 3 | 18 | 8 | 51 |
| 1460 to 1469 | 16 | 5 | 22 | 1 | 16 | 6 | 66 |
| 1470 to 1479 | 39 | 0 | 6 | 15 | 17 | 8 | 85 |
| 1480 to 1489 | 24 | 4 | 19 | 10 | 11 | 8 | 76 |
| 1490 to 1499 | 22 | 12 | 19 | 11 | 19 | 28 | 111 |
| 1500 to 1509 | 7 | 1 | 14 | 19 | 18 | 11 | 70 |
| 1510 to 1519 | 29 | 12 | 1 | 17 | 12 | 17 | 88 |
| Total | 209 | 70 | 145 | 109 | 158 | 100 | 791 |

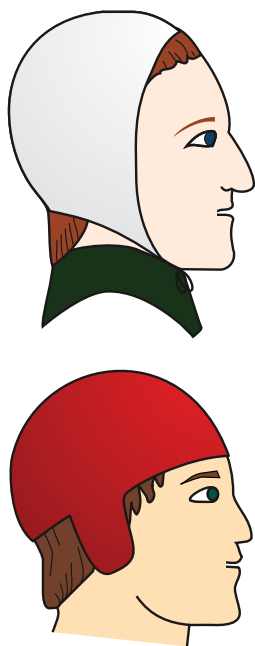


Figure 1.
Examples of Coifs

categories used. The agreement between judges was compared and a coefficient of agreement was calculated from the following formula for composite reliability when more than 2 judges are used:¹⁴

$$\frac{N (\text{average interjudge agreement})}{1 + [(N-1)(\text{average interjudge agreement})]}$$

Where: N = total number of judges.

The following are summaries of each of the categories. The coefficient of agreement for each category has been included with the heading of each of the categories. Mean composite reliability for the entire instrument is .93.

Summaries of Categories

Headdress Type (.93)

The nature of the artwork was not detailed enough allow the use of the construction of the headdress as the defining factor of headdress type. Visual characteristics of headdress that could be easily perceived from artwork of this period had to be used to form headdress type definitions. The distinguishing factors for headdress type were the overall silhouette of the hat, the shape of the crown, the construction of the crown (if it could be determined from the source), the presence or absence of a brim, type of brim, and how the brim projected from the crown.

The types defined are briefly described below. The names of the types used are based on contemporary and modern, often-used terminology for these headdresses, but the way they have been defined may differ from the way these terms are sometimes defined

in the literature. Figures 1 through 15 illustrate the different headdress types.

Coifs

Coifs are close-fitting caps that conforms to the shape of the head and cover most of the head, excluding the face. They have no brim.

Hood

A hood is a loose-fitting covering of the head and shoulders. The hood has a face opening, a shoulder cape (and opening) and sometimes a tail (also called a liripipe or tippet). The hood has no brim.

Chaperones

These are variation of the hood in the earliest form of which, the hood is worn with the face opening around the top of the head, with the tippet often wound around the head, and with the shoulder cape, also called a cockscomb, hanging from the top of the head. In later forms, the head opening is formalized into a brimmed or padded or twisted roll opening. Allowable brim types include padded or twisted rolls or continuous brims.

Sack Hats

Sack hats are similar to chaperones, but have eliminated the tippet and converted the shoulder cape into a sack-shaped crown. Allowable brim types include padded or twisted rolls or continuous brims.

Rondelles/Padded Rolls/Chaplets

This category includes a stuffed ring or roll of cloth or a chaplet of flowers or of metal imitating flowers or other plants.

14. Ole R. Holsti, *Content Analysis for the Social Sciences and Humanities*, (Reading, MA: Addison-Wesley Publishing Company, 1969), 137.

Allowable brim types include padded or twisted rolls for rondelles or continuous brims for chaplets.

Cauls

Cauls are net or cloth caps consisting of fabric gathered into a band to confine the hair and fit the head opening closely. Allowable brim types include padded or twisted rolls or continuous, split, or overlapping split brims.

Acorn Hats and Sugarloaf Hats

These are light hats that either fit the head closely, but do not cover the amount of head that the coif covers (the acorn hat rarely covers the ears). The hats could be stiffened or soft. The crown is either pleated or smooth. At no point is the crown of the acorn hat wider in profile than at the head opening (see Figures 8 and 9, pp. 36–37). The main difference between an acorn hat and a sugarloaf hat is the height of the crown. The acorn hat has a crown defined as less than 1.5 times the face measurement (or the distance from the chin to the bridge of the nose) and a sugarloaf had a crown 1.5 time the face measurement or larger. Allowable brim types include brimless, continuous brims, partial brims, split brims, or overlapping split brims.

Bonnets

The bonnet is a square-crowned hat, covering the head similarly to the acorn hat, but usually broader than tall. The main difference between bonnets and acorns/sugarloafs is that the crown generally widens from the head opening, then diminishes towards the top of the crown.

The silhouette is usually pentagonal, or trapezoidal. Allowable brim types include brimless, continuous brims, partial brims, split brims, or overlapping split brims.

Stiffened Hats

These are hats of blocked felt, stiffened or supported fabrics, or straw or other plant fibers usually having brims; not classifiable as an acorn hat, sugarloaf hat, or bonnet; and often worn over other types of headdress. Allowable brim types include brimless, continuous brims, partial brims, split brims, overlapping split brims, rolled brims, or Robin Hood brims.

Flat Hats

The flat hat is a usually brimmed hat with a soft crown constructed as a circle pleated into a brim or knitted to shape. These differ from sack hats, which also have sack-style crowns, in the way that the brim projects from the head and the configuration of the crown. Allowable brim types include brimless, continuous brims, partial brims, split brims, overlapping split brims, rolled brims, or Robin Hood brims.

Stocking Caps

These are soft cone- or truncated-cone-shaped caps in which the top of the crown is sometimes gathered at the tip and there is often a tassel at the tip, as well. Allowable brim types include brimless, continuous brims, partial brims, split brims, or overlapping split brims.

Draped Headdresses

Draped headdresses consist of pieces of fabric wrapped or twisted around the head.

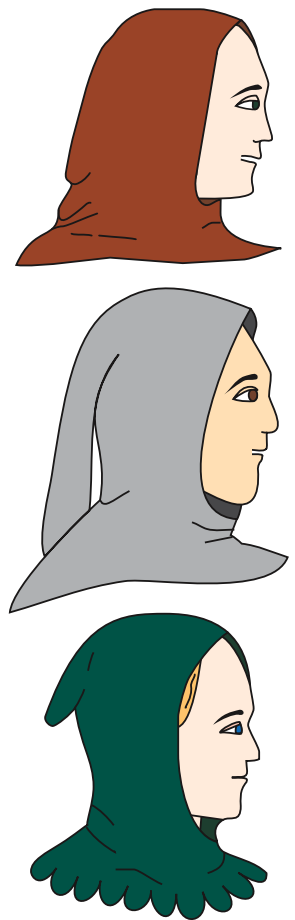


Figure 2.
Examples of Hoods

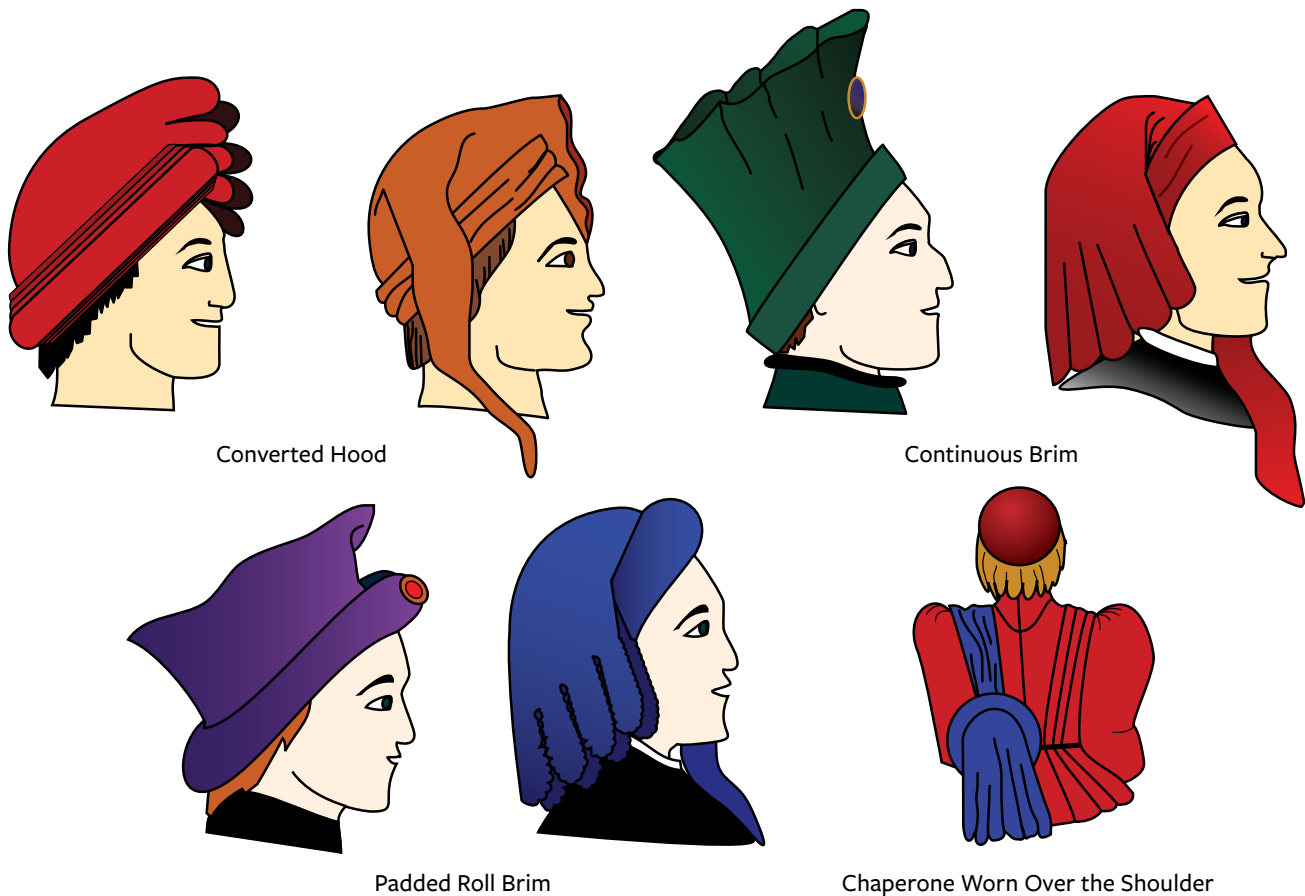


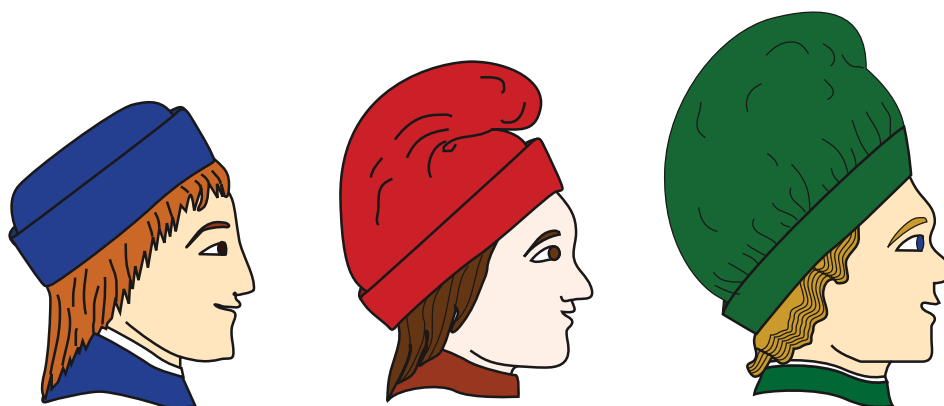
Figure 3.
Examples of Chaperones

Allowable brim types include brimless, continuous brims, or padded or twisted roll brims.

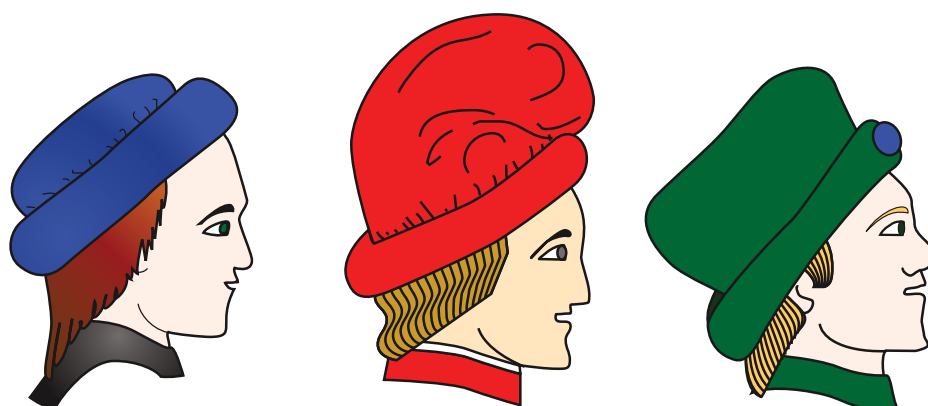
Ceremonial/Iconographic Headdresses

This class includes headdress used for religious or secular ceremonies such as masses, coronations, addresses to parliaments, headdress used to denote social rank, or headdress used to denote stock figures such as fools, angels, allegorical characters, Magi, Moors, Jews, or Asian, African, or other exotic peoples. This class includes four types: ecclesiastical headdress, or

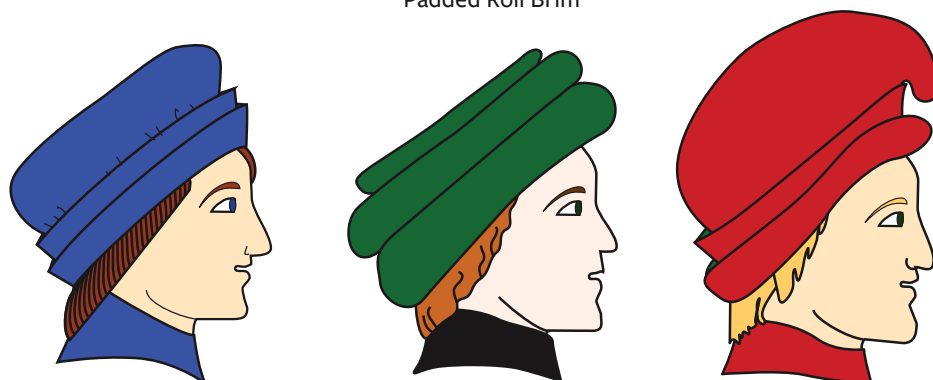
ceremonial headdress used in religious ritual such as miters and papal tiaras, not headdress worn by clergy doing other daily activities; crowns, coronets, or fillets, or metallic rings, plain or decorated, hinged or solid, that show noble rank excluding metallic chaplets; iconographic headdress, or headdresses which can include cone-shaped, truncated-cone-shaped, or cornucopia-shaped crowns with one or more twisted roll brims, fools caps, or headdress worn by obviously non-European men; and military headdress, or metal plate or mail helmets and coifs.



Continuous Brims



Padded Roll Brim



Multiple Brims

Figure 4.
Examples of Sack Hats



Figure 5.
Examples of Chaplets



Figure 6.
Examples of Rondelles

Levels of Complexity

The categories of brim type, material, and decoration type were designed to test conventional wisdom about certain presumed characteristics of late medieval and renaissance art. These collectively form a measure of complexity of the headdress. Low complexity headdresses are those that have no or a plain continuous brim, and are undecorated. As the headdress acquires brims with sections, cuts, or multiple brims and/or acquires increasing amounts of added decoration, its complexity increases.

Brim Type (.91)

The brim type category records whether a hat has a projecting or encircling rim. The classes of brim type include: *brimless* in which the hat has no brim; *continuous brim*, which is flat brim that completely circles the head opening;¹⁵ *partial brim* which is a flat brim that only circles part of the head opening; *split/slashed brim* which is a flat brim in which the outer edge is cut at one or more places or the brim is made in separate sections; *overlapping split brim* which is a flat brim that is cut at one or more places or

made in separate sections and the sections overlap at one or both sides; *rolled-edge stiffened brim* which is a flat brim curled up at the edges; *Robin Hood brim* which is a flat brim that is close to the crown and relatively tall on one side and tapers to a point extending away from the crown on the other side; *padded roll or twisted roll brim* for which the brim consists of a stuffed roll or a roll made by twisting together a length of fabric; and *multiple brim* where there is more than one brim, usually a flat brim/padded roll brim combination, on the headdress. Examples of the various brim types are shown in Figure 16 (p. 41).

Materials (.98)

It would be nearly impossible to determine from what materials a hat is made from such a stylized and schematic depiction such as we have in most period art. For this category, the hat was coded as to whether the material of the hat was plain or decorated.

Decoration Type (.94)

If a headdress was embellished in anyway, either by application of other materials, the

15. "Continuous" to refer only to *flat* brims, i.e., brims that are not curled up or down or composed of a padded or twisted roll, as there are special categories for these. Flat brims may project 90° to the head opening, or may be turned up parallel to the crown or turned down forming a continuous line from the crown.

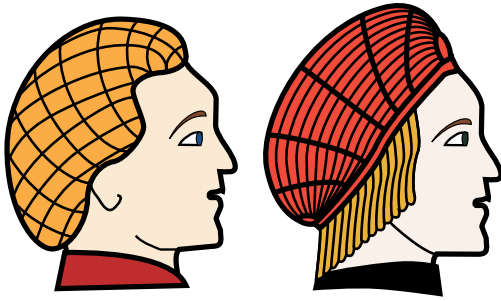


Figure 7.

Examples of Cauls

use of figured fabrics, or by modification of the cloth by decorative cuts, it was coded as decorated in the materials category, and the types were recorded. Types include hatbands, hat badges, embroidery, trims, lacing, decorative cuts and slashes, feathers, flowers, jewelry, and figured fabrics.

Head-Covering Practices

The categories of coverage of hair-growing area, coverage of the ears and position of headdress help to determine head-covering practices. Further research may like these practices to societal and religious attitudes towards covering the head.

Coverage of Hair-Growing Area (.86)

Coverage of the hair-growing area is a measure of how much of the head is covered by a headdress and for coding purposes, refers only to the portion of the head which *normally* grows hair (even if the person in question is bald). This was done by using a set of drawings, illustrated in Figure 17 (p. 42), which showing brim positions for established categories of coverage. These are: 0%–25%, 25%–50%, 50%–75%, 75%–100%, or NA.

Coverage of the Ears (.93)

This category records whether the headdress covered the ears, and if it did, did it cover the ears fully or partially? If the ears can not be seen because they were covered by hair, code completely if the brim even with the jaw line lies lower than the bottom of the nose, code partially if the brim even with the jaw line lies between the bottom of the nose and the level of the bridge of the nose, and code not covered if the brim lies above the level of the bridge of the nose.

Position of Headdress (.98)

This category determines how the headdress is positioned relative to the wearer. The headdresses were coded as to whether the headdress was worn on the head, and how it was positioned there; was worn over the shoulder, or if a hood, pushed back onto the shoulder, was carried in the hand, or was placed on the floor or ground near the wearer; and whether or not more than one headdress is worn or carried at the same time. The doffing of the hat was a mark of deference. Hand-carried means that the hat is being carried in the hands rather than worn on the head. Carried on shoulder means that the headdress is draped over the shoulder rather than worn on the head or a hood that is being worn down (not covering the head). The code multiple is used in addition to the center, right, left, hand-carried, and shoulder codes if the person is wearing and/or carrying more than one headdress.

Continued on p. 43.

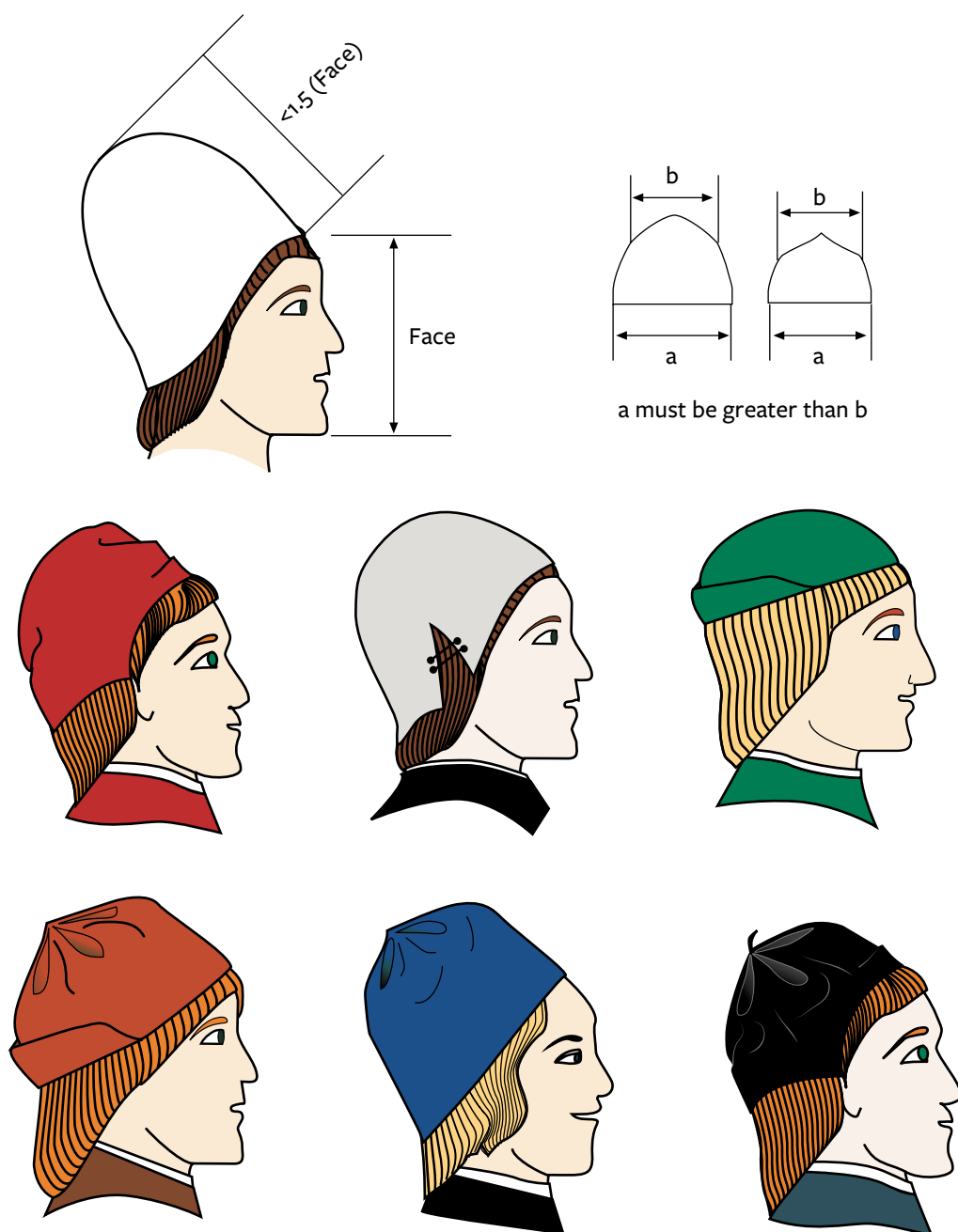


Figure 8.
Examples of Acorn Hats

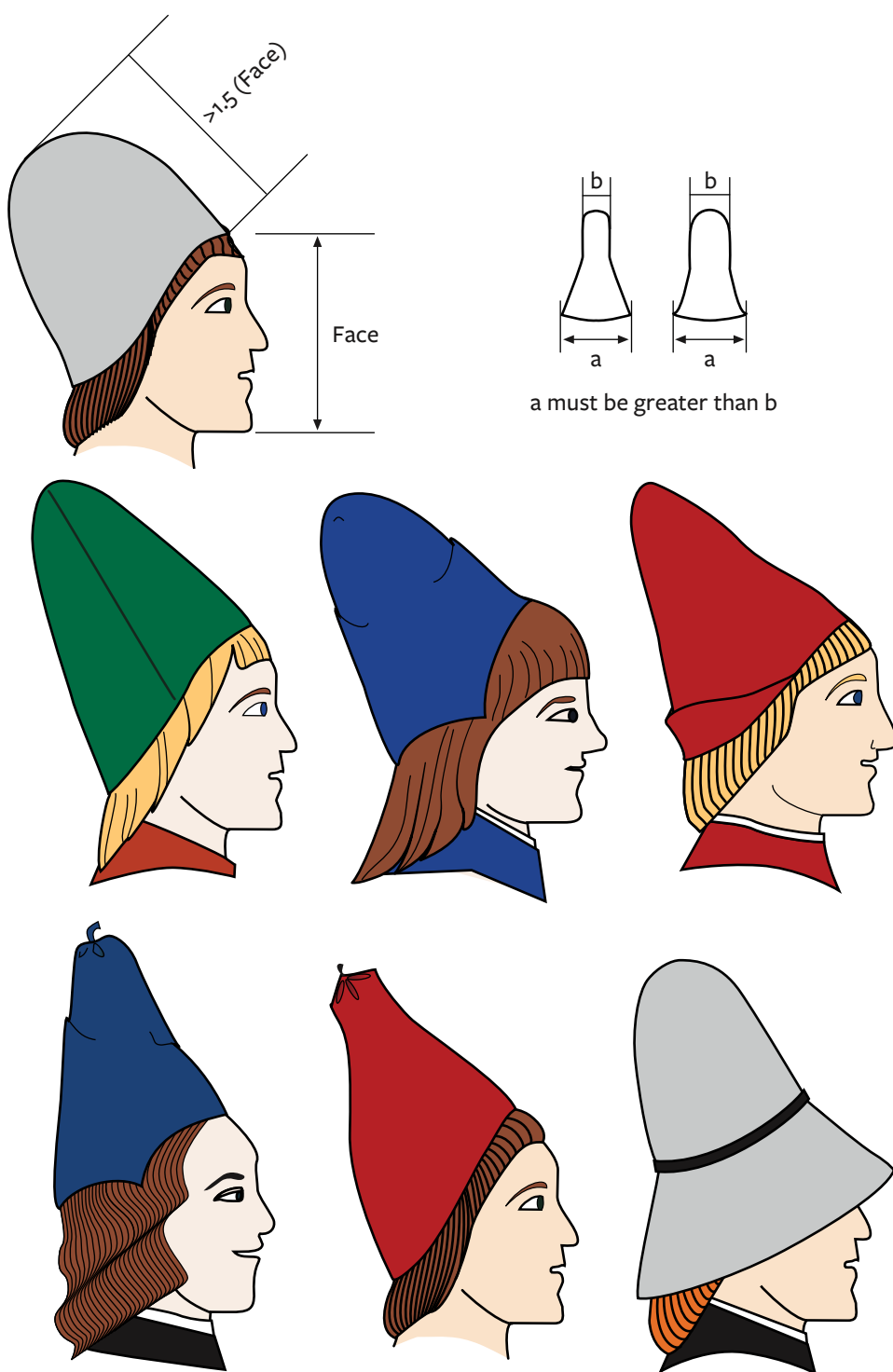


Figure 9.
Examples of Sugarloaf Hats

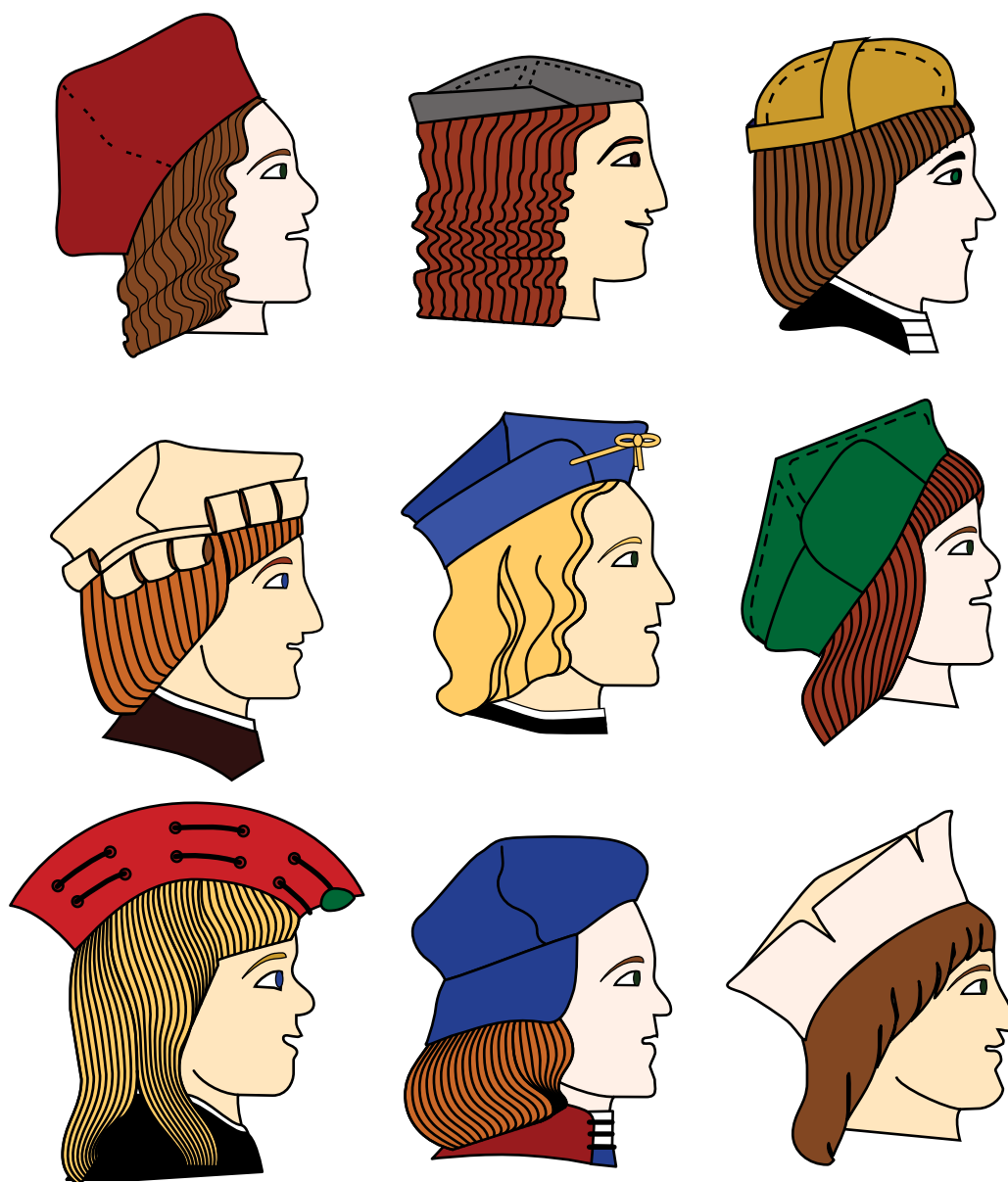


Figure 10.
Examples of Bonnets

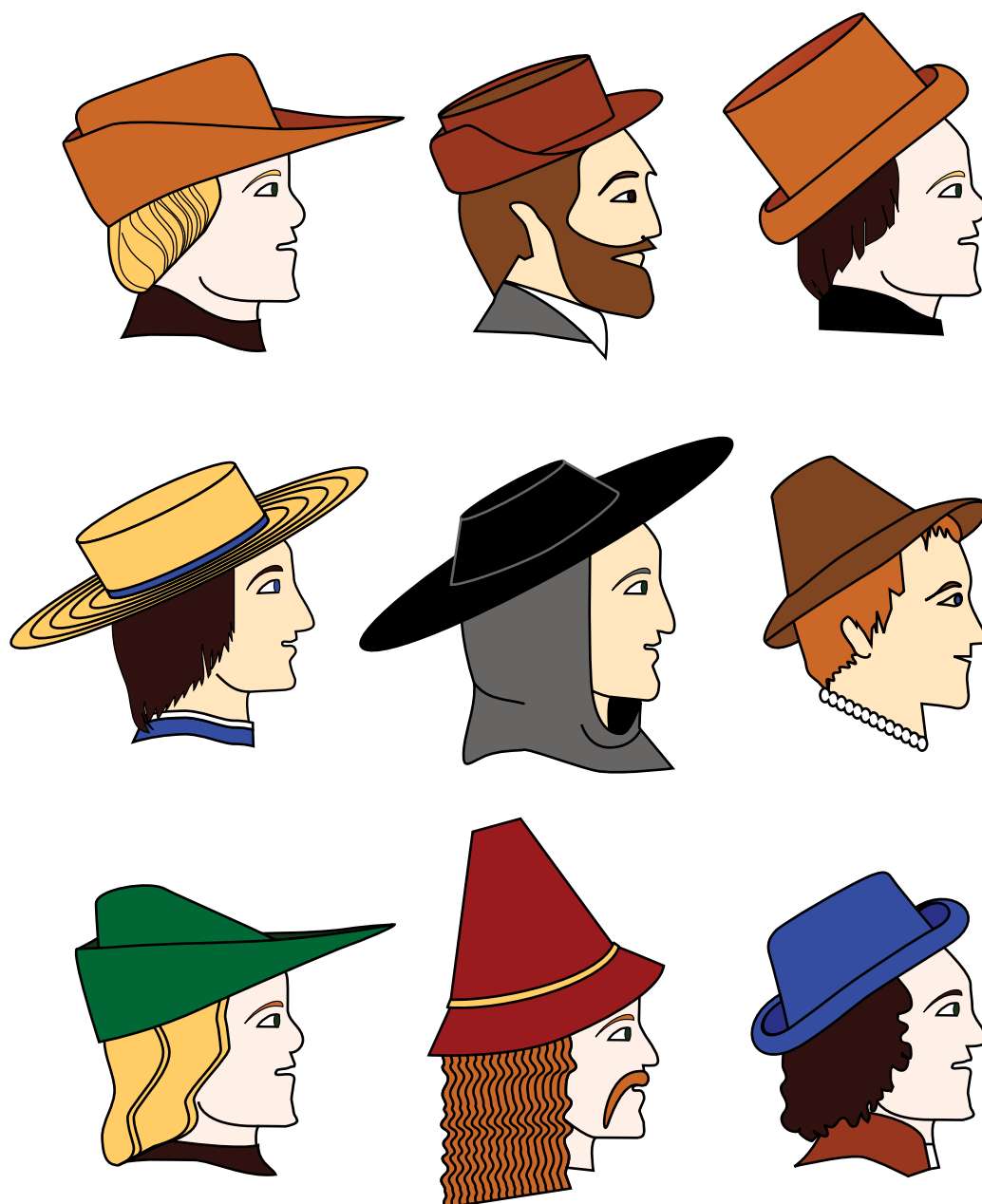


Figure 11a.
Examples of Stiffened Hats



Figure 11b.
Examples of Stiffened Hats

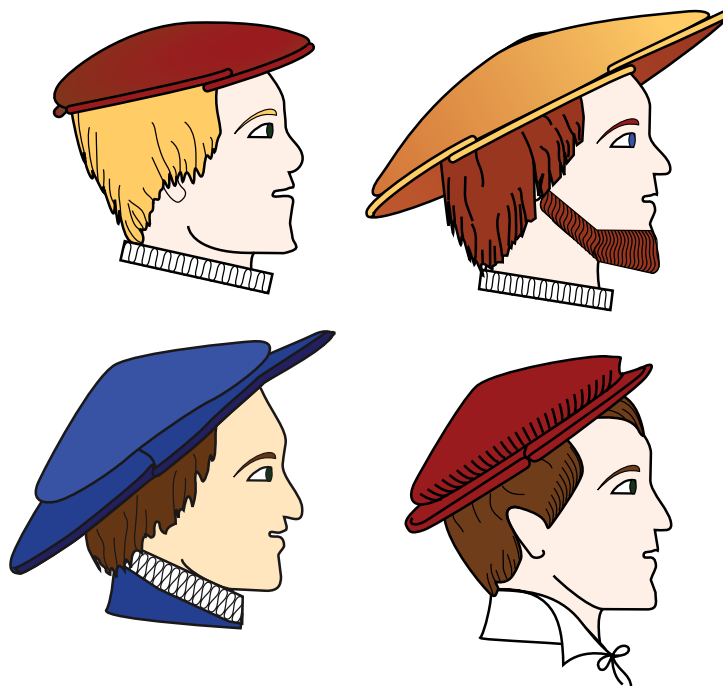


Figure 12.
Examples of Flat Hats



Figure 13.
Example of a Stocking Hat

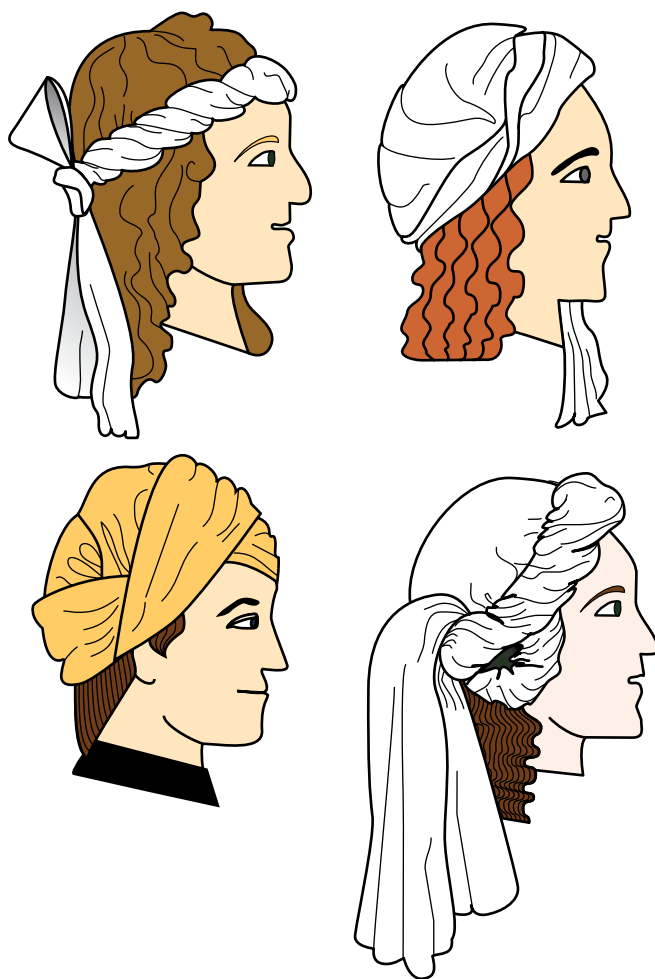


Figure 14.
Examples of Draped Headdress



Figure 15.
Examples of Iconographic/Ceremonial Headdress

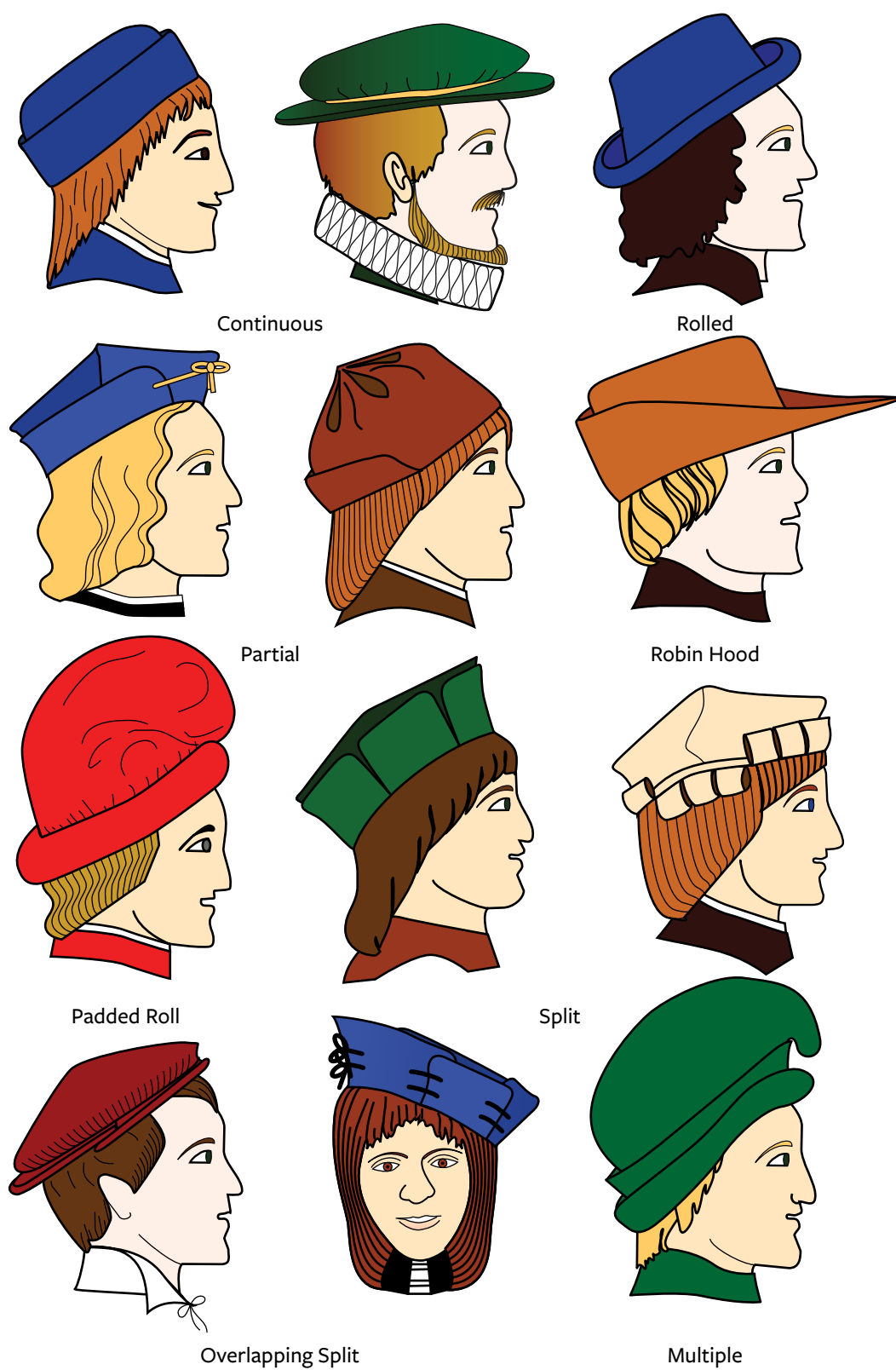


Figure 16.
Brim Types

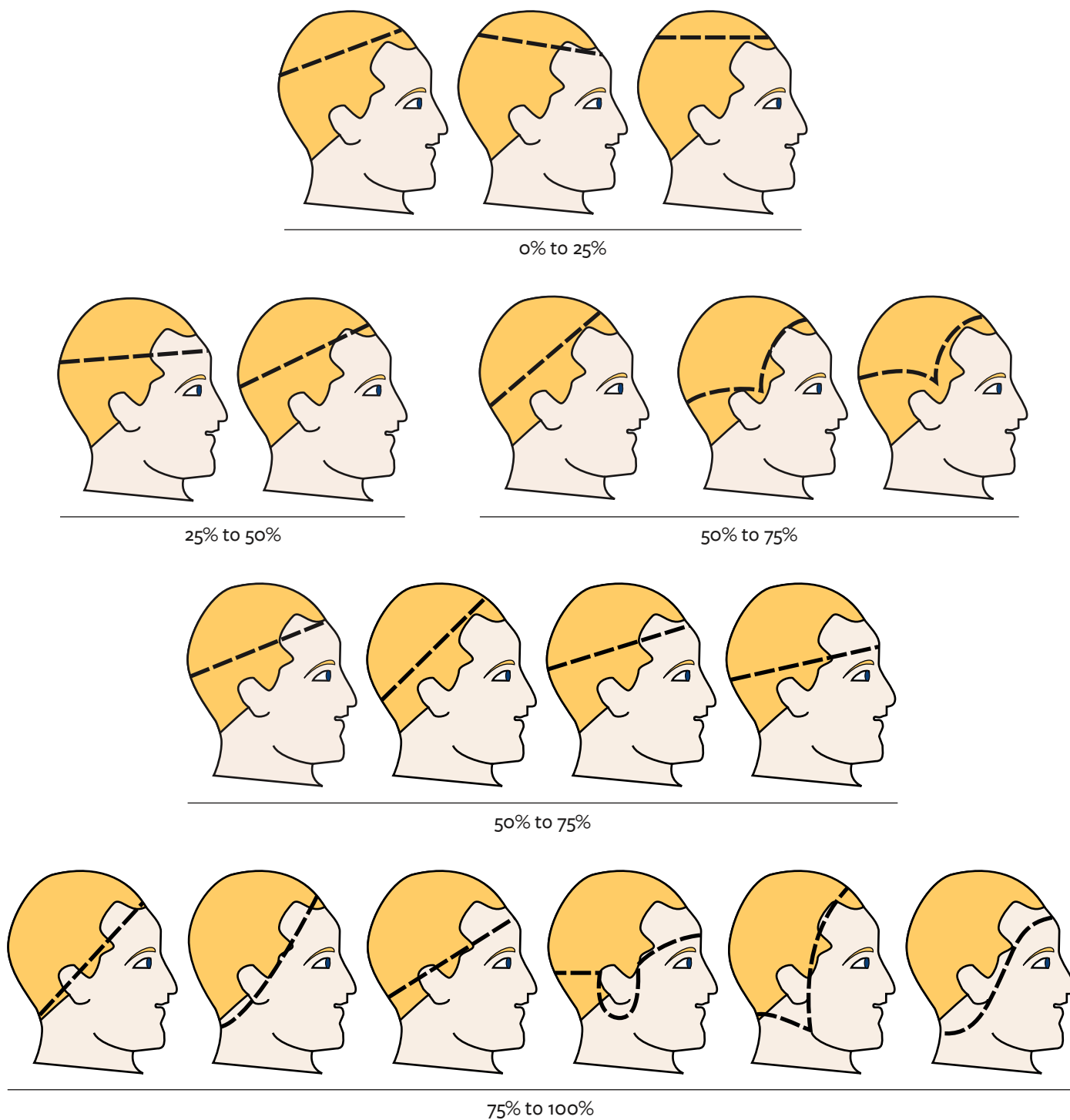


Figure 17.
Coverage of the Hair-growing Area Guidelines

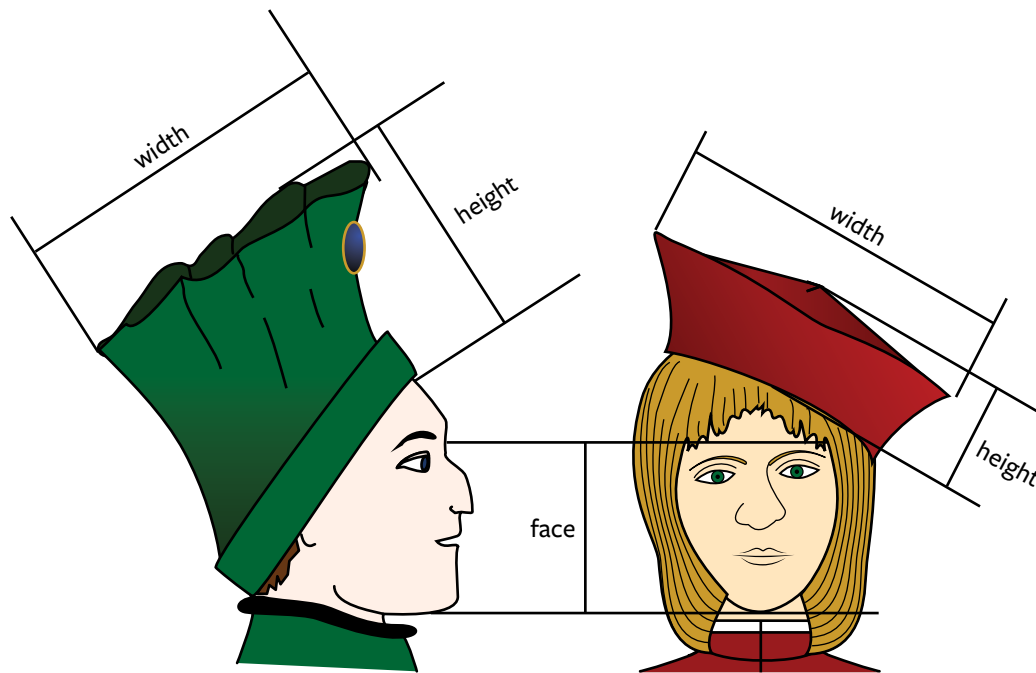


Figure 18.

Measurement Positions for Aspect Ratios

Other Physical Characteristics

Color (.97)

Color used 10 hue classifications: red, orange, yellow, green, blue, purple, brown, black, grey, or white. If the illustration used is black and white, then this category should be coded NA.

Aspect Ratio (Height to Width Ratio)

Another bit of conventional wisdom says that headdress of this period mirrored the aesthetic interest in verticality (Gothic styles) or horizontality (Renaissance classicism). The purposed of this measure is to get an idea of verticality versus horizontality. Three measurements were made: the vertical major axis of the headdress

which runs from the center front of the headdress to the center or top of the crown, the horizontal major axis, which runs perpendicular (90°) to the vertical major axis, and a measure of facial proportions which was defined as the distance from the bridge of the nose to the bottom of the chin. The face measurement was used to normalize the vertical and horizontal measurements. This proportion of the face for this time period represented $2/3$ of the total face length and the width of the face facing forward.¹⁶ Since the coif and hood conformed to the shape of the head, there was no appreciable extension of the headdresses in either upwards or outwards, and these headdresses were considered to have no height or width measurements, and hence, no aspect ratios. Figure 18 shows the positions for measurement.

16. Erwin Panofsky, *Meaning in the Visual Arts*, (Garden City, NY: Doubleday Anchor Books, 1955), 78, and 99–103.

Apparent Social Class/ Occupation (.87)

Various social classes may wear different types of hats, and some hats may be identifiers of members of a given social class. Criteria were developed to help determine the social class of the headdress wearers. All information given with the artwork, as well as the coders general knowledge of the period could be used in making social class determinations. The categories used were gentry which included named nobility, those who bore symbols of such rank, and those wearing especially rich clothing and accessories; courtier/professional/official which included those present at court but lacking the symbols of nobility, liveried servants, and named court officials; burgher/merchant which included well-to-do merchants, guild masters, businessmen, traders, bankers, and persons with local authority; yeoman/artisan/laborer which included farmers, small merchants, artisans of all types, beggars, and those involved in manual labor; and clergy which included anyone depicted as part of the Church hierarchy, or in religious orders.

The criteria included:

Gentry:

1. Person is identified in caption having a secular title such as King, Prince, Duke, Marquis, Earl, Count, Viscount, Baron, Knight (or Sir), Seigneur, etc., or the equivalents in any European language, and/or
2. Person is wearing symbols of rank such as coronets, orbs, scepter, robes of state, etc., and/or
3. Person is presented as having heraldry (coats of arms) or emblems of knightly

orders such as the Garter, the Golden Fleece, the Estoile, etc., and/or

4. Person is dressed in rich clothing or has expensive accessories and furnishings. Include people who are wearing:
 - Cloth of gold
 - Figured velvets
 - Complex brocades
 - Garments decorated with gold and/or jewels, and/or
5. Person who is wearing plate armor (either whole or in part).

CPO (Courtier/Professional/Official):

1. Person is identified as such in the title or caption, i.e. Steward, Professor, Doctor, Exchequer, Retainer, etc., and/or
2. Person who bears symbols of office or profession such as academic robes, characteristic garments or accessories used by lawyers, doctors, teachers, etc. and/or
3. Person who is in a court setting or accompanying a member of the gentry who does not have obvious gentry status himself, and/or
4. Well-dressed household and court servants and retainers, and/or
5. Well-dressed household and court heralds, and/or
6. Well-dressed household and court musicians.

BM (Burgher/Merchant: A person is not of the upper classes, but has power and influence, especially locally, and some wealth.)

1. Person who is identified in the title or caption of the artwork as Merchant, Burgher, Bürgermeister, Trader,

Hansa, Sheriff, Reeve, Guildmaster, etc., or the equivalent, and/or

2. Person who is dressed in good, but less elaborate clothing or who appears well off, but not extravagantly so. Clothing or furnishings may have a few costly elements, but for the most part are plain and may be slightly unfashionable, and/or
3. Person who is identified as having authority on a local or urban area or a leader of the common folk, and/or
4. Person who is shown counting or weighing coins or keeping accounts.

YAL (Yeoman/Artisan/Laborer):

1. Person who is identified by title or caption of artwork as such, and/or
2. Person who is doing manual labor such as masons, peddlers, men carrying materials, farmers, woodcutters, tailors, men digging, and other such labors, and/or
3. Person who is making and/or selling handmade wares such as food stuffs, clothing, or pottery, and/or
4. Person who is dressed in plain, unfashionable clothing which may be ill fitting. The clothing may also be torn or dirty, and/or
5. Barbers, dentists, hangmen, beggars, fools, vagrants, or the disabled.

Clergy:

1. Person who is identified as such in the title or caption, and/or
2. Person who is wearing priestly vestments or monks habits and/or is tonsured (has a small shaved area on the back of the head as opposed to a person who is naturally bald).

Interior/Exterior Wear (.97)

The wearer was coded as being indoors, outdoors, or NA if a determination could not be made. If a person was standing under a portico, on a porch, or under an arbor, he was coded as outside.

Place of Origin

The place where the artwork source was created; also location of wearer in the few rare cases where a figure wearing a head-dress is identified as being from a particular place. Each headdress was given a code based on geographic origin. For analysis, the headdresses were placed in geographic regions consisting of France, Italy, the British Islands, Spain and Portugal, Burgundy/Flanders/Netherlands all of which were united under the control of the Duke of Burgundy at this time, and the Holy Roman Empire which included the German states, Austria, Switzerland, Poland, and what is now Czechoslovakia.

Source Date

The date assigned to the work by art historians or historians and determined by dates given by the artist, date ranges provided in contracts, inventories, or other verbal documentation, or dates determined by stylistic or material clues. If a range was given, then the mid-point of the range was used in this category. For purposes of analysis, headdresses were grouped into decades.

In the next chapter, the distribution of these categories over time and geography will be discussed, as will be the characteristics of the different headdress types.

Chapter IV

Results and Discussion

The eleven categories that describe physical characteristics of headdress, or the characteristics of the wearer will be examined for variations over time and by place of origin. After the review of each of these overall characteristics, each headdress type will be considered in greater detail. Whenever possible and appropriate, contingency analysis, analysis of variance, or t-tests were used to test for significant variation between these characteristics and time or place of origin or between the characteristics of an individual headdress type and the sample as a whole. Chi squared, F-values, and t-values; degrees of freedom; and statistical significance at $\alpha = 0.05$ will be reported in the accompanying tables for each characteristic.

Variations in the Categories of Study Over Time and by Place of Origin

Variations in Headdress Type Over Time

Table 2 (p. 48) shows the relative frequencies of occurrence of each headdress

type for each decade of the study period. Figure 19 (p. 47) shows that information graphically, so that the patterns of the rise and decline of the adoption of various headdress types may be more easily visualized. Contingency analysis was used to test the null hypothesis that the relative frequency of each individual headdress type did not vary over time. The nature of the data did not allow a collective test of all the headdress types with respect to time. Acorn hats, bonnets, chaperones, hoods, sack hats, and stiffened hats had large enough samples to be tested. All of these types were found to vary significantly with time.

Some headdress types, chaplets, rondelles, draped headdress, and stocking caps, were found to be sporadically scattered throughout the period in relatively small amounts. Coifs had a constant presence throughout the study period, but were present in small relative frequencies.

Stiffened hats were also found steadily throughout the period, but their relative frequency varied significantly over time. Stiffened hats comprise more than 20% of all headdresses found for the periods 1420–1449 and 1470–1489. Stiffened hats were one of the predominate headdress

Table 2. Relative Frequency of Headdress Types Per Decade

| | Coif (%) | Hood (%) | Chaper. (%) | Sack (%) | Chapl. (%) | Rond. (%) | Caul (%) | Acorn (%) | Sugar. (%) | Bonnet (%) | Flat (%) | Stiff. (%) | Stock. (%) | Draped (%) | N |
|--------------------|----------|----------|-------------|----------|------------|-----------|----------|-----------|------------|------------|----------|------------|------------|------------|-----|
| 1400–1409 | 1.5 | 26.2 | 27.2 | 26.2 | 1.5 | 1.5 | 0.0 | 6.2 | 0.0 | 0.0 | 0.0 | 7.2 | 0.0 | 0.0 | 65 |
| 1410–1419 | 0.0 | 15.0 | 26.7 | 23.3 | 3.3 | 6.7 | 0.0 | 5.0 | 0.0 | 0.0 | 0.0 | 16.7 | 3.3 | 0.0 | 60 |
| 1420–1429 | 0.0 | 12.8 | 33.3 | 30.8 | 0.0 | 0.0 | 0.0 | 2.6 | 0.0 | 0.0 | 0.0 | 20.5 | 0.0 | 0.0 | 39 |
| 1430–1439 | 2.8 | 22.2 | 22.2 | 16.7 | 2.8 | 2.8 | 0.0 | 8.3 | 0.0 | 0.0 | 0.0 | 22.3 | 0.0 | 0.0 | 36 |
| 1440–1449 | 4.5 | 22.7 | 22.7 | 20.5 | 0.0 | 0.0 | 0.0 | 6.8 | 0.0 | 2.3 | 0.0 | 20.4 | 0.0 | 0.0 | 44 |
| 1450–1459 | 5.9 | 7.8 | 7.8 | 15.7 | 0.0 | 2.0 | 0.0 | 43.1 | 0.0 | 0.0 | 0.0 | 13.8 | 3.9 | 0.0 | 51 |
| 1460–1469 | 1.5 | 16.7 | 16.7 | 7.6 | 0.0 | 0.0 | 0.0 | 47.0 | 3.0 | 0.0 | 0.0 | 7.5 | 0.0 | 0.0 | 66 |
| 1470–1479 | 1.2 | 2.4 | 21.2 | 2.4 | 0.0 | 0.0 | 0.0 | 40.0 | 8.2 | 0.0 | 0.0 | 23.6 | 1.2 | 0.0 | 85 |
| 1480–1489 | 2.6 | 3.9 | 9.2 | 5.3 | 0.0 | 0.0 | 0.0 | 42.1 | 0.0 | 0.0 | 0.0 | 31.6 | 0.0 | 0.0 | 76 |
| 1490–1499 | 2.7 | 4.5 | 3.6 | 1.8 | 0.0 | 0.0 | 2.7 | 33.3 | 0.9 | 32.4 | 0.0 | 10.8 | 3.6 | 3.6 | 111 |
| 1500–1509 | 1.4 | 2.9 | 2.9 | 1.4 | 1.4 | 0.0 | 8.6 | 15.7 | 0.0 | 42.9 | 0.0 | 18.6 | 4.3 | 0.0 | 70 |
| 1510–1519 | 2.3 | 5.7 | 1.1 | 0.0 | 2.3 | 0.0 | 10.2 | 8.0 | 0.0 | 50.0 | 6.8 | 11.4 | 1.1 | 1.1 | 88 |
| Overall | 2.2 | 10.2 | 14.2 | 10.1 | 0.9 | 0.9 | 2.3 | 23.8 | 1.3 | 14.5 | 0.8 | 16.7 | 1.6 | 0.6 | 791 |
| Chi Squared | * | 32.04 | 42.71 | 44.44 | * | * | * | 167.7 | * | 317.9 | * | 32.36 | * | * | |
| Degrees of Freedom | * | 11 | 11 | 11 | * | * | * | 11 | * | 11 | * | 11 | * | * | |
| Significance | * | S | S | S | * | * | * | S | * | S | * | S | * | * | |

* These categories did not have large enough sample sizes for contingency analysis.

Chaper. = Chaperone Sack = Sack hat Chapl. = Chaplet Rond. = Rondelle Acorn = Acorn hat Sugar. = Sugarloaf hat Flat = Flat hat Stiff. = Stiffened hat Stock. = Stocking hat Draped = Draped headdress N = Number S = Significant NS = Not significant

type for the period 1470–1489 along with acorn hats.

Hoods, chaperones, sack hats, and acorn hats were also present throughout the study period, but there was a definite rise and fall of relative frequency for each of these four types of headdress. Hoods, chaperones and sack hats were popular at the beginning of the fifteenth century and slowly declined over the study period with some evidence of small revivals of the style.

Peak popularity of hoods was in the decade 1400–1409 with two smaller peaks 1430–1449 and 1460–69. Peak popularity of chaperones was in the decades 1400–1419 with a smaller peak 1460–1479. Peak

popularity of sack hats were for the decades 1400–1429 with a smaller peak at 1440–49. The wearing of these three headdresses faded slowly with only sack hats disappearing before 1519.

Acorn hats appeared in small relative frequencies until 1450, when there was a dramatic increase in their use. Acorn hats constituted 40% or more of all headdress worn in the sample from 1450 to 1489 and slowly decreased in use, but had not disappeared entirely by 1519.

As the period of study ended, bonnets reached 40% or more in relative frequency. Before 1490, bonnets appeared in the sample in the 1440 to 1449 and 1480 to 1489

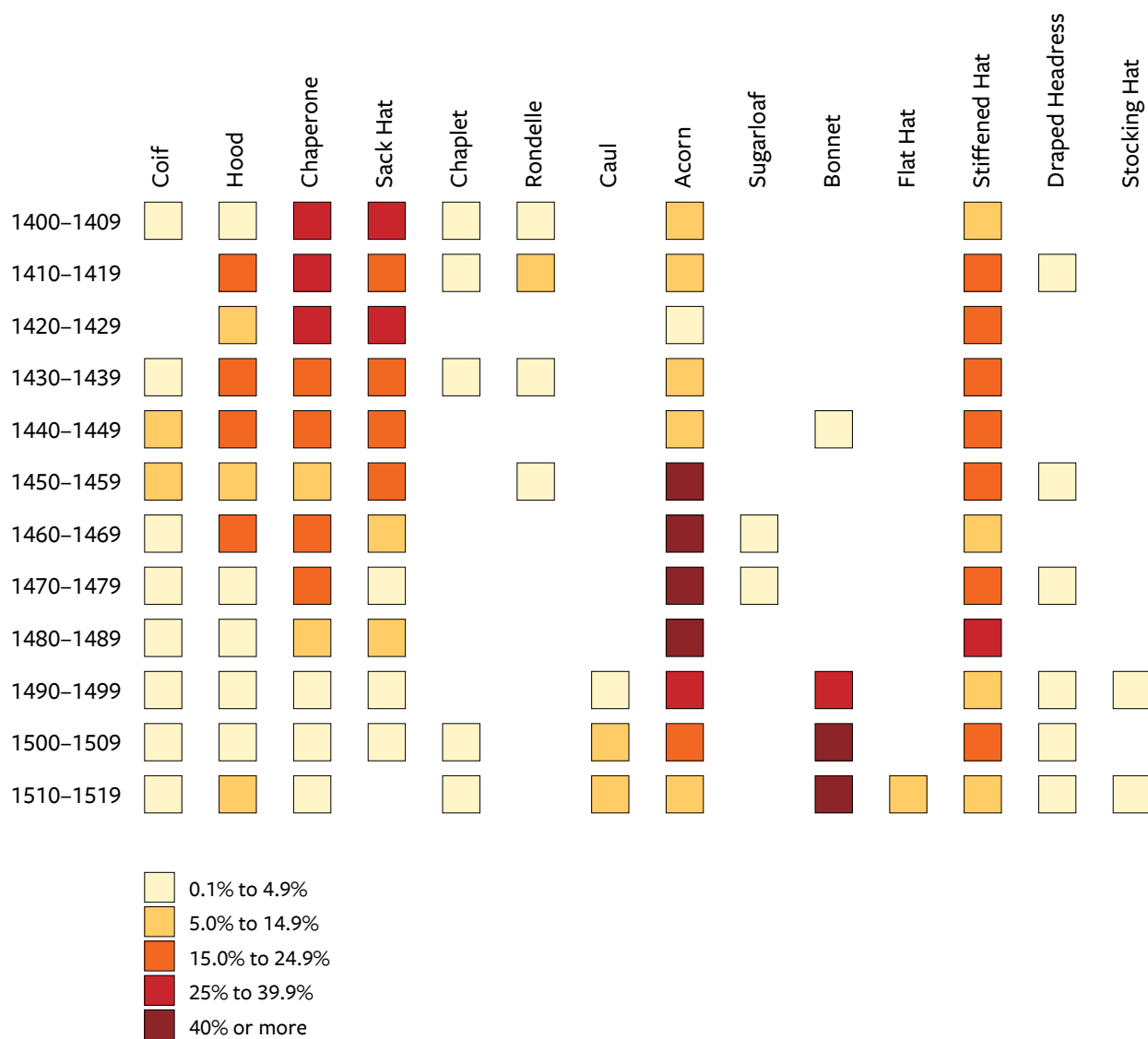


Figure 19.
Relative Frequency of Headdress Types by Decade

decade in very small frequencies. In the 1490s, bonnets suddenly exploded in popularity with relative frequencies of over 40% or more, as had the acorn hats earlier. In the last decade, 1510 to 1519, bonnets constituted 50% of all headdresses in the sample.

Flat hats made a brief appearance as a new style in the 1510 to 1519 decade. Extending the study period into the sixteenth century may show a similar pattern of increase and decline in the adoption of flat hats as seen for the acorn hats and bonnets.

Variations in Headdress Type by Place of Origin

Table 3 shows the relative frequencies of occurrence of each headdress type for each place of origin. Contingency analysis was used to test the null hypothesis that the relative frequency of headdress type did not vary by place of origin. The data did allow for a collective test and a significant relationship was found between headdress type and place of origin ($\chi^2 = 88.09$, $df = 30$). Acorn hats, bonnets, chaperones, hoods, sack hats, and stiffened hats had large enough samples to be tested and were tested individually. Acorn hats, for this analysis, included sugarloaf hats and stocking hats that were structurally related. Figure 20 shows the distribution of headdress types used in the analysis by place of origin. All of these types except hoods were found to vary significantly with place of origin. Although chaperones were found to vary significantly with place of origin, chi squared value was very close to the cut-off value for the $\alpha = 0.05$ level.

The 791 headdresses were distributed geographically in the following way: British Island, 8.8%; Burgundy/Flanders/Netherlands, 26.4%; France, 18.3%; Holy Roman Empire, 13.8%; Italy, 20.0%; and Spain/Portugal, 12.5%. Each headdress type will be discussed indicating when the proportion of that headdress type for a given place of origin was much higher or lower than the overall share of headdresses for that place of origin.

High proportions of acorn hats were found in Spain/Portugal. Low proportions

of acorns hats were found in the British Islands and in the Holy Roman Empire. Bonnets were most abundant in Spain/Portugal, but the share of bonnets in Burgundy/Flanders/Netherlands was unusually low. However, the sample size for Burgundy/Flanders/Netherlands for the time period in which bonnets were present was especially small, so the low proportion of bonnets in Burgundy/Flanders/Netherlands may be due to sampling error. Chaperones were disproportionately low in Spain/Portugal. Burgundy/Flanders/Netherlands and the British Islands had more than their shares of chaperones. Sack hats were unusually numerous in the British Islands, but were sparsely represented in Burgundy/Flanders/Netherlands. Burgundy/Flanders/Netherlands had more than their shares of stiffened hats, but the British Islands, and Spain/Portugal had less than their shares. Hoods were evenly distributed by place of origin.

Variations in Brim Type Over Time

Table 4 (p. 52) shows the relative frequencies of occurrence for each brim type for each decade of the study period. Figure 21 (p. 53) shows that information graphically. Contingency analysis was used to test the null hypothesis that the relative frequency of the brim types did not vary over time. The data did allow for a collective test, if some of the categories were combined and the category of multiple brims was excluded. There were only seven headdresses with multiple brims, less than 1% of the total number of headdresses, and this category could not be logically combined with any

Table 3. Relative Frequency of Headdress Types by Place of Origin

| | BFN (%) | BI (%) | France (%) | HRE (%) | Italy (%) | S/P (%) | χ^2 | DF | Sig. | N |
|------------------|---------|--------|------------|---------|-----------|---------|----------|-----|------|-----|
| Acorn Hat | 23.9 | 4.8 | 20.2 | 6.4 | 26.6 | 18.1 | 15.4* | 5 | S | 188 |
| Stocking Hat | 40.0 | 0.0 | 0.0 | 60.0 | 0.0 | 0.0 | * | * | * | 5 |
| Sugarloaf Hat | 60.0 | 10.0 | 20.0 | 0.0 | 0.0 | 10.0 | * | * | * | 10 |
| Bonnet | 16.5 | 10.4 | 19.1 | 16.5 | 15.7 | 21.7 | 13.9 | 5 | S | 115 |
| Chaperone | 34.8 | 14.3 | 13.4 | 12.5 | 17.9 | 7.1 | 11.3 | 5 | S | 112 |
| Hood | 27.3 | 11.1 | 22.2 | 13.6 | 16.0 | 9.9 | 2.3 | 5 | NS | 81 |
| Sack Hat | 13.8 | 16.2 | 15.0 | 16.2 | 30.0 | 8.8 | 15.6 | 5 | S | 80 |
| Stiffened Hat | 36.4 | 4.5 | 23.5 | 12.9 | 14.4 | 8.3 | 13.7 | 5 | S | 132 |
| Other | 25.0 | 5.9 | 10.3 | 29.4 | 20.6 | 8.8 | 16.0* | 5 | S | 67 |
| Caul | 11.1 | 0.0 | 5.6 | 50.0 | 16.7 | 16.7 | * | * | * | 18 |
| Chaplet | 28.6 | 0.0 | 0.0 | 42.9 | 14.3 | 14.3 | * | * | * | 7 |
| Coif | 29.4 | 17.6 | 5.9 | 17.6 | 29.4 | 0.0 | * | * | * | 17 |
| Draped Headdress | 38.5 | 0.0 | 15.4 | 7.7 | 23.1 | 15.4 | * | * | * | |
| Flat Hat | 16.7 | 0.0 | 0.0 | 66.7 | 16.7 | 0.0 | * | * | * | 6 |
| Rondelle | 28.6 | 14.3 | 42.9 | 0.0 | 14.3 | 0.0 | * | * | * | 7 |
| Overall | 26.4 | 8.8 | 18.3 | 13.8 | 20.0 | 12.6 | | 791 | | |
| N | 209 | 70 | 145 | 109 | 158 | 100 | | 791 | | |

*Some categories had samples too small for analysis. Acorn hats, sugarloaf hats and stocking hats were combined into one category and cauls, chaplets, coifs, draped headdresses, flat hats and rondelles were combined into the “other” category.

BFN = Burgundy/Flanders/Netherlands BI = British Islands HRE = Holy Roman Empire S/P = Spain/Portugal

χ^2 = Chi squared DF = Degrees of freedom Sig. = Significance N = Number

other. Brim type was found to vary significantly over time ($\chi^2 = 354.20$, $df = 55$). The brim type categories used were brimless, continuous, partial, combined split and overlapping split brims and padded or twisted roll, rolled, and Robin Hood. Each of the individual categories were tested as well, but rolled and Robin Hood brim categories were combined to give a large enough sample for analysis. The brim types of brimless, combined split and overlapping split brims, padded or twisted roll, and combined rolled and Robin Hood brims, were found to vary significantly with time. Continuous brims were not found to vary significantly over time.

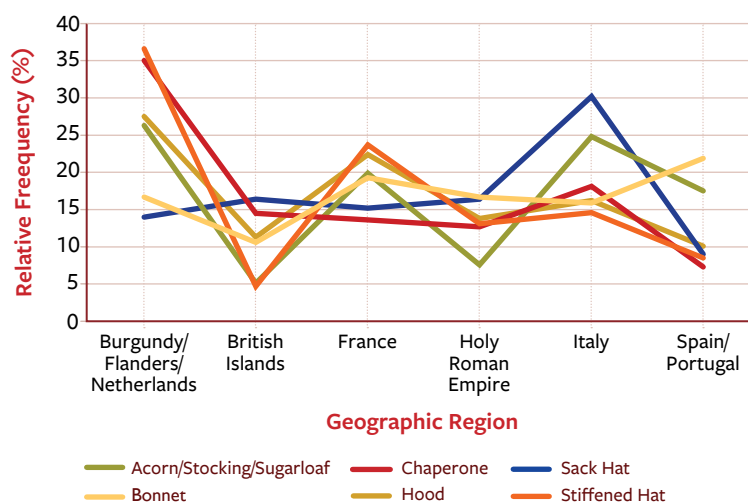


Figure 20.

Relative Frequency of Headdress Types by Place of Origin

Brimless headdresses peaked in frequency from 1450 to 1479 and maintained relative frequencies of 15% or higher throughout the study period. Padded or twisted roll brims had peak relative frequencies from 1400 to 1449 and their use generally declined for the rest of the study period. The largest concentrations of split and overlapping split brims were found from 1500 to 1519 and the lowest concentration found 1400 to 1409, 1430 to 1439, and from 1450 to 1489. Partial brims were found to have their largest concentrations from 1490 to 1519. Combined rolled and Robin Hood brims had their highest proportions from 1480 to 1489 with their lowest falling in the next decade, 1490 to 1499. This combined

category showed a relative frequency of 15% or higher from 1420 to 1449.

Variations in Brim Type by Place of Origin

Table 5 (p. 54) shows the relative frequencies of occurrence for each brim type for each place of origin. Contingency analysis was used to test the null hypothesis that the relative frequency of the brim types did not vary by place of origin. The data did allow for a collective test, if some of the categories were combined. A significant relationship was found between head-dress type and place of origin ($\chi^2 = 118.1$, $df = 35$). The brim type categories used

Table 4. Relative Frequency of Brim Types by Decade

| | Brimless (%) | Continuous (%) | Partial. (%) | Split (%) | Overlapping Split. (%) | Twisted or Padded Roll (%) | Rolled (%) | Robin Hood (%) | Multiple (%) | Total (%) | N |
|--------------------|--------------|----------------|--------------|-----------|------------------------|----------------------------|------------|----------------|--------------|-----------|-----|
| 1400–1409 | 29.2 | 27.7 | 0.0 | 0.0 | 0.0 | 33.8 | 4.6 | 3.1 | 1.5 | 100.0 | 65 |
| 1410–1419 | 23.3 | 23.3 | 0.0 | 5.0 | 0.0 | 45.0 | 0.0 | 3.3 | 0.0 | 100.0 | 60 |
| 1420–1429 | 15.4 | 15.4 | 2.6 | 7.7 | 0.0 | 43.6 | 15.4 | 0.0 | 0.0 | 100.0 | 39 |
| 1430–1439 | 27.8 | 22.2 | 2.8 | 0.0 | 0.0 | 30.6 | 5.6 | 11.1 | 0.0 | 100.0 | 36 |
| 1440–1449 | 34.1 | 11.4 | 0.0 | 4.5 | 0.0 | 25.0 | 6.8 | 9.1 | 9.1 | 100.0 | 44 |
| 1450–1459 | 49.0 | 21.6 | 0.0 | 0.0 | 0.0 | 15.7 | 7.8 | 3.9 | 2.0 | 100.0 | 51 |
| 1460–1469 | 63.6 | 10.6 | 1.5 | 0.0 | 0.0 | 16.7 | 4.5 | 1.5 | 1.5 | 100.0 | 66 |
| 1470–1479 | 38.8 | 23.5 | 1.2 | 1.2 | 0.0 | 21.2 | 9.4 | 4.7 | 0.0 | 100.0 | 85 |
| 1480–1489 | 32.9 | 14.5 | 11.8 | 1.3 | 0.0 | 10.5 | 25.0 | 3.9 | 0.0 | 100.0 | 76 |
| 1490–1499 | 33.3 | 26.1 | 17.1 | 10.8 | 1.8 | 4.5 | 4.5 | 1.8 | 0.0 | 100.0 | 111 |
| 1500–1509 | 24.3 | 20.0 | 21.4 | 12.9 | 10.0 | 0.0 | 4.3 | 7.1 | 0.0 | 100.0 | 70 |
| 1510–1519 | 22.7 | 21.6 | 17.0 | 18.2 | 9.1 | 0.0 | 1.1 | 10.2 | 0.0 | 100.0 | 88 |
| Overall | 33.2 | 20.5 | 7.8 | 5.9 | 2.1 | 17.4 | 7.2 | 4.8 | 0.9 | 100.0 | 791 |
| Chi Squared | 33.73 | 10.91 | 67.28 | 87.67* | * | 97.49 | 24.49† | † | †† | | |
| Degrees of Freedom | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | †† | | |
| Significance | S | NS | S | S | * | S | S | † | †† | | |

* The samples sizes for split brims and overlapping split brims were too small for individual analysis, so they were combined.

† The sample sizes for rolled brims and Robin Hood brims were too small for individual analysis, so they were combined.

†† The category of multiple brims was excluded from statistical analysis.

N=Number S=Significant NS=Not significant

were brimless, continuous brims, partial brims, split brims, overlapping split brims, padded or twisted roll brims, rolled brims, and Robin Hood brims. Each of the place of origin categories were tested as well with the above categories, except that split and overlapping split brims were combined into one category. Figure 22 (p. 54) shows the distribution of brim type categories used in the analysis by place of origin. Brim types were found to vary significantly with the places of origin, British Islands, France, the Holy Roman Empire, and Spain/Portugal, but not for Burgundy/Flanders/Netherlands or for Italy.

Padded and twisted roll brims were preferred in the British Islands while continuous brims were found there infrequently. Combined split brims did not find much favor in France, but partial brims and rolled brims appeared there in relative frequencies larger than those for all headdresses. In the Holy Roman Empire, only partial brims appeared with a relative frequency that matched the overall distribution. Both higher concentrations of continuous brim, Robin Hood, and combined split and overlapping split brims, and lower concentrations of brimless, padded or twisted roll brims, or rolled brims were found there. Combined split brims and overlapping split brims were popular in Spain/Portugal, while padded and twisted roll brims were not.

Variations in Materials and Decoration Type Over Time

Since the materials used to construct a headdress cannot be definitively determined from a visual source, the variable, “material,” for this study referred to whether

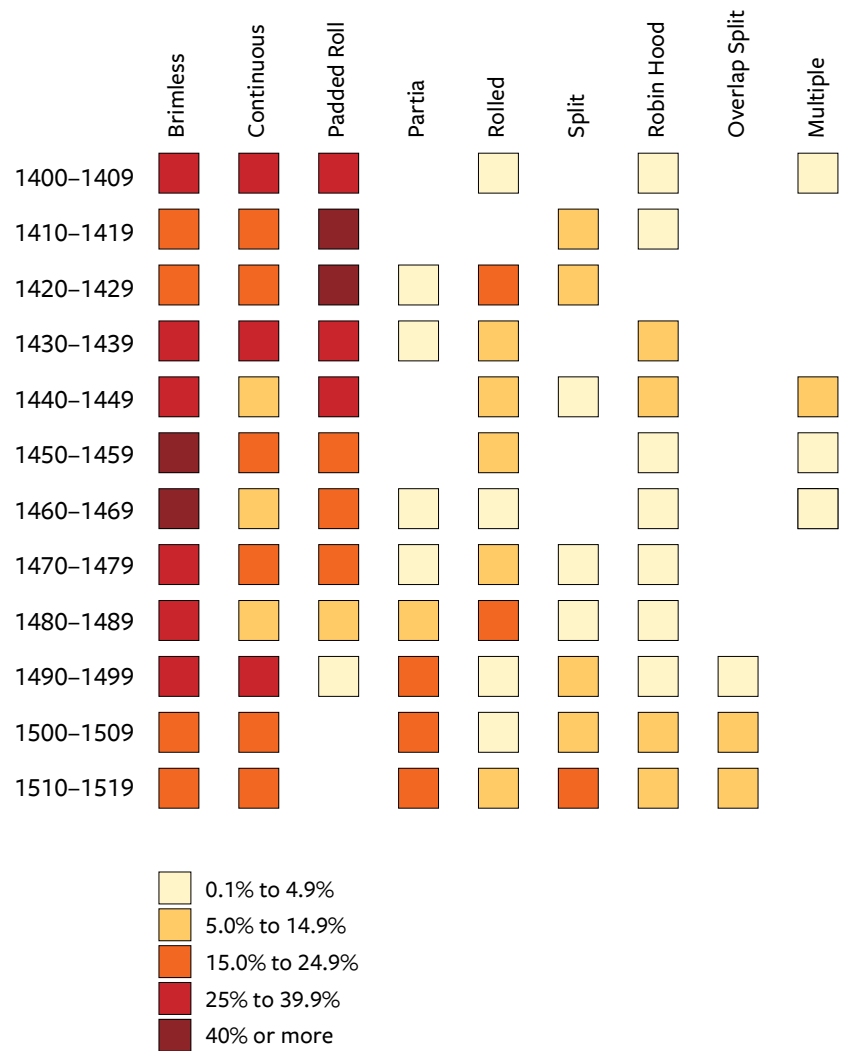


Figure 21. Relative Frequency of Brim Types by Decade

the material of the headdress was unadorned in any way or was modified using a patterned material or applied decoration. Overall, three times as many headdresses were undecorated than were decorated in any way. The most common types of decoration were applied jewelry, feathers or flowers, or cording or bands of trim.

Table 5. Relative Frequency of Brim Type by Place of Origin

| Brim Type | BFN (%) | BI (%) | France (%) | HRE (%) | Italy (%) | S/P (%) | Overall (%) | N |
|------------------------|---------|--------|------------|---------|-----------|---------|-------------|-----|
| Brimless | 36.4 | 31.4 | 31.7 | 24.8 | 36.7 | 34.0 | 33.2 | 263 |
| Continuous | 18.2 | 10.0 | 16.6 | 28.4 | 24.1 | 24.0 | 20.5 | 162 |
| Partial | 3.3 | 7.1 | 13.8 | 8.3 | 7.0 | 10.0 | 7.8 | 62 |
| Twisted or Padded Roll | 18.7 | 38.6 | 15.9 | 12.8 | 15.8 | 10.0 | 17.4 | 138 |
| Rolled | 10.5 | 5.7 | 15.9 | 2.8 | 1.3 | 3.0 | 7.2 | 57 |
| Split | 5.7 | 2.9 | 0.7 | 6.4 | 7.0 | 14.0 | 5.9 | 47 |
| Robin Hood | 5.7 | 2.9 | 4.8 | 8.3 | 3.8 | 2.0 | 4.8 | 38 |
| Overlapping/Split | 1.4 | 1.4 | 0.7 | 6.4 | 1.3 | 3.0 | 2.1 | 17 |
| Multiple | 0.0 | 0.0 | 0.0 | 1.8 | 3.2 | 0.0 | 0.9 | 7 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 791 |
| Number | 209 | 70 | 145 | 109 | 158 | 100 | 791 | |
| Chi Squared | 10.5 | 24.9 | 37.8 | 15.8 | 10.0 | 18.3 | 118.1 | |
| Degrees of Freedom | 6 | 6 | 6 | 6 | 6 | 6 | 35 | |
| Significance | NS | S | S | S | NS | S | S | |

BFN = Burgundy/Flanders/Netherlands BI = British Islands S/P = Spain/Portugal N = Number NS = Not significant
S = Significant

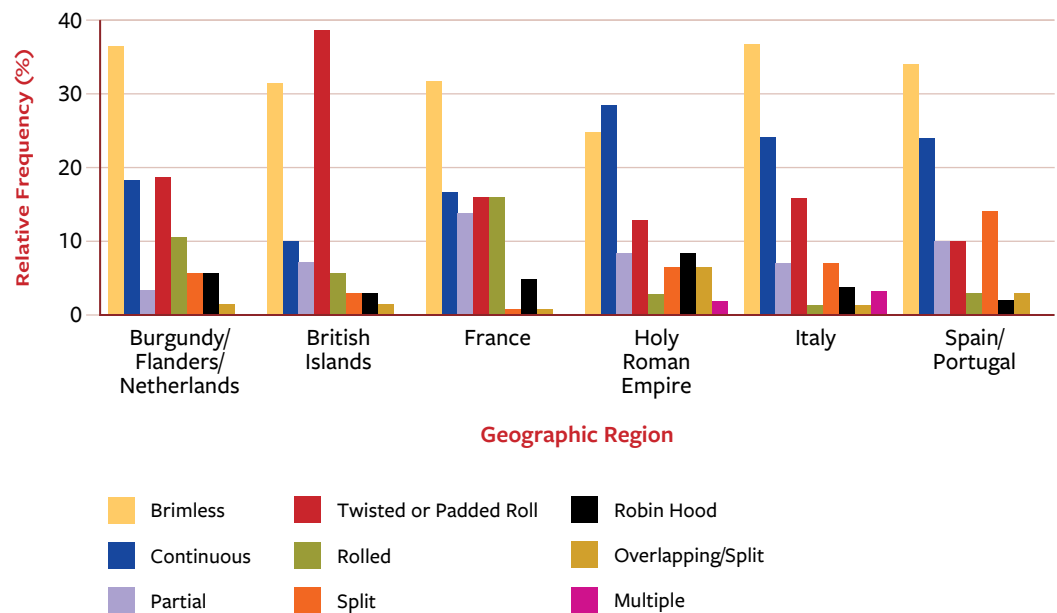


Figure 22.

Relative Frequency of Brim Types by Place of Origin

Table 6 shows the relative frequencies of occurrence for whether the material was decorated or plain for each decade of the study period. Figure 23 shows that information graphically. Contingency analysis was used to test the null hypothesis that the relative frequency of whether a headdress was plain or decorated did not vary over time. The

data did allow for a collective test. The tendency for decoration did vary significantly over time ($\chi^2 = 49.78$, $df = 11$). Each of the individual decades were tested as well. The decades 1400 to 1409, 1460 to 1469, 1480 to 1489, 1500 to 1509, and 1510 to 1519 were found to vary significantly from the overall proportions of plain material

Table 6. Relative Frequency of Material by Decade

| Decade | Plain (%) | Decorated (%) | Chi Squared | Degrees of Freedom | Significance | Number |
|-----------|-----------|---------------|-------------|--------------------|--------------|--------|
| 1400–1409 | 55.4 | 44.6 | 12.65 | 1 | S | 65 |
| 1410–1419 | 71.7 | 28.3 | 0.27 | 1 | NS | 60 |
| 1420–1429 | 69.2 | 30.8 | 0.59 | 1 | NS | 39 |
| 1430–1439 | 77.8 | 22.2 | 0.19 | 1 | NS | 36 |
| 1440–1449 | 86.4 | 13.6 | 3.22 | 1 | NS | 44 |
| 1450–1459 | 80.4 | 19.6 | 0.91 | 1 | NS | 51 |
| 1460–1469 | 90.9 | 9.1 | 9.27 | 1 | S | 66 |
| 1470–1479 | 82.4 | 17.6 | 2.70 | 1 | NS | 85 |
| 1480–1489 | 86.8 | 13.2 | 6.02 | 1 | S | 76 |
| 1490–1499 | 74.8 | 25.2 | 0.00 | 1 | NS | 111 |
| 1500–1509 | 58.6 | 41.4 | 9.48 | 1 | S | 70 |
| 1510–1519 | 64.8 | 35.2 | 4.47 | 1 | S | 88 |
| Overall | 74.6 | 25.4 | 49.78 | 11 | S | 791 |
| Number | 590 | 201 | | | | |

S = Significant NS = Not significant

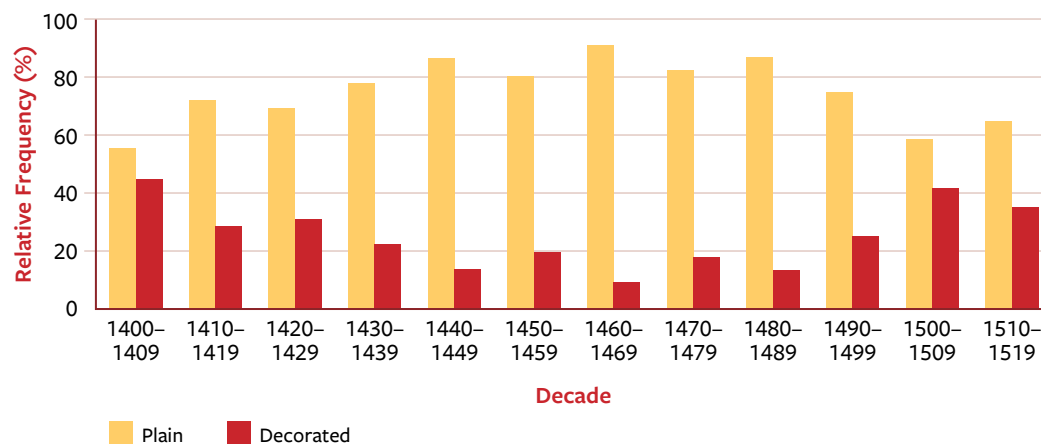


Figure 23.

Relative Frequency of the Appearance of Decoration by Decade

or decorated material. The decades 1400 to 1409, 1500 to 1509, and 1510 to 1509 showed a significant increase in the tendency for decoration. The decades 1460 to 1469 and 1480 to 1489 showed an increase in the tendency for plain materials. This suggests that ornamentation was most used at the beginning and end of the study period, but declines for the middle of the period.

An analysis was conducted to investigate the degree of ornamentation for decorated headdresses over time. The ratio of the number of decorations types used to the total number of decorated headdresses for each decade was calculated as was the ratio of the number of decoration types to the total number of decorated headdresses overall. T-tests were conducted to see if the ratios for each decade significantly varied from the overall ratio. Table 7 shows the results of this analysis. For the decades 1400 to 1409, not only were there more decorated headdresses

than average, but each of these decorated headdresses had a more-than-average number of different decoration types. An inverse relationship was found for the decades 1460 to 1469 and 1480 to 1489. While relatively fewer headdresses were decorated in the 1460s and 1480s, those that were decorated used a more-than-average number of decoration types. The decades 1420 to 1429, 1440 to 1449 and 1450 to 1459, all showed disproportionately low numbers of decorations types per decorated headdress.

Table 8 shows the relative frequencies of each decoration type over time. Due to small sample sizes, contingency analysis could only be applied to the category of applied jewelry. The relative frequency of applied jewelry did not vary significantly over time when compared to the overall distribution of decoration types. Although statistical analysis could not be applied to the other types, some trends were suggested

Table 7. **Decoration Types per Decorated Hats by Decade**

| Decade | Decoration Types per Decorated Hat | t-value | Degrees of Freedom | Significance |
|-----------|--|---------|--------------------|--------------|
| 1400–1409 | 1.41 | 2.80 | 64 | S |
| 1410–1419 | 1.35 | 0.75 | 59 | NS |
| 1420–1429 | 1.17 | –2.95 | 38 | S |
| 1430–1439 | 1.25 | –1.10 | 35 | NS |
| 1440–1449 | 1.00 | –4.35 | 43 | S |
| 1450–1459 | 1.20 | –2.11 | 50 | S |
| 1460–1469 | 1.67 | 4.72 | 65 | S |
| 1470–1479 | 1.33 | 0.29 | 84 | NS |
| 1480–1489 | 1.60 | 4.92 | 75 | S |
| 1490–1499 | 1.21 | –3.11 | 110 | S |
| 1500–1509 | 1.38 | 1.77 | 69 | NS |
| 1510–1519 | 1.26 | –1.92 | 87 | NS |
| Overall | 1.32 | | | |

S = Significant NS = Not significant

Table 8. Relative Frequencies of Decoration Type by Decade

| Decoration Type | 1400 –1409 (%) | 1410 –1419 (%) | 1420 –1429 (%) | 1430 –1439 (%) | 1440 –1449 (%) | 1450 –1459 (%) | 1460 –1469 (%) | 1470 –1479 (%) | 1480 –1489 (%) | 1490 –1499 (%) | 1500 –1509 (%) | 1510 –1519 (%) | Overall (%) | N |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------|-----|
| Applied Jewels | 34.1 | 17.4 | 28.6 | 20.0 | 33.3 | 33.3 | 30.0 | 35.0 | 37.5 | 17.6 | 27.5 | 25.6 | 27.5 | 73 |
| Hat Bands | 2.4 | 0.0 | 14.3 | 10.0 | 0.0 | 16.7 | 0.0 | 30.0 | 6.2 | 2.9 | 0.0 | 2.6 | 5.7 | 15 |
| Feathers/ Flowers | 7.3 | 0.0 | 0.0 | 0.0 | 0.0 | 8.3 | 20.0 | 20.0 | 18.8 | 26.5 | 20.0 | 17.9 | 14.0 | 37 |
| Cording/ Edging | 12.2 | 4.3 | 0.0 | 30.0 | 0.0 | 33.3 | 30.0 | 0.0 | 12.5 | 2.9 | 12.5 | 7.7 | 10.2 | 27 |
| Points/Laces | 0.0 | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 14.7 | 17.5 | 12.8 | 6.8 | 18 |
| Dagging | | | | | | | | | | | | | | |
| 1 | 9.8 | 13.0 | 21.4 | 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.9 | 0.0 | 2.9 | 5.7 | 15 |
| 2 | 9.8 | 26.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.0 | 0.0 | 2.9 | 0.0 | 2.9 | 4.9 | 13 |
| 3 | 2.4 | 13.0 | 14.3 | 0.0 | 0.0 | 0.0 | 0.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.6 | 7 |
| 4 | 2.4 | 8.7 | 0.0 | 0.0 | 16.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.9 | 1.9 | 5 |
| 5 | 0.0 | 0.0 | 0.0 | 0.0 | 33.3 | 0.0 | 0.0 | 5.0 | 0.0 | 11.8 | 2.5 | 0.0 | 3.0 | 8 |
| Embroidery | 4.9 | 13.0 | 0.0 | 0.0 | 0.0 | 8.3 | 20.0 | 0.0 | 6.2 | 2.9 | 5.0 | 2.9 | 4.9 | 13 |
| Slashes | 2.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 12.5 | 14.7 | 5.0 | 7.7 | 4.9 | 13 |
| Figured Fabrics | 12.2 | 0.0 | 21.4 | 0.0 | 16.7 | 0.0 | 0.0 | 0.0 | 6.2 | 2.9 | 10.0 | 15.4 | 7.9 | 21 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 791 |
| N | 65 | 60 | 39 | 36 | 44 | 51 | 66 | 85 | 76 | 111 | 70 | 88 | 791 | |

for some of the decorations types. The use of decorative lacing or “points” only occurs once before 1490 after which points were used from 13% to 18% of the time. Dagging was mostly concentrated in the period 1400 to 1449. Hat bands and cording or trim bands seemed to be more commonly used from 1430 to 1470.

Variations in Material and Decoration Types by Place of Origin

Table 9 (p. 58) shows the relative frequencies of occurrence for whether the material was decorated or plain for each place of origin. Figure 24 (p. 59) shows that information graphically. Contingency analysis

was used to test the null hypothesis that the relative frequency of whether a headdress was plain or decorated did not vary by place of origin. The data did allow for a collective test. The tendency for decoration did vary significantly by place of origin ($\chi^2 = 14.49$, $df = 5$). Each of the place of origin categories were tested as well. Only the Holy Roman Empire and Italy showed significant variations from the overall proportions. The Holy Roman Empire had a disproportionately high number of decorated headdresses, while Italy had a disproportionately high number of plain headdresses.

An analysis was conducted to investigate the degree of ornamentation for decorated headdresses by place of origin. The ratio of

Table 9. Relative Frequency of Material by Place of Origin

| Material | BFN (%) | British Islands (%) | France (%) | HRE (%) | Italy (%) | Spain/Portugal (%) | Overall (%) | N |
|--|---------|---------------------|------------|---------|-----------|--------------------|-------------|-----|
| Plain | 72.7 | 81.4 | 75.9 | 66.1 | 82.9 | 68.0 | 74.6 | 590 |
| Decorated | 27.3 | 18.6 | 24.1 | 33.9 | 17.1 | 32.0 | 25.4 | 201 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| N | 209 | 70 | 145 | 109 | 158 | 100 | 791 | |
| Chi Squared | 0.38 | 1.73 | 0.12 | 4.19 | 5.77 | 2.29 | 14.49 | |
| Degrees of Freedom | 1 | 1 | 1 | 1 | 1 | 1 | 5 | |
| Significance | NS | NS | NS | S | S | NS | S | |
| Decoration Types per Decorated Headdress | 1.32 | 1.38 | 1.23 | 1.24 | 1.33 | 1.47 | 1.32 | |
| t-value | -0.7 | 2.1 | -6.0 | -6.0 | 0.12 | 8.9 | | |
| Degrees of Freedom | 208 | 69 | 144 | 108 | 157 | 99 | | |
| Significance | NS | S | S | S | NS | S | | |

BFN = Burgundy/Flanders/Netherlands BI = British Islands S/P = Spain/Portugal N = Number NS = Not significant S = Significant

the number of decorations types used to the total number of decorated headdresses for each place of origin was calculated as was the ratio of the number of decoration types to the total number of decorated headdresses overall. T-tests were conducted to see if the ratios for each place of origin significantly varied from the overall ratio. Table 9 also displays the results of this analysis. The British Islands and especially Spain/Portugal had disproportionately high numbers of decoration types per headdress. France and the Holy Roman Empire had unusually low proportions of decoration types per headdress. The Holy Roman Empire tended to have more decorated hats, but these used fewer decoration types than average.

Table 10 shows the relative frequencies of each decoration type by place of origin. Due to small sample sizes, contingency

analysis could only be applied to the categories of applied jewelry, flowers and feathers, and combined dag types. The relative frequencies of applied jewelry and flowers and feathers did not vary significantly by place of origin when compared to the overall distribution of decoration types. Combined dag types were most prevalent in Burgundy/Flanders/Netherlands and the British Islands and less commonly found in Italy and Spain/Portugal.

Overall Degrees of Visual Complexity

Gothic Art is often characterized as being ornate and Renaissance art is often characterized as being unadorned and pure of line. For most of this study period, Northern European artists still produced Gothic

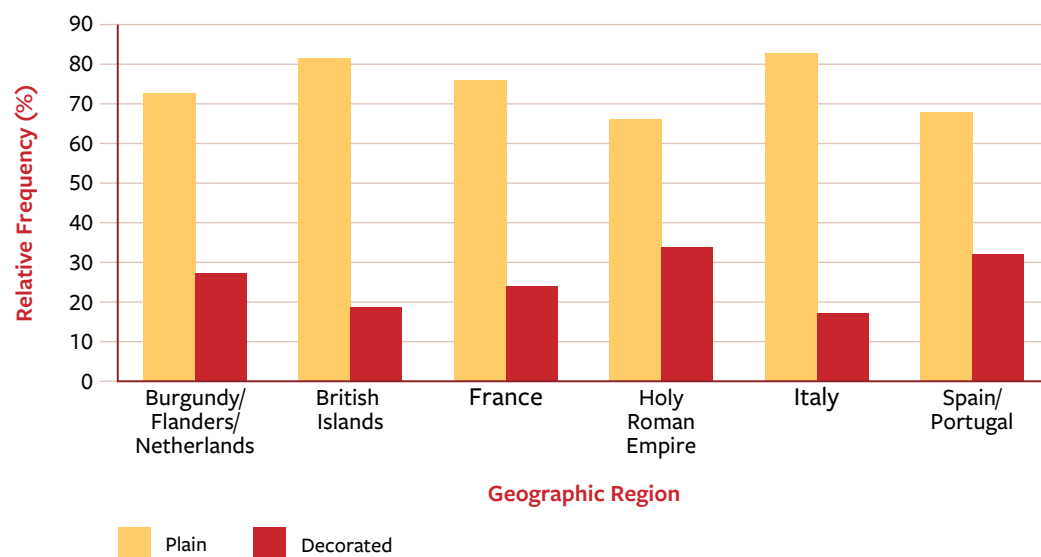


Figure 24.

Relative Frequency of the Appearance of Decoration by Place of Origin

Table 10. Relative Frequency of Decoration Type by Place of Origin

| | BFN (%) | British Islands (%) | France (%) | HRE (%) | Italy (%) | Spain/Portugal (%) | Overall (%) | N |
|------------------|---------|---------------------|------------|---------|-----------|--------------------|-------------|-----|
| Applied Jewels | 26.7 | 38.9 | 25.6 | 26.1 | 36.1 | 21.3 | 27.5 | 73 |
| Hat Bands | 8.0 | 0.0 | 7.0 | 2.2 | 5.6 | 6.4 | 5.7 | 15 |
| Feathers/Flowers | 10.7 | 0.0 | 23.3 | 17.4 | 8.3 | 17.0 | 14.0 | 37 |
| Cording/Edging | 8.0 | 5.6 | 0.0 | 13.0 | 16.7 | 17.0 | 10.2 | 27 |
| Points/Laces | 4.0 | 5.6 | 7.0 | 4.3 | 13.9 | 8.5 | 6.8 | 18 |
| Dagging Type | | | | | | | | |
| 1 | 9.3 | 22.2 | 9.3 | 0.0 | 0.0 | 0.0 | 5.7 | 15 |
| 2 | 9.3 | 0.0 | 4.7 | 2.2 | 2.8 | 4.3 | 4.9 | 13 |
| 3 | 5.3 | 5.6 | 2.3 | 2.2 | 0.0 | 0.0 | 2.6 | 7 |
| 4 | 2.7 | 0.0 | 4.7 | 0.0 | 2.8 | 0.0 | 1.9 | 5 |
| 5 | 2.7 | 0.0 | 0.0 | 13.0 | 0.0 | 0.0 | 3.0 | 8 |
| Embroidery | 4.0 | 0.0 | 4.7 | 4.3 | 2.8 | 10.6 | 4.9 | 13 |
| Slashes | 6.7 | 0.0 | 7.0 | 4.3 | 0.0 | 6.4 | 4.9 | 13 |
| Figured Fabrics | 2.7 | 22.2 | 4.7 | 10.9 | 11.1 | 8.5 | 7.9 | 21 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 791 |
| Number | 75 | 18 | 43 | 43 | 36 | 47 | 265 | |

BFN = Burgundy/Flanders/Netherlands BI = British Islands S/P = Spain/Portugal N = Number NS = Not significant
S = Significant

art, but Italy had adopted an aesthetic based on Graeco-Roman ideals, which can also be called an Renaissance aesthetic. By the end of the fifteenth century and the beginning of the sixteenth century, the Renaissance aesthetic had begun to spread north. Since many of the decorative arts tend to follow the same aesthetic, it would be useful to know whether clothing items also followed the spread of Renaissance aesthetics. In this study, the degree of visual complexity, or, how ornate the physical appearance of the headdress was used as a guide to test whether headdress becomes more or less ornate over the last decades of the study period as Renaissance ideas spread north and to test whether headdress in Italy was less ornate than in the rest of Europe. Both brim type and decoration practice were considered measures of visual complexity.

Brim types were classified as being one of five levels visual complexity, based on the amount of variation given to the eye in the design of the brim and the number of variations allowed in the position of the brim or brim segments. Table 11 displays the brim types and their levels.

A complexity index for brim type over time and by place of origin was created by multiplying the relative proportions of each brim type by its complexity level and summing the results. An overall complexity level was calculated and the results for each decade or each place of origin was compared to it.

Decoration was used in two ways. The percentage of decorated headdress of all headdresses for each decade and each place of origin was compared to an overall

Table 11. **Complexity Level of Brim Type**

| Level | Brim Type |
|-------|---|
| 1 | Brimless |
| 2 | Continuous |
| 3 | Padded or Twisted Roll; Partial Brim; Rolled Brim |
| 4 | Split Brim; Robin Hood Brim |
| 5 | Overlapping Split Brim; Multiple Brims |

Table 12. **Indicators of Complexity By Place of Origin**

| Place of Origin | Brim Type | Percentage of Decorated Headdresses | Number of Decoration Types per Decorated Headdress |
|-------------------------------|-----------|-------------------------------------|--|
| Burgundy/Flanders/Netherlands | 2.23 | 27.3 | 1.32 |
| British Islands | 2.36 | 18.6 | 1.38 |
| France | 2.27 | 24.1 | 1.23 |
| HRE | 2.53 | 33.9 | 1.24 |
| Italy | 2.22 | 17.1 | 1.33 |
| Spain/Portugal | 2.30 | 32.0 | 1.47 |
| Overall | 2.30 | 25.4 | 1.32 |

Table 13. **Indicators of Complexity By Decade**

| | Brim Type | Percentage of Decorated Headdresses | Number of Decoration Types per Decorated Headdress |
|-----------|------------------|--|---|
| 1400–1409 | 2.20 | 44.6 | 1.41 |
| 1410–1419 | 2.38 | 28.3 | 1.35 |
| 1420–1429 | 2.62 | 30.8 | 1.17 |
| 1430–1439 | 2.33 | 22.2 | 1.25 |
| 1440–1449 | 2.52 | 13.6 | 1.00 |
| 1450–1459 | 1.88 | 19.6 | 1.20 |
| 1460–1469 | 1.67 | 9.1 | 1.67 |
| 1470–1479 | 2.05 | 17.6 | 1.33 |
| 1480–1489 | 2.25 | 13.2 | 1.60 |
| 1490–1499 | 2.23 | 25.2 | 1.21 |
| 1500–1509 | 2.71 | 41.4 | 1.38 |
| 1510–1519 | 2.80 | 35.2 | 1.26 |
| Overall | 2.30 | 25.4 | 1.32 |

percentage. Also the proportion of decoration types per decorated headdress, as calculated above, for each decade and each place of origin was compared to the overall proportion of decoration types per decorated headdress. The results for all three indicators are summarized in Tables 12 and 13. Bold face is used to show decades or places of origin whose complexity indicators were higher than the overall.

While each of the indicators were not in complete agreement, the general trend over time seems to be that headdresses had a higher level of complexity in the early part of the fifteenth century, approximately from 1400 to 1429. There was a period of relatively low complexity from 1440 to 1499. Finally, complexity increased from 1500 to 1519. Percentage of decorated headdress and brim type seem to be in agreement, but there were several

exceptions for the proportion of decoration types per decorated hats indicator.

For places of origin, the trend seems to be higher complexity headdresses for the British Islands, the Holy Roman Empire, and Spain/Portugal. Lower complexity headdresses were found in France, Italy, and Burgundy/Flanders/Netherlands. Italy was indeed found to have headdresses with lower complexity, but it was joined by two places of origin that were the centers of the International Gothic style. Again, as with time, there were several exceptions for the proportion of decoration types per decorated hats indicator for Italy and the Holy Roman Empire.

Variations in Color Over Time

Table 14 (p. 62) shows the relative frequencies of occurrence for each color

Table 14. Relative Frequency of Color by Decade

| | Red (%) | Black (%) | Blue (%) | Brown (%) | White (%) | Yellow (%) | Green (%) | Grey (%) | Orange (%) | Purple (%) | Total (%) | N |
|--------------------|---------|-----------|--------------------|--------------------|-----------|--------------------|-----------|----------|------------|------------|-----------|----|
| 1400–1409 | 23.6 | 7.3 | 25.5 | 3.6 | 7.3 | 9.1 | 14.5 | 7.3 | 0.0 | 1.8 | 100.0 | 55 |
| 1410–1419 | 18.9 | 30.2 | 17.0 | 11.3 | 5.7 | 5.7 | 3.8 | 7.5 | 0.0 | 0.0 | 100.0 | 53 |
| 1420–1429 | 37.1 | 11.4 | 25.7 | 17.1 | 2.9 | 5.7 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 35 |
| 1430–1439 | 37.0 | 18.5 | 18.5 | 11.1 | 11.1 | 0.0 | 3.7 | 0.0 | 0.0 | 0.0 | 100.0 | 27 |
| 1440–1449 | 55.0 | 17.5 | 5.0 | 7.5 | 7.5 | 2.5 | 2.5 | 2.5 | 0.0 | 0.0 | 100.0 | 40 |
| 1450–1459 | 36.4 | 31.8 | 9.1 | 9.1 | 4.5 | 4.5 | 2.3 | 2.3 | 0.0 | 0.0 | 100.0 | 44 |
| 1460–1469 | 58.5 | 22.6 | 1.9 | 9.4 | 3.8 | 0.0 | 1.9 | 1.9 | 0.0 | 0.0 | 100.0 | 53 |
| 1470–1479 | 37.5 | 25.0 | 7.1 | 8.9 | 5.4 | 0.0 | 5.4 | 7.1 | 3.6 | 0.0 | 100.0 | 56 |
| 1480–1489 | 25.4 | 35.6 | 11.9 | 11.9 | 11.9 | 0.0 | 1.7 | 1.7 | 0.0 | 0.0 | 100.0 | 59 |
| 1490–1499 | 31.1 | 24.4 | 0.0 | 8.9 | 13.3 | 4.4 | 2.2 | 8.9 | 6.7 | 0.0 | 100.0 | 45 |
| 1500–1509 | 36.8 | 21.1 | 7.0 | 8.8 | 8.8 | 7.0 | 8.8 | 0.0 | 1.8 | 0.0 | 100.0 | 57 |
| 1510–1519 | 30.0 | 30.0 | 6.0 | 6.0 | 6.0 | 14.0 | 2.0 | 4.0 | 2.0 | 0.0 | 100.0 | 50 |
| Overall | 35.0 | 23.5 | 10.8 | 9.3 | 7.3 | 4.5 | 4.4 | 3.8 | 1.2 | 0.2 | 575 | |
| Number | 201 | 135 | 62 | 53 | 42 | 26 | 25 | 22 | 7 | 1 | 575 | |
| Chi Squared | 21.27 | 17.54 | 32.34 [†] | 5.60 ^{*†} | * | 32.75 [*] | * | * | * | * | 116.7 | |
| Degrees of Freedom | 11 | 11 | 9 [†] | 10 [†] | * | 10 | * | * | * | * | 44 | |
| Significance | S | NS | S [†] | NS ^{*†} | * | S | * | * | * | * | S | |

*Due to small samples sizes, brown and white were combined into one category, and the remaining colors were combined into one category. Chi squared values are given for brown and white under “Brown” and for the remaining colors under “Yellow.”

† Due to small sample sizes, some decades were combined for analysis.

N=Number S=Significant NS=Not significant

for each decade of the study period. Contingency analysis was used to test the null hypothesis that the relative frequency of each color did not vary over time. The data did allow for a collective test, if some of the categories were combined. A significant relationship was found between color and decade ($\chi^2 = 123.4$, $df = 44$). The color categories used were red, black, blue, brown and white, and all others. Each of the individual categories were tested as well. Figure 25 shows the distribution of the color categories used for analysis over time. The color categories, red, blue, and all others, were found to vary significantly with time. Due to the use of some black and white reproductions and media that were not colored, the total sample size for analysis was 574.

By and large the most popular color for headdresses from 1400–1519 was red, used in 35.0% of all headdresses. Black was second with 23.5% of all headdresses, blue and brown were well behind with 10.8% and 9.3% respectively. White (7.3%); yellow (4.5%); green (4.4%); grey (3.8%); orange (1.2%); and purple (0.2%) completed the sample.

The use of red peaked from 1440 to 1469 and the peak for red tended to follow the popularity of acorn hats. Blue was more widely used from 1400 to 1429 and declined for the rest of the study period. The relative frequency of headdresses other than red, black, blue, brown or white were high for the beginning and the end of the study

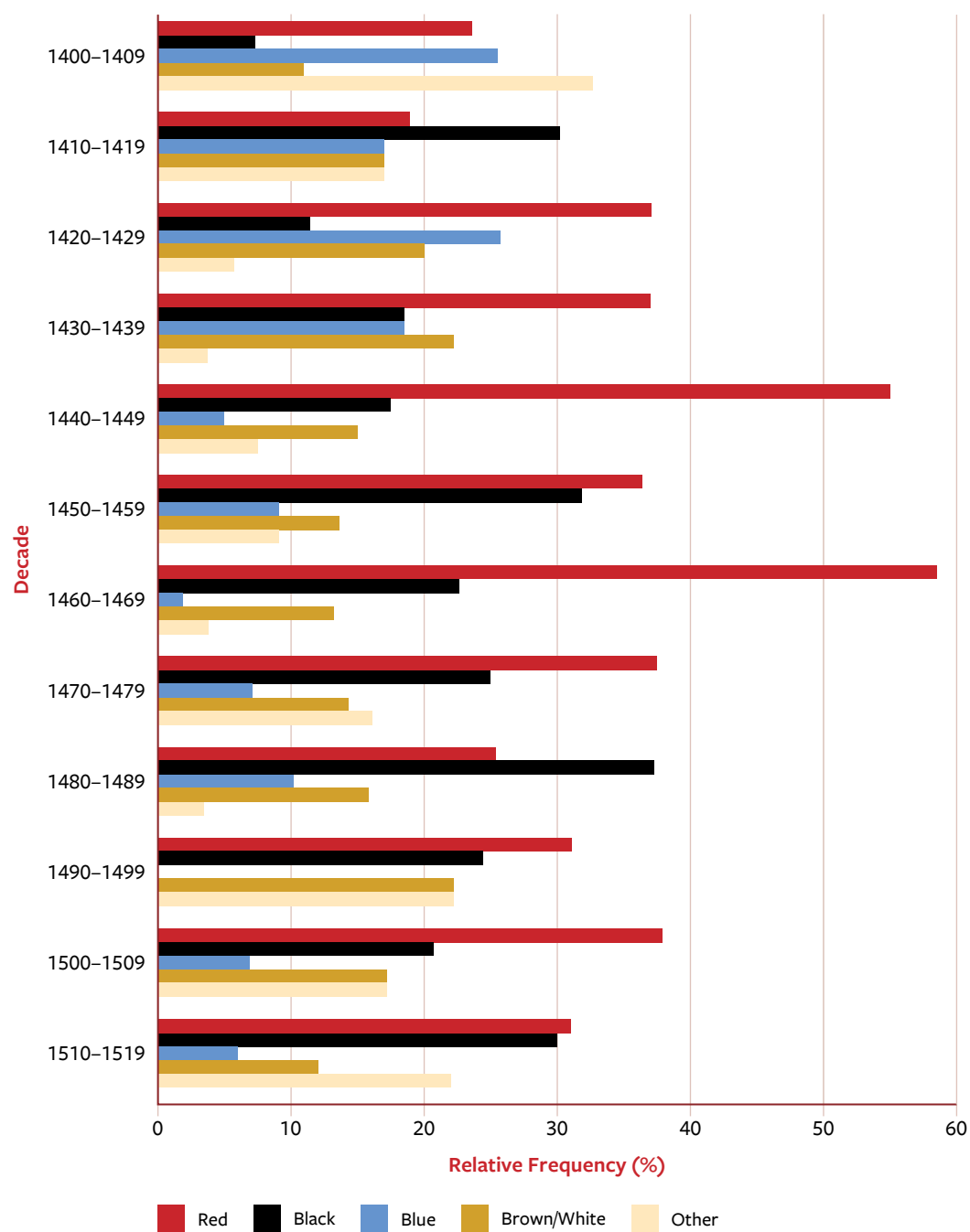


Figure 25.

Relative Frequency of the Color by Decade

period, but fewer colors were used in the middle of the fifteenth century, and these were used less often than that the beginning or end of the study period. The proportions of black and brown/white remained the same throughout the study period.

Headdress types with earlier popularity peaks (hoods, chaperones, and sacks) had a stronger proportion of blue and less of black than later-occurring headdress types, while the use of blue declined with headdresses with later popularity peaks.

Variations in Color by Place of Origin

Table 15 shows the relative frequencies of occurrence for each color for each place of origin. Contingency analysis was used to test the null hypothesis that the relative frequency of each color did not vary by place of origin. The data did allow for a collective test, if some of the categories were combined. A significant relationship was found between headdress type and place of origin ($\chi^2 = 47.72$, $df = 20$). The color categories used were red, black, blue, brown and white, and all others. Each of the individual categories were tested as well. Figure 26 shows the distribution of the color of headdresses by place of origin. Due to the use of some black and white reproductions and media that were not colored, the total sample size for analysis was 574.

All colors were found to be evenly distributed among the six places of origin categories except for the Holy Roman Empire. Headdresses there were less likely to be blue and more likely to be brown/white or one of the “other” category colors. Although the sample size for the British Islands was

too small for contingency analysis, blue appeared to be very popular in that location.

Variations in the Characteristics of Head Coverage

Two categories were used to describe the characteristics of head coverage. “Coverage of the Hair-Growing Area” measured how much of the head except the face was covered by headdress. “Coverage of the Ears” recorded whether the ears were covered or not.

Variations in the Coverage of the Hair-Growing Area Over Time

Table 16 (p. 66) shows the relative frequencies of the hair-growing area covered by the headdress for each decade of the study period. Contingency analysis was used to test the null hypothesis that the relative distribution of the coverage of the hair-growing area did not vary over time. The data did allow for a collective test if the categories of 0% to 25% and 25% to 50% were combined. Figure 27 (p. 66) shows the relative frequencies of the coverage categories used in analysis over time. A significant relationship was found between coverage of the head and decade ($\chi^2 = 98.29$, $df = 22$). Each of the individual categories were tested as well. All of the categories were found to vary significantly with time.

From 1400 to 1439, the dominant amount of coverage was 75%–100%. The peak decade for the 75%–100% coverage was 1420 to 1429. In the 1440s the dominant amount of coverage shifted to 50%–75% and remained the dominant amount of coverage for the rest of the study period. The peak

Table 15. **Relative Frequency of Color by Place of Origin**

| | BFN (%) | British Islands (%) | France (%) | HRE (%) | Italy (%) | Spain/Portugal (%) | Overall (%) | N |
|--------------------|---------|---------------------|------------|---------|-----------|--------------------|-------------|-----|
| Red | 31.3 | 37.0 | 30.8 | 36.4 | 47.5 | 26.5 | 35.1 | 201 |
| Black | 28.1 | 11.1 | 25.8 | 16.7 | 20.0 | 24.5 | 23.6 | 135 |
| Blue | 10.9 | 33.3 | 11.7 | 3.0 | 10.8 | 6.1 | 10.8 | 62 |
| Brown | 12.5 | 3.7 | 7.5 | 10.6 | 5.8 | 10.2 | 9.3 | 53 |
| White | 5.2 | 7.4 | 5.0 | 12.1 | 8.3 | 12.2 | 7.3 | 42 |
| Yellow | 3.1 | 0.0 | 4.2 | 7.6 | 3.3 | 8.2 | 4.2 | 24 |
| Green | 3.7 | 0.0 | 5.8 | 10.6 | 1.7 | 4.1 | 4.4 | 25 |
| Grey | 4.2 | 0.0 | 6.7 | 1.5 | 2.5 | 4.1 | 3.8 | 22 |
| Orange | 1.0 | 7.4 | 2.5 | 0.0 | 0.0 | 4.1 | 1.2 | 9 |
| Purple | 0.0 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 | 0.2 | 1 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 574 |
| N | 192 | 27 | 120 | 66 | 120 | 49 | 574 | |
| Chi Squared | 1.61 | * | 3.90 | 13.93 | 8.14 | 9.40 | 47.53 | |
| Degrees of Freedom | 4 | * | 4 | 4 | 4 | 4 | 20 | |
| Significance | NS | * | NS | S | NS | NS | S | |

* The sample size for the British Islands was too small for analysis.

BFN = Burgundy/Flanders/Netherlands BI = British Islands S/P = Spain/Portugal N = Number NS = Not significant S = Significant

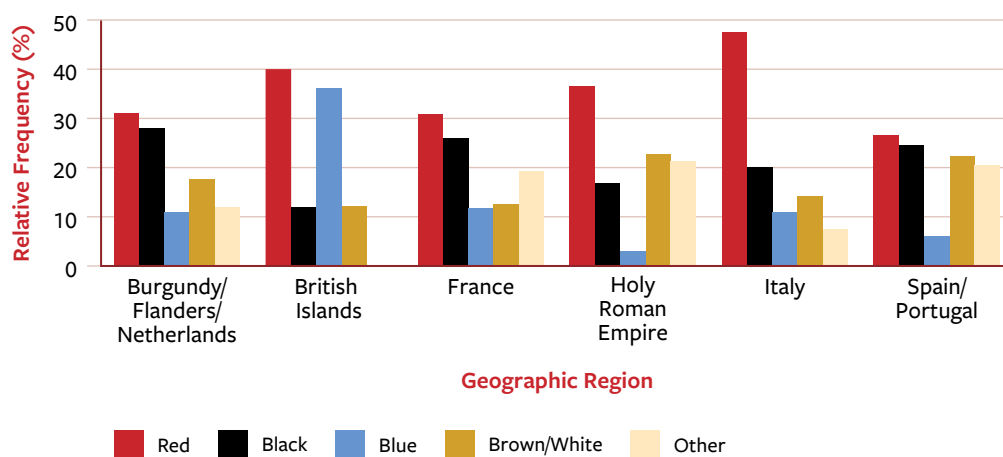


Figure 26.

Relative Frequency of the Color by Place of Origin

Table 16. Relative Frequency of Coverage of the Hair-Growing Area by Decade

| Decade | 0% to 25% (%) | 25% to 50% (%) | 50% to 75% (%) | 75% to 100% (%) | Chi Squared* | Degrees of Freedom | Sig. | N |
|-----------|---------------|----------------|----------------|-----------------|--------------|--------------------|------|-----|
| 1400–1409 | 0.0 | 14.0 | 32.0 | 54.0 | 12.11 | 2 | S | 50 |
| 1410–1419 | 0.0 | 9.8 | 37.3 | 52.9 | 12.24 | 2 | S | 51 |
| 1420–1429 | 0.0 | 3.0 | 24.2 | 72.7 | 21.68 | 2 | S | 33 |
| 1430–1439 | 3.4 | 10.3 | 31.0 | 55.2 | 7.76 | 2 | S | 29 |
| 1440–1449 | 0.0 | 2.6 | 51.3 | 46.2 | 2.99 | 2 | NS | 39 |
| 1450–1459 | 2.2 | 20.0 | 46.7 | 31.1 | 0.00 | 2 | NS | 45 |
| 1460–1469 | 0.0 | 17.0 | 64.2 | 18.9 | 6.93 | 2 | S | 53 |
| 1470–1479 | 0.0 | 28.9 | 56.6 | 14.5 | 9.98 | 2 | S | 76 |
| 1480–1489 | 1.5 | 33.8 | 40.0 | 24.6 | 6.32 | 2 | S | 65 |
| 1490–1499 | 0.0 | 34.6 | 49.0 | 16.3 | 14.40 | 2 | S | 104 |
| 1500–1509 | 3.0 | 25.8 | 48.5 | 22.7 | 2.77 | 2 | NS | 66 |
| 1510–1519 | 3.6 | 19.0 | 51.2 | 26.2 | 1.11 | 2 | NS | 84 |
| Overall | 1.2 | 21.3 | 46.3 | 31.2 | 98.29 | 22 | S | 695 |
| N | 8 | 148 | 322 | 214 | | | | 695 |

* Due to small sample sizes, “0% to 25%” and “25% to 50%,” were combined into one category for contingency analysis.

Sig. = Significance N = Number S = Significant NS = Not significant

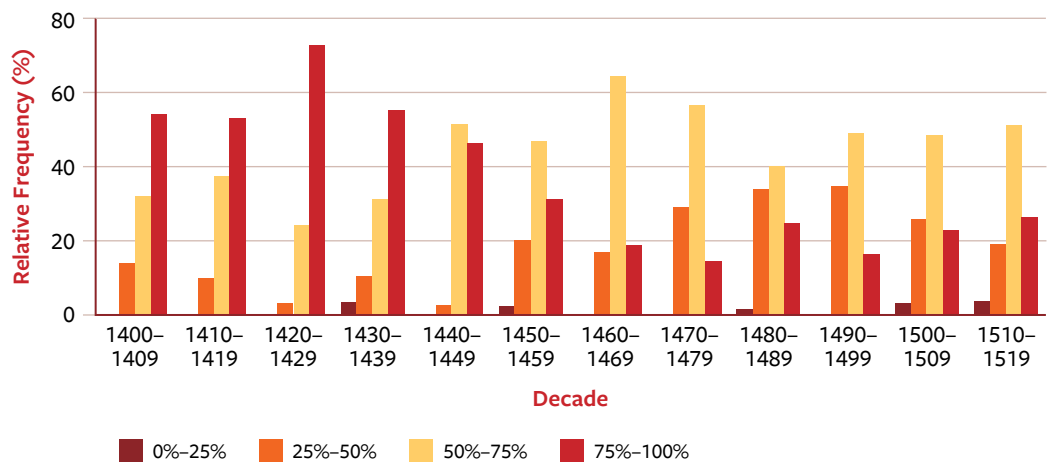


Figure 27.

Relative Frequency of the Coverage of the Hair-growing Area by Decade

period for 50%–75% head coverage was 1460 to 1479. However, from 1470 to 1509, relatively more of the headdresses fell into the 0%–50% classification than fell into

the 75%–100% category, demonstrating a tendency towards headdress that covered even less of the head. The peak period for the 0%–50% category was 1480 to 1499. A

Table 17. **Relative Frequency of Coverage of the Hair-Growing Area by Place of Origin**

| | BFN (%) | British Islands (%) | France (%) | HRE (%) | Italy (%) | Spain/Portugal (%) | Overall (%) | N |
|--------------------|---------|---------------------|------------|---------|-----------|--------------------|-------------|-----|
| 0% to 25% | 0.6 | 0.0 | 0.8 | 1.9 | 2.0 | 1.1 | 1.2 | 8 |
| 25% to 50% | 19.9 | 7.0 | 28.0 | 15.4 | 20.4 | 31.9 | 21.3 | 148 |
| 50% to 75% | 46.2 | 49.1 | 44.0 | 46.2 | 51.0 | 40.7 | 46.3 | 322 |
| 75% to 100% | 33.3 | 43.9 | 27.2 | 36.5 | 26.5 | 26.4 | 31.2 | 53 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 695 |
| N | 171 | 57 | 125 | 104 | 147 | 91 | 695 | |
| Chi Squared | 0.522 | 9.06 | 3.08 | 2.16 | 1.75 | 5.80 | 22.37 | |
| Degrees of Freedom | 2 | 2 | 2 | 2 | 2 | 2 | 10 | |
| Significance | NS | S | NS | NS | NS | NS | S | |

BFN = Burgundy/Flanders/Netherlands HRE = Holy Roman Empire N = Number NS = Not significant
S = Significant

reversal to this trend is suggested by the data for the last decade, in which the relative frequency of headdresses that covered 75% or more of the head was larger than the relative frequency of headdresses that covered less than 50% of the head.

Variations in the Coverage of the Hair-Growing Area by Place of Origin

Table 17 shows the relative frequencies of the hair-growing area covered by the headress for each place of origin. Contingency analysis was used to test the null hypothesis that the relative distribution of the coverage of the hair-growing area did not vary by place of origin. The data did allow for a collective test if the categories of 0% to 25% and 25% to 50% were combined. Figure 28 (p. 68) shows the relative frequencies of the coverage categories used in analysis by place of origin. A significant relationship was found between coverage of the head and place of origin ($\chi^2 = 22.37$, $df = 10$). Each of the individual places of origin were tested

as well. Coverage of the hair-growing area was found to vary significantly in the British Islands only. The British Islands had an unusually high proportion of headdresses covering 75%–100% of the head, and unusually low proportion of headdresses covering less than 50% of the head. For all locations, the dominant coverage was 50%–75%.

Variations in the Coverage of the Ears Over Time

Table 18 (p. 68) shows the relative frequencies for whether the ears were covered, and if so, whether they were entirely or partially covered for each decade of the study period. Contingency analysis was used to test the null hypothesis that the relative distribution of the coverage of the ears categories did not vary over time. The data did allow for a collective test if the categories of “partially covered” and “completely covered” were combined. Figure 29 (p. 69) shows the relative frequencies of the coverage of the ears categories used in analysis over time. A significant relationship was found

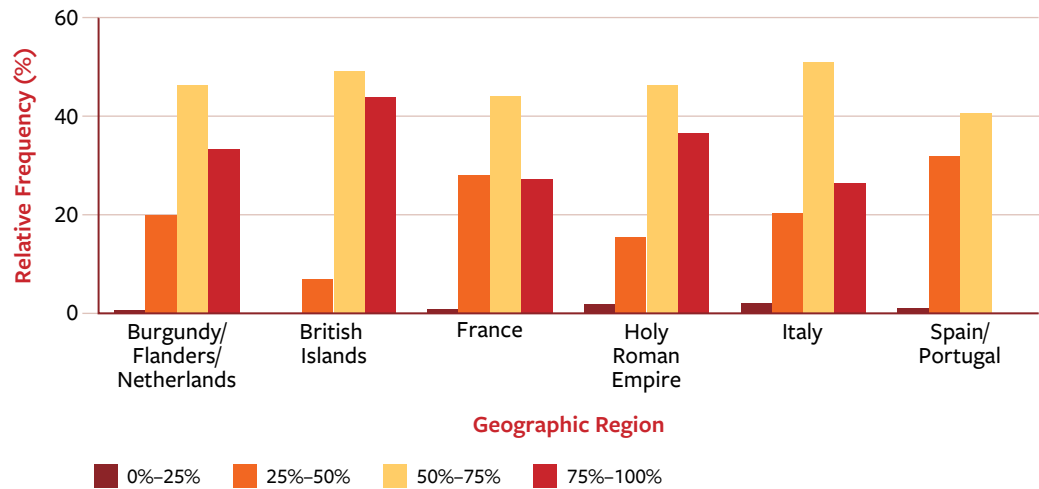


Figure 28.

Relative Frequency of the Coverage of the Hair-growing Area by Geographic Origin

Table 18. Relative Frequency of the Coverage of the Ears by Decade

| | Not Covered (%) | Partially Covered (%) | Completely Covered (%) | Chi Squared | Degrees of Freedom | Sig. | N |
|-----------|-----------------|-----------------------|------------------------|-------------|--------------------|------|-----|
| 1400–1409 | 61.5 | 26.2 | 12.3 | 3.68 | 2 | NS | 65 |
| 1410–1419 | 56.7 | 36.7 | 6.7 | 12.00 | 2 | S | 60 |
| 1420–1429 | 51.3 | 35.9 | 12.8 | 6.13* | 1 | S | 39 |
| 1430–1439 | 66.7 | 19.4 | 13.9 | 0.55* | 1 | NS | 36 |
| 1440–1449 | 65.9 | 15.9 | 18.2 | 0.86* | 1 | NS | 44 |
| 1450–1459 | 74.5 | 11.8 | 13.7 | 0.14* | 1 | NS | 51 |
| 1460–1469 | 84.8 | 10.6 | 4.5 | 5.27 | 2 | NS | 66 |
| 1470–1479 | 83.5 | 14.1 | 2.4 | 6.57 | 2 | S | 85 |
| 1480–1489 | 80.3 | 13.2 | 6.6 | 2.49 | 2 | NS | 76 |
| 1490–1499 | 76.6 | 16.2 | 7.2 | 1.07 | 2 | NS | 111 |
| 1500–1509 | 72.9 | 18.6 | 8.6 | 0.02 | 2 | NS | 70 |
| 1510–1519 | 70.5 | 20.5 | 9.1 | 0.14 | 2 | NS | 88 |
| Overall | 72.2 | 19.1 | 8.7 | 35.30* | 11 | S | 791 |
| N | 571 | 151 | 69 | | | | 791 |

*Due to small sample sizes, “partially covered” and “completely covered” were combined into one category for contingency analysis.

Sig. = Significance N = Number NS = Not significant S = Significant

between coverage of the ears and decade ($\chi^2 = 35.30$, $df = 11$). Each of the individual categories was tested as well. The combined category of partially and completely covered was found to vary significantly with time.

Ears were not covered by headdress 72.2% of the time, but from 1400 to 1429, headdresses that covered the ears either partially or completely constituted a much higher proportion of headdresses during those decades than for headdresses overall. From 1460 to 1489, ears were less likely to be covered by headdress than they would have been overall.

Variations in the Coverage of the Ears by Place of Origin

Table 19 (p. 70) shows the relative frequencies of the amount of the ears covered by the headdress for each place of origin. Contingency analysis was used to test the null hypothesis that the relative distribution of the coverage of the ears categories did not vary by place of origin. The data did allow

for a collective test. A significant relationship was found between coverage of the ears and place of origin ($\chi^2 = 24.26$, $df = 10$). Each of the individual places of origin were tested as well. Figure 30 (p. 70) shows the relative frequencies of the coverage of the ears categories used in analysis by place of origin. Coverage of the ears was found to vary significantly in the British Islands only. The British Islands had an unusually high proportion of headdresses partially covering the ears, and unusually low proportion of headdresses not covering the ears. The Holy Roman Empire showed a similar trend, but it was not found to be statistically significant.

Variations in the Position of Headdresses Over Time

Table 20 (p. 71) shows the relative frequencies for whether the headdress was worn positioned on the head, lying on the shoulder, carried in the hand, lying on the floor or ground, and if the headdress was positioned on the head, whether it was

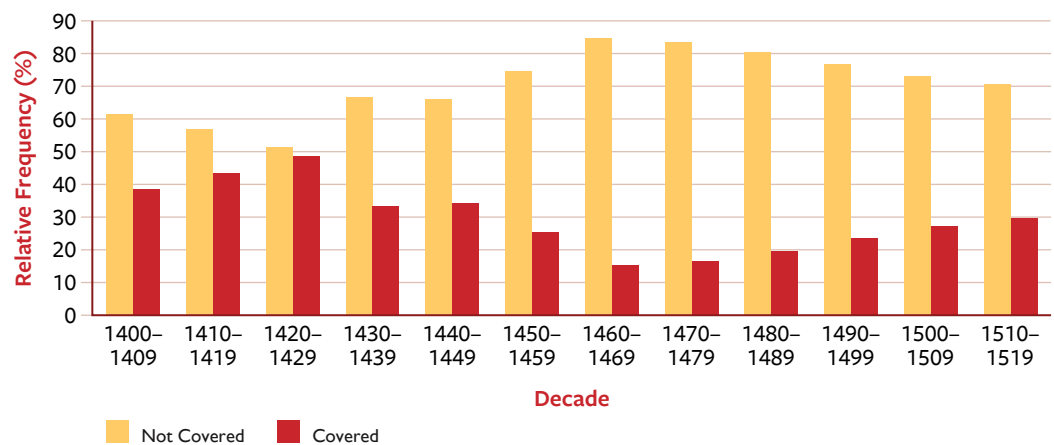


Figure 29.
Relative Frequency of the Coverage of the Ears by Decade

Table 19. **Relative Frequency of Coverage of the Ears by Place of Origin**

| | BFN (%) | British Islands (%) | France (%) | HRE (%) | Italy (%) | Spain/Portugal (%) | Overall (%) | N |
|--------------------|---------|---------------------|------------|---------|-----------|--------------------|-------------|-----|
| Not Covered | 71.3 | 61.4 | 75.2 | 63.3 | 79.7 | 75.0 | 72.2 | 571 |
| Partially Covered | 18.7 | 31.4 | 20.7 | 22.9 | 13.9 | 13.0 | 19.1 | 151 |
| Completely Covered | 10.0 | 7.1 | 4.1 | 13.8 | 6.3 | 12.0 | 8.7 | 69 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 791 |
| N | 209 | 70 | 145 | 109 | 158 | 100 | 791 | |
| Chi Squared | 0.464 | 6.90 | 3.87 | 5.21 | 4.51 | 3.31 | 24.26 | |
| Degrees of Freedom | 2 | 2 | 2 | 2 | 2 | 2 | 10 | |
| Significance | NS | S | NS | NS | NS | NS | S | |

BFN=Burgundy/Flanders/Netherlands HRE=Holy Roman Empire N=Number NS=Not significant S=Significant

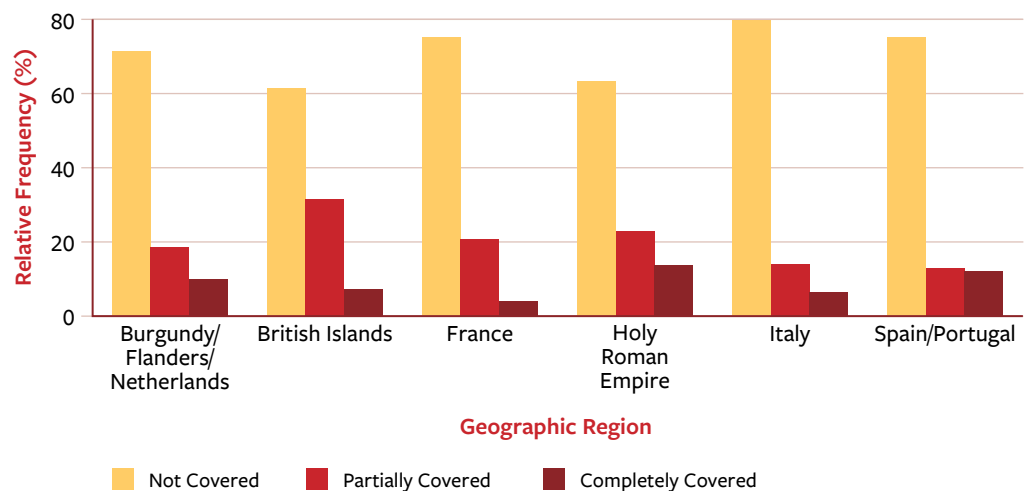


Figure 30.

Relative Frequency of the Coverage of the Ears by Geographic Region

worn centered or tilted left or right for each decade of the study period. This variable was also used to record whether more than one headdress were worn simultaneously. Contingency analysis was used to test the null hypothesis that the relative distribution of the positions of the headdress did not vary over time. The data did allow for a collective test if the categories of “centered,” “left,” and “right” were combined into

a overall category of “on head” and the other categories of “shoulder,” “hand,” and “ground or floor” combined into an overall category of “off head”. Figure 31 (p. 72) shows the relative frequencies of the position of headdress categories used in analysis over time. A significant relationship was found between whether the headdress was worn on or off the head and decade ($\chi^2 = 30.59$, $df = 11$). Each of the individual

Table 20. **Relative Frequency of the Position of Headdress by Decade**

| | Centered (%) | Tilted Left (%) | Tilted Right (%) | On Shoulder (%) | In Hand (%) | On Ground (%) | Chi Squared* | DF | Sig. | N |
|-----------|--------------|-----------------|------------------|-----------------|-------------|---------------|--------------|----|------|-----|
| 1400–1409 | 76.9 | 0.0 | 0.0 | 18.5 | 4.6 | 0.0 | 8.55 | 1 | S | 65 |
| 1410–1419 | 83.3 | 3.3 | 3.3 | 10.0 | 0.0 | 0.0 | 0.13 | 1 | NS | 60 |
| 1420–1429 | 84.6 | 0.0 | 0.0 | 10.3 | 5.1 | 0.0 | † | 1 | † | 39 |
| 1430–1439 | 80.6 | 0.0 | 0.0 | 16.7 | 0.0 | 2.8 | † | 1 | † | 36 |
| 1440–1449 | 88.6 | 0.0 | 0.0 | 11.4 | 0.0 | 0.0 | 0.00 | 1 | NS | 44 |
| 1450–1459 | 86.3 | 2.0 | 0.0 | 7.8 | 3.9 | 0.0 | 0.00 | 1 | NS | 51 |
| 1460–1469 | 77.3 | 0.0 | 3.0 | 16.7 | 3.0 | 0.0 | 1.56 | 1 | NS | 66 |
| 1470–1479 | 88.2 | 1.2 | 0.0 | 8.2 | 2.4 | 0.0 | 0.07 | 1 | NS | 85 |
| 1480–1489 | 80.3 | 1.3 | 2.6 | 7.9 | 5.3 | 2.6 | 1.37 | 1 | NS | 76 |
| 1490–1499 | 77.5 | 8.1 | 9.0 | 1.8 | 3.6 | 0.0 | 4.06 | 1 | S | 111 |
| 1500–1509 | 78.6 | 5.7 | 11.4 | 1.4 | 1.4 | 1.4 | 3.58 | 1 | NS | 70 |
| 1510–1519 | 78.4 | 10.2 | 8.0 | 3.4 | 0.0 | 0.0 | 5.66 | 1 | S | 88 |
| Overall | 81.2 | 3.4 | 3.9 | 8.5 | 2.5 | 0.5 | 30.59 | 11 | S | 791 |
| N | 642 | 27 | 31 | 67 | 20 | 4 | | | | 791 |

*Due to small sample sizes, “centered,” “tilted right,” and “tilted left” were combined into the category, “on head,” and “on shoulder,” “in hand,” and “on ground” were combined into the category, “off head” for contingency analysis.

†Even with combining categories, the expected values were too small to allow for contingency analysis for these decades.

DF = Degrees of freedom Sig. = Significance N = Number S = Significant NS = Not significant

categories were tested as well. The category, “off head” was found to vary significantly with time.

88.5% of all headdress was worn on the head, 82.1% of which was worn centered on the head. Headdresses not worn on the head were most commonly worn draped over the shoulder, (73.6% of the time). The relative proportion of headdresses worn on the head did not vary significantly over time, but the relative proportion of headdresses not worn on the head did. There was a higher proportion of headdresses not worn on the head for the decade 1400 to 1409, than overall, and lower proportions for the decades 1490 to 1499 and 1510 to 1519.

The wearing of multiple headdress at the same time was also recorded. Two-tailed

t-tests were used to determine if the proportion of multiple headdress varied from the overall proportion of multiple headdress.

Table 21 (p. 72) summarizes the results. Only the decades 1430 to 1439 and 1430 to 1449 showed significant variation from the overall proportion. In these decades, the use of multiple headdress was about twice as frequent as for the sample overall.

Variations in the Position of Headdresses by Place of Origin

Table 22 (p. 73) shows the relative frequencies for whether the headdress was worn positioned on the head, lying on the shoulder, carried in the hand, lying on the floor or ground, and if the headdress was positioned on the head, whether it was

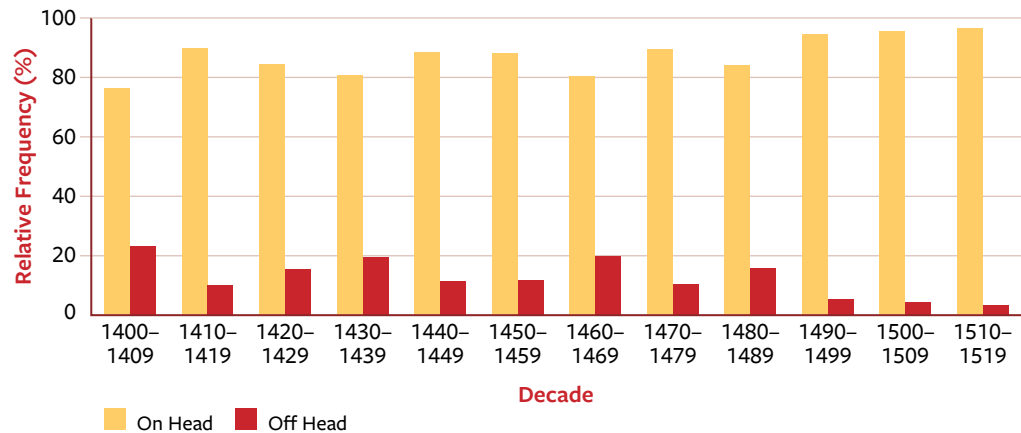


Figure 31.

Relative Frequency of the Position of Headdress by DecadeTable 21. **Relative Frequency of Multiple Headdress by Decade**

| | Multiple Headdress (%) | t-value | Degrees of Freedom | Significance | Number |
|-----------|------------------------|---------|--------------------|--------------|--------|
| 1400–1409 | 21.5 | 0.14 | 64 | NS | 65 |
| 1410–1419 | 15.0 | –1.46 | 59 | NS | 60 |
| 1420–1429 | 20.5 | –0.24 | 38 | NS | 39 |
| 1430–1439 | 44.4 | 2.64 | 35 | S | 36 |
| 1440–1449 | 40.9 | 2.46 | 43 | S | 44 |
| 1450–1459 | 21.6 | –0.12 | 50 | NS | 51 |
| 1460–1469 | 16.7 | –0.93 | 65 | NS | 66 |
| 1470–1479 | 12.9 | –1.74 | 84 | NS | 85 |
| 1480–1489 | 23.7 | 0.22 | 75 | NS | 76 |
| 1490–1499 | 20.7 | –0.35 | 110 | NS | 111 |
| 1500–1509 | 25.7 | 0.55 | 69 | NS | 70 |
| 1510–1519 | 22.7 | 0.06 | 87 | NS | 88 |
| Overall | 22.7 | | | | |
| Number | 177 | | | | 791 |

NS = Not significant S = Significant

worn centered or tilted left or right for each place of origin. Contingency analysis was used to test the null hypothesis that the relative distribution of the positions of the headdress did not vary by place of origin. The data did allow for a collective test if the categories of “centered,” “left,” and “right” were combined into a overall category

of “on head” and the other categories of “shoulder,” “hand,” and “ground or floor” combined into an overall category of “off head.” Figure 32 shows the relative frequencies of the position of headdress categories used in analysis by place of origin. A significant relationship was found between whether the headdress was worn on or off the

Table 22. **Relative Frequency of the Position of Headdress by Place of Origin**

| | BFN (%) | British Islands (%) | France (%) | HRE (%) | Italy (%) | Spain/Portugal (%) | Overall (%) | N |
|--------------------|---------|---------------------|------------|---------|-----------|--------------------|-------------|-----|
| Centered | 79.4 | 82.9 | 77.2 | 80.7 | 87.3 | 81.0 | 72.2 | 643 |
| Tilted Left | 1.4 | 1.4 | 3.4 | 8.3 | 2.6 | 5.0 | 3.4 | 27 |
| Tilted Right | 2.4 | 0.0 | 5.5 | 6.4 | 3.2 | 6.0 | 3.9 | 31 |
| On Shoulder | 13.4 | 12.9 | 9.7 | 2.8 | 6.3 | 2.0 | 8.5 | 66 |
| In Hand | 2.4 | 2.9 | 4.1 | 0.9 | 0.6 | 5.0 | 2.5 | 20 |
| On Ground | 1.0 | 0.0 | 0.0 | 0.9 | 0.0 | 1.0 | 0.5 | 4 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 791 |
| N | 209 | 70 | 145 | 109 | 158 | 100 | 791 | |
| Chi Squared* | 5.64 | 1.22 | 0.746 | 3.85 | 3.20 | 3.03 | 15.87 | |
| Degrees of Freedom | 1 | 1 | 1 | 1 | 1 | 1 | 5 | |
| Significance | S | NS | NS | S | NS | NS | S | |

* Due to small sample sizes, “centered,” “tilted right,” and “tilted left” were combined into the category, “on head,” and “on shoulder,” “in hand,” and “on ground” were combined into the category, “off head” for contingency analysis.

N=Number S=Significant NS=Not significant

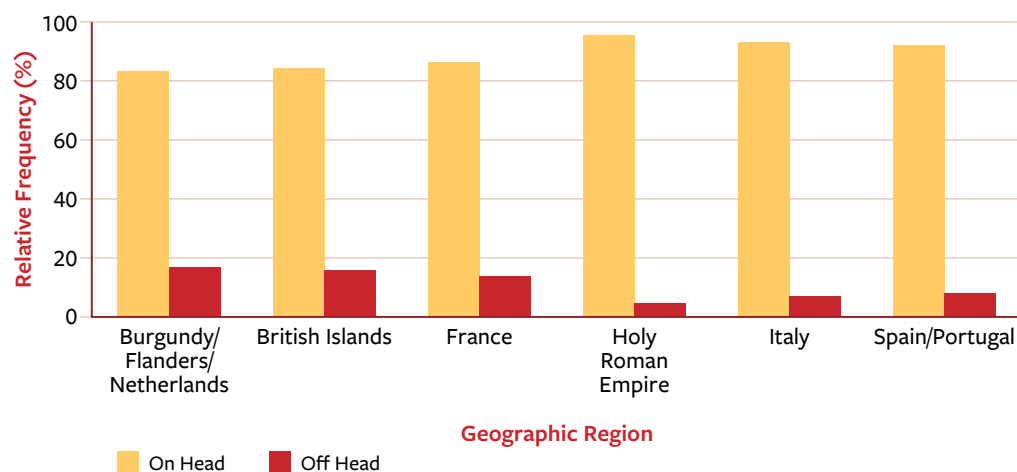


Figure 32.

Relative Frequency of the Position of Headdress by Decade

head and place of origin ($\chi^2 = 15.87$, $df = 5$). Each of the individual places of origin were tested as well. Burgundy/Flanders/Netherlands had an unusually high proportion of headdresses worn off of the head, and unusually low proportion of headdresses worn

on the head. The opposite trend was found for the Holy Roman Empire.

Again, two-tailed t-tests were used to determine if the proportion of multiple headdress varied from the overall

Table 23. **Relative Frequency of Multiple Headdress by Place of Origin**

| | BFN (%) | British Islands (%) | France (%) | HRE (%) | Italy (%) | Spain/Portugal (%) | Overall (%) | N |
|----------------------------------|---------|---------------------|------------|---------|-----------|--------------------|-------------|-----|
| Percentage of Multiple Headdress | 27.3 | 28.6 | 22.1 | 25.7 | 9.5 | 25.0 | 22.4 | 177 |
| N | 209 | 70 | 145 | 109 | 158 | 100 | 791 | |
| t-value | 1.41 | 1.03 | -0.08 | 0.69 | -3.24 | 0.52 | | |
| Degrees of Freedom | 208 | 69 | 144 | 108 | 157 | 99 | | |
| Significance | NS | NS | NS | NS | S | NS | | |

BFN = Burgundy/Flanders/Netherlands HRE = Holy Roman Empire N = Number NS = Not significant S = Significant

proportion of multiple headdress by place of origin. Table 23 summarizes the results. Italy showed significant variation from the overall proportion with the frequency of multiple headdress only one-fourth of the proportion of the frequency of multiple headdress overall.

Variations in the Height, Width, and Aspect Ratio Over Time

The physical measurements for each headdress varied with the sizes of the visual source in which it was portrayed. The height and width of each headdress for which those measurements could be made was normalized by dividing each of them by the face measurement or the distance from the chin to the bridge of the nose. This gave the height or width of the headdress as a proportion of the face and allowed comparison between headdresses. The aspect ratio of a headdress was calculated by dividing the height of the headdress by its width as described in Chapter III. Due to the nature of some of the headdresses or to the nature of their

portrayal, it was not possible to calculate height/face, width/face, or aspect ratios for every headdress. The sample size used for analysis of the height/face ratio was 610; the size for the width/face ratio, 572; and for the aspect ratio, 584. Table 24 displays the means and the standard deviations for the height/face, width/face and aspect ratio for each decade. Figure 33 shows the mean values of each of these ratios. Analysis of variance (ANOVA) was used to test the null hypothesis that the means of these ratios for each decade did not vary significantly over time. Significant relationships were found between all three ratios and time.

An increase in the aspect ratio indicated an increase of height relative to the width of a headdress. After 1400 to 1449, the mean aspect ratios of headdress was centered around 0.423. In the 1450 to 1459 decade, there was a dramatic increase in aspect ratio. Mean aspect ratios continued to increase until the 1470 to 1479 decade after which there was an equally dramatic decline. By the 1510 to 1519 decade, the aspect ratio had fallen well below any earlier level.

Table 24. Dimensional Ratios by Decade

| | Height/Face | | | Width/Face | | | Aspect Ratio | | |
|--------------------|-------------|-----------|--------|------------|-----------|--------|--------------|-----------|--------|
| | Mean | Std. Dev. | N | Mean | Std. Dev. | N | Mean | Std. Dev. | N |
| 1400–1409 | 1.103 | 0.399 | 40 | 2.424 | 0.497 | 35 | 0.475 | 0.170 | 36 |
| 1410–1419 | 0.948 | 0.287 | 41 | 2.479 | 0.565 | 38 | 0.407 | 0.142 | 42 |
| 1420–1429 | 1.013 | 0.326 | 32 | 2.430 | 0.444 | 27 | 0.425 | 0.142 | 27 |
| 1430–1439 | 1.060 | 0.594 | 22 | 2.362 | 0.742 | 22 | 0.438 | 0.144 | 23 |
| 1440–1449 | 1.044 | 0.450 | 29 | 2.602 | 0.923 | 26 | 0.421 | 0.177 | 25 |
| 1450–1459 | 0.942 | 0.316 | 39 | 1.724 | 0.509 | 38 | 0.577 | 0.226 | 38 |
| 1460–1469 | 1.083 | 0.326 | 47 | 1.798 | 0.638 | 44 | 0.649 | 0.223 | 43 |
| 1470–1479 | 0.959 | 0.373 | 76 | 1.715 | 0.640 | 70 | 0.625 | 0.410 | 76 |
| 1480–1489 | 0.824 | 0.307 | 61 | 1.768 | 0.579 | 60 | 0.488 | 0.165 | 60 |
| 1490–1499 | 0.800 | 0.316 | 92 | 1.957 | 0.533 | 84 | 0.421 | 0.189 | 85 |
| 1500–1509 | 0.797 | 0.251 | 63 | 2.159 | 0.645 | 62 | 0.389 | 0.134 | 62 |
| 1510–1519 | 0.702 | 0.277 | 68 | 2.200 | 0.540 | 66 | 0.334 | 0.135 | 67 |
| N | | | 610 | | | 572 | | | 584 |
| F-value | | | 7.756 | | | 12.189 | | | 11.199 |
| Degrees of Freedom | | | 11/598 | | | 11/560 | | | 11/572 |
| Probability | | | 0.000 | | | 0.000 | | | 0.000 |

Std. Dev. = Standard deviation N = Number

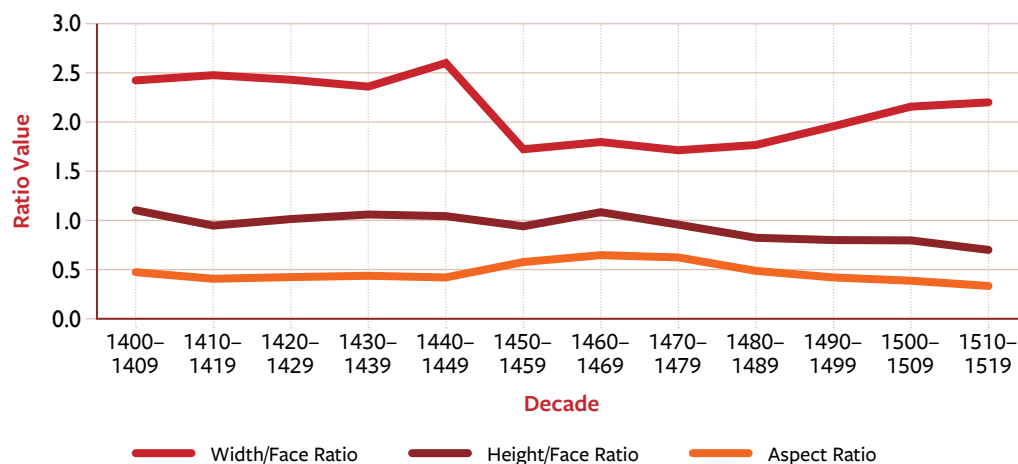


Figure 33.

Dimensional Ratios by Decade

Generally, height slowly decreased during the study period. From 1400 to 1479, the height/face ratio remained centered around 1.02, after which there was a slow decline. The width/face ratio, however had a strong decline between the 1440 to 1449 decade to the 1450 to 1459 decade. A lower level of width/face ratio was established from 1450 to 1489. This combined with a relatively steady height/face ratio produced the dramatic rise in aspect ratio from 1450 to 1479. A steady increase in the width/face ratio starting in 1490 combined with the steady decline in the height/face ratio at the same time produced the decline in the aspect ratio after the 1480 to 1489 decade. Prior to 1490, the changes in the aspect ratio of headdress seem to be attributed to the decrease of width of the headdress rather than an increase in height. After 1490, the effect of rising widths and lowering heights combined to create a declining aspect ratio.

Variations in the Height, Width, and Aspect Ratio by Place of Origin

Table 25 displays the means and the standard deviations for the height/face, width/face and aspect ratio for each place of origin. Figure 34 shows the means of these ratios for each place of origin. The sample size used for analysis of the height/face ratio was 610; the size for the width/face ratio, 572; and for the aspect ratio, 584. Analysis of variance (ANOVA) was used to test the null hypothesis that the means of these ratios for each place of origin did not vary significantly by place of origin. A significant relationship was found between the

aspect ratio and place of origin, but not for the height/face ratio or the width/face ratio.

A higher aspect ratio indicated greater height relative to the width of a headdress. Burgundy/Flanders/Netherlands had the highest aspect ratio, 0.517 which combined the largest height/face ratio with the second lowest width/face ratio, while the Holy Roman Empire had the lowest aspect ratio, 0.393, produced by the combination of the second highest width/face ratio and the lowest height/face ratio.

Variations in Interior/Exterior Use of Headdress by Type

Table 26 (p. 78) shows the relative frequencies of occurrence for whether the headdress was worn inside or outside for each headdress type. Since there were some cases in which the location of wear could not be determined, the sample size for this analysis was 719. Contingency analysis was used to test the null hypothesis that the relative frequency of whether a headdress was worn did not vary by headdress type. The data did allow for a collective test if some of the headdress types were combined. The categories for analysis were: acorn hats, combined stocking hats and sugarloaf hats, bonnets, cauls, chaperones, combined chaplets and rondelles, coifs, draped headdresses, hoods, sack hats, combined stiffened hats with flat hats. Figure 35 (p. 79) shows the relative frequencies of the location of headdress use by the headdress types used for analysis. The location of depicted use did vary significantly by headdress type ($\chi^2 = 23.77$, $df = 10$). Each of the headdress type categories were tested

Table 25. **Dimensional Ratios by Place of Origin**

| | Height/Face | | | Width/Face | | | Aspect Ratio | | |
|--------------------|-------------|-----------|-------|------------|-----------|-------|--------------|-----------|-------|
| | Mean | Std. Dev. | N | Mean | Std. Dev. | N | Mean | Std. Dev. | N |
| BFN | 0.945 | 0.342 | 148 | 2.044 | 0.713 | 144 | 0.517 | 0.310 | 150 |
| British Islands | 0.921 | 0.332 | 50 | 2.224 | 0.694 | 46 | 0.451 | 0.226 | 44 |
| France | 0.940 | 0.334 | 116 | 2.058 | 0.598 | 113 | 0.484 | 0.224 | 116 |
| HRE | 0.812 | 0.341 | 88 | 2.143 | 0.599 | 85 | 0.393 | 0.169 | 87 |
| Italy | 0.907 | 0.413 | 128 | 2.004 | 0.712 | 116 | 0.467 | 0.190 | 118 |
| Spain/Portugal | 0.861 | 0.356 | 80 | 1.979 | 0.596 | 68 | 0.461 | 0.211 | 69 |
| N | | | 610 | | | 572 | | | 584 |
| F-value | | | 2.051 | | | 1.229 | | | 3.194 |
| Degrees of Freedom | | | 5/604 | | | 5/566 | | | 5/578 |
| Probability | | | 0.070 | | | 0.294 | | | 0.007 |

Std. Dev.=Standard deviation N=Number

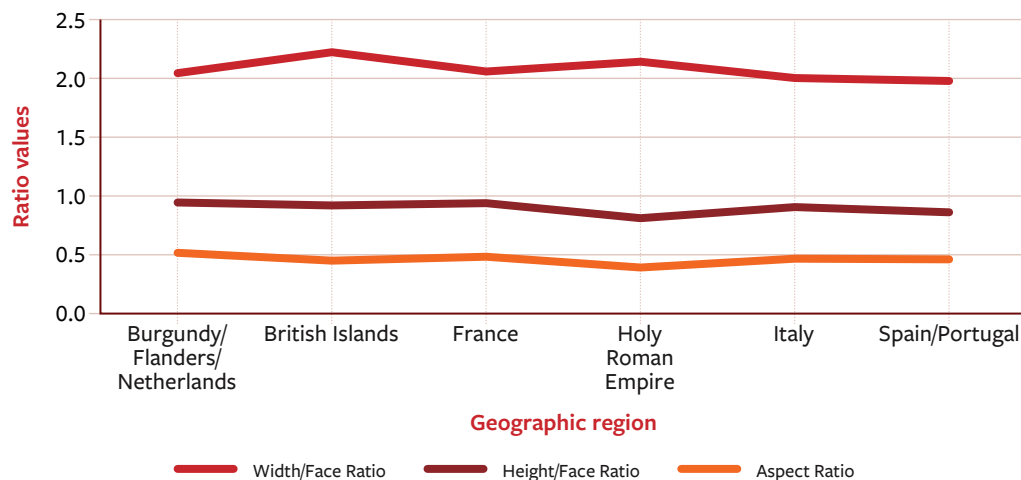


Figure 34.

Dimensional Ratios by Place of Origin

as well. Bonnets, sack hats, and combined stiffened hats and flat hats showed significant variations from the overall proportions.

Variations in Headdress Type by Apparent Social Class

It should come to no surprise that the upper classes were depicted in visual arts far more frequently than the lower classes, as they

were the patrons of the artists. The gentry and courtier/professional/official classes constituted 76.9% of all headdress wearers in the sample. This great varies with their proportions in fifteenth century society. Denys Hay gave an estimate for the proportions of the nobility, gentry, and wealthy commoners each for Spain/Portugal and England in the fifteenth century. Spanish nobles and wealthy commoners were estimated to

Table 26. **Relative Frequency of Interior or Exterior Wear of Headdress by Headdress Type**

| | Inside (%) | Outside (%) | Chi Squared | Degrees of Freedom | Significance | Number |
|------------------|------------|-------------|-------------|--------------------|--------------|--------|
| Coif | 53.3 | 46.7 | 0.400 | 1 | NS | 15 |
| Hood | 50.0 | 50.0 | 0.726 | 1 | NS | 78 |
| Chaperone | 51.0 | 49.0 | 1.36 | 1 | NS | 100 |
| Sack Hat | 28.0 | 72.0 | 8.96 | 1 | S | 75 |
| Chaplet | 57.1 | 42.9 | 0.39* | 1 | NS | 7 |
| Rondelle | 50.0 | 50.0 | * | * | * | 6 |
| Caul | 30.8 | 69.2 | 1.09 | 1 | NS | 13 |
| Acorn Hat | 49.1 | 50.9 | 1.37* | 1 | NS | 188 |
| Sugarloaf Hat | 60.0 | 40.0 | * | * | * | 10 |
| Bonnet | 57.9 | 42.1 | 6.18 | 1 | S | 95 |
| Flat Hat | 25.0 | 75.0 | * | * | * | 4 |
| Stiffened Hat | 32.0 | 68.0 | 9.37* | 1 | S | 125 |
| Stocking Hat | 40.0 | 60.0 | * | * | * | 5 |
| Draped Headdress | 46.1 | 53.9 | 0.01 | 1 | NS | 13 |
| Overall | 45.2 | 54.8 | 23.77 | 10 | S | 719 |
| Number | 325 | 394 | | | | 719 |

*The following categories were combined for contingency analysis: acorn hats/sugarloaf hats/stocking hats, chaplets/rondelles, and stiffened hats/flat hats. The chi squared values are given for the combined categories.

NS = Not significant S = Significant

comprise no more than 1.14% of the population, while in England the estimate came to 1.7% of its population. Hay also postulated that the proportions were likely to be similar for the rest of western Europe. Clergy were also represented in art works in greater proportions than that class was found in fifteenth century society. Hay estimated that clergy numbered about 1.5% of the European population, but they represent 4.8% of the headdress wearers in the sample.¹

Table 27 (p. 80) shows the relative frequencies of occurrence for the apparent social class or occupation of the wearers for each headdress type. Since there was one case in which the social class of the wearer could not be determined, the sample size for this analysis was 790. Contingency analysis was used to test the null hypothesis

that the relative frequency of each headdress type for each apparent social class did not vary by social class. The data did allow for a collective test if some of the headdress types were combined. The categories for analysis were: combined acorn hats, stocking hats, and sugarloaf hats, bonnets, chaperones, hoods, sack hats, stiffened hats, and all others. Figure 36 (p. 80) shows the relative frequencies of the social classes of the wearers by the headdress types used for analysis. The location of depicted use did vary significantly by headdress type ($\chi^2 = 135.76$, $df = 24$). Each of the headdress type categories were tested as well. In the cases of hoods, sack hats and all others, the category of clergy combined with the burgher/merchant category because neither of these two categories had expected values sufficiently high enough to conduct a

1. Denys Hay, *Europe in the Fourteenth and Fifteenth Centuries*, (New York: Holt, Rinehart and Winston, Inc., 1966), 69 and 59.

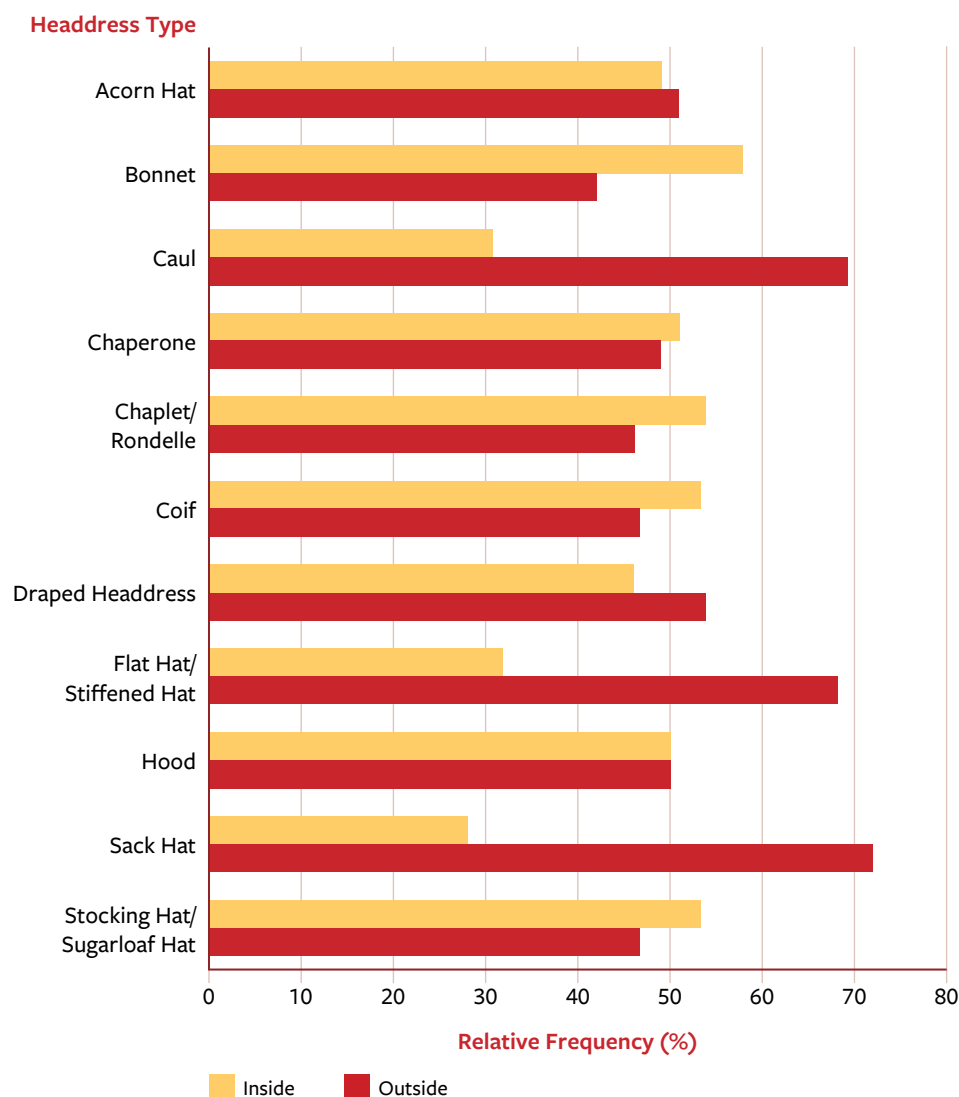


Figure 35.

Interior or Exterior Wear of Headdress by Headdress Type

contingency analysis. Combined acorn hats, stocking hats, and sugarloaf hats; bonnets, hoods, and stiffened hats showed significant variations from the overall proportions.

Members of the courtier/professional/official class wore disproportionately large numbers of acorn hats, but both the gentry

and yeoman/artisan/laborer classes wore fewer acorn hats than expected. Bonnets were worn predominantly by the gentry class, while they fell short of expectation for the yeoman/artisan/laborer class. Although the burgher/merchant and clergy classes were combined for analysis for hoods, the expected value for the frequency

Table 27. **Relative Frequency of the Social Classes of the Wearers of Headdress by Headdress Type**

| | Gentry (%) | CPO (%) | BM (%) | YAL (%) | Clergy (%) | Chi Squared | DF | Sig. | N |
|------------------|------------|---------|--------|---------|------------|-------------|----|------|-----|
| Acorn Hat | 23.4 | 58.0 | 6.9 | 5.9 | 5.9 | 17.60* | 4* | S* | 188 |
| Sugarloaf Hat | 40.0 | 60.0 | 0.0 | 0.0 | 0.0 | * | * | * | 10 |
| Stocking Hat | 20.0 | 40.0 | 20.0 | 20.0 | 0.0 | * | * | * | 5 |
| Bonnet | 40.9 | 48.7 | 3.5 | 4.3 | 2.6 | 11.62 | 4 | S | 115 |
| Chaperone | 31.2 | 50.0 | 8.0 | 10.7 | 0.0 | 6.99 | 4 | NS | 112 |
| Hood | 25.9 | 32.1 | 2.5 | 16.0 | 23.5 | 22.24† | 3 | S† | 81 |
| Sack Hat | 37.5 | 38.8 | 7.5 | 16.2 | 0.0 | 3.45† | 3 | NS† | 80 |
| Stiffened Hat | 31.8 | 35.6 | 5.3 | 25.8 | 1.5 | 25.38 | 4 | S | 125 |
| Other | 38.8 | 37.3 | 7.5 | 11.9 | 4.5 | 2.13*† | 3 | NS*† | 67 |
| Coif | 17.6 | 41.2 | 11.8 | 11.8 | 17.6 | * | * | * | 17 |
| Chaplet | 57.1 | 28.6 | 0.0 | 14.3 | 0.0 | * | * | * | 7 |
| Rondelle | 28.6 | 57.1 | 0.0 | 14.3 | 0.0 | * | * | * | 7 |
| Caul | 50.0 | 33.3 | 11.1 | 5.6 | 0.0 | * | * | * | 18 |
| Flat Hat | 66.7 | 33.3 | 0.0 | 0.0 | 0.0 | * | * | * | 6 |
| Draped Headdress | 33.3 | 33.3 | 8.3 | 25.0 | 0.0 | * | * | * | 12 |
| Overall | 31.6 | 45.3 | 5.9 | 12.3 | 4.8 | 135.76 | 24 | S | 790 |
| N | 250 | 358 | 47 | 97 | 38 | 790 | | | |

* Acorn hats, sugarloaf hats, and stocking hats were combined for contingency analysis as were coifs, chaplets, rondelles, cauls, flat hats and draped headdress. The chi squared values are given for the combined categories.

† Due to small sample sizes, burgher/merchant and clergy classes were combined for analysis for these cases.

DF = Degrees of freedom Sig. = Significance N = Number S = Significant NS = Not significant

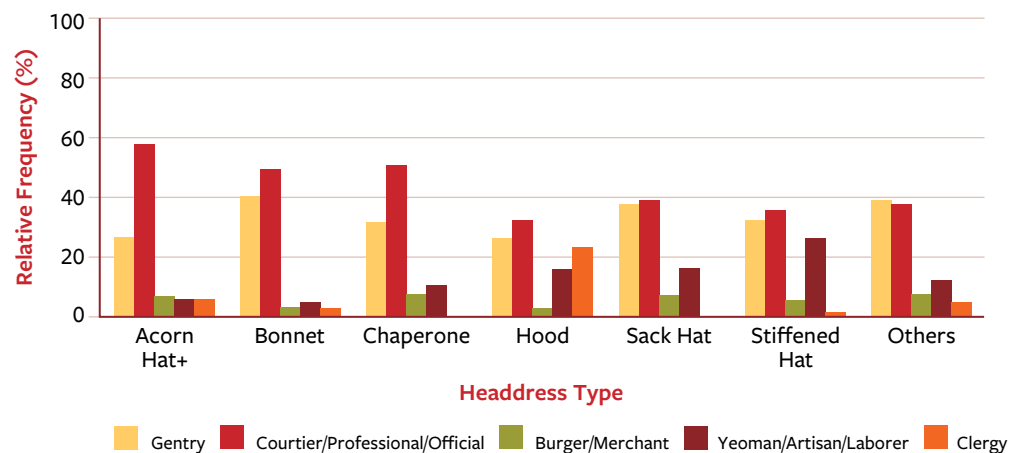


Figure 36.

Relative Frequency of Apparent Social Class of Wearers of Headdress by Headdress Type

of appearance of hoods for the clergy class was 4.8%, but the actual frequency was 19.0%. Clergy wore an unusually large number of hoods, but the courtier/professional/official class wore fewer than expected. Stiffened hats were worn disproportionately by the yeoman/artisan/laborer class, but again, they were not the favorite of the courtier/professional/official class.

Dominant Characteristics of Individual Headdress Types

Acorn Hats

Since more than 83% of acorn hats were found from 1450 to 1499, and the remaining 17% scattered over the rest of the time period, the following analyses refer to acorn hats only from that period of time. Acorn hats were the predominant headdress type from 1450 to 1489 and one of the predominant headdresses of 1490 to 1499. They were also found to vary significantly by place of origin ($\chi^2 = 15.36$, $df = 5$), and were more prevalent in Italy and Spain/Portugal and less prevalent in the British Islands and the Holy Roman Empire.

Acorn hats tended to be simple hats, brimless 67.3% of the time, and when they did have brims, they were usually continuous (19.2%) or partial (13.5%). Figure 37 displays the percentage of brim types used from 1450 to 1499. Although brimless hats predominated, the peak for brimless acorn hats was in the decade 1460 to 1469 and declined thereafter except for a slight increase

for the 1490 to 1499 decade. Acorn hats with continuous brims peaked in the 1470 to 1479 decade. Partial brims were introduced in the 1460 to 1469 decade and split brims were introduced in the 1470 to 1479 decade. The overall trend towards increasing complexity of brim type did appear for acorn hats during this period as demonstrated by the rising proportion of higher-complexity brims. Acorn hats also often lacked applied ornamentation, appearing unadorned 89.7% of the time. The relative proportion of plain acorn hats did not vary significantly over time or by place of origin. For acorn hats, complexity increased with time were due to the adoption of more complex brim types rather than due to added decoration.

As with the headdresses in this study generally, the most popular colors for acorn hats were red and black. Red acorn hats of this period provided 45.5% of all acorn hats and black acorn hats provided 25.7% of all acorn hats. The use of red exceeded that of the sample as a whole while appearances of blue and a combined category of grey,

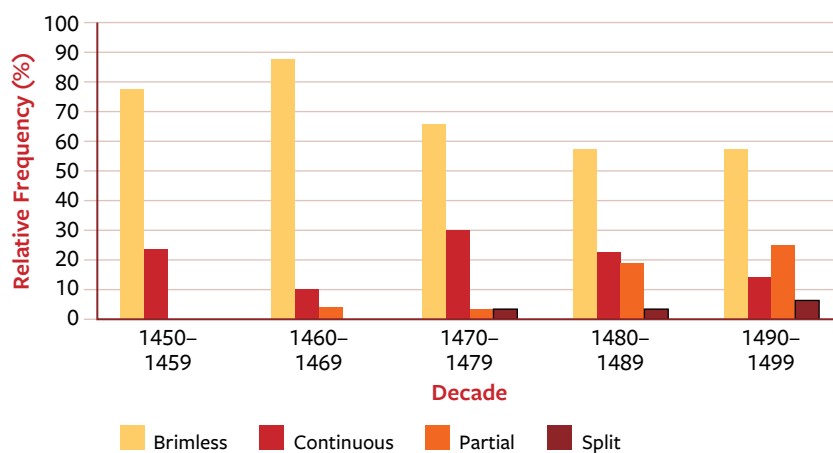


Figure 37.
Relative Frequency of Brim Types for Acorn Hats Over Time

green and yellow were less than expected based on the sample as a whole ($\chi^2 = 10.41$, $df = 4$). Table 28 shows the comparison of the distribution of color for both acorn hats and the sample overall. There were no significant variations in colors used over time or by place of origin.

The prevalent percentages of coverage of the hair-growing area were 50% to 75% from 1450 to 1479 and 25% to 50% from 1480 to 1489. Acorn headdresses did cover less of the head than did all the headdresses ($\chi^2 = 32.71$, $df = 2$). Fewer than expected acorn hats covered 75% of the hair growing area, while more than expected covered 50% or less. Table 29 shows the comparison of the distribution of coverage for both acorn hats and the sample overall. There were no significant variations in the percentage of coverage over time or by place of origin.

The ears were not covered by acorn hats of this period 83.3% of the time, partially covered 14.1% of the time and completely covered only 2.6% of the time. Acorn hats that did not cover the ears were found in proportions significantly higher than for all headdresses ($\chi^2 = 11.60$, $df = 2$) and acorn hats were less likely to cover the ears completely than other headdresses. Table 30 shows the comparison of the distribution of coverage for both acorn hats and the sample overall. Coverage of the ears did not deviate significantly over time. It did vary significantly by of origin if the categories of partially covered and completely covered were combined ($\chi^2 = 15.88$, $df = 5$). Acorn hats from the Holy Roman Empire and the British Islands more frequently covered the ears, either completely or partially, but

acorn hats from Italy less frequently covered the ears.

Only three acorn hats were worn off of the head; these were carried in the hand. Acorn hats worn on the head constituted 98.1% of all acorn hats from 1450 to 1499 with only 1.9% were not being worn on the head. Acorn hats were overwhelmingly worn centered on the head. Table 31 shows the comparison of the distribution of the position of the headdresses for both acorn hats and the sample overall. Contingency analysis suggests that acorn hats were worn centered in greater proportions, and were worn tilted to the right and off of the head in smaller proportions than for the overall sample ($\chi^2 = 16.64$, $df = 3$). There were no significant variations in the position of the hats used over time or by place of origin.

The mean aspect ratio for all acorn hats was 0.587. Mean aspect ratios of acorn hats for each decade varied significantly over time (F -value = 3.58; $df = 11/154$). Figure 38 (p. 84) shows the plot of aspect ratio of acorn hats and all headdress from 1450 to 1499. Except for the decade, 1440 to 1449, aspect ratios of the acorn hats were usually higher than for headdresses in general. The decades 1430 to 1439 and 1440 to 1449 had large deviations from the overall patterns. The sample size acorn hats for each of these decades was three, so the large deviations may be due to sampling error.

For place of origin, aspect ratios also varied significantly (F -value = 2.9; $df = 5/160$). Burgundy/Flanders/Netherlands and France had the highest aspect ratios while the Holy Roman Empire had the lowest. The aspect ratios of acorn hats were higher

Table 28. **Distribution of Color Among Acorn Hats and All Headdress**

| | Red (%) | Black (%) | Blue (%) | Brown/White (%) | Others (%) | Number |
|------------|---------|-----------|----------|-----------------|------------|--------|
| Acorn Hats | 45.5 | 25.7 | 5.3 | 17.4 | 6.1 | 132 |
| Overall | 35.0 | 23.5 | 10.8 | 16.6 | 14.1 | 574 |

Table 29. **Distribution of Coverage of the Hair-Growing Area Among Acorn Hats and All Headdress**

| | 0% to 50% (%) | 50% to 75% (%) | 75% to 100% (%) | Number |
|------------|---------------|----------------|-----------------|--------|
| Acorn Hats | 37.9 | 49.0 | 13.1 | 119 |
| Overall | 22.4 | 46.3 | 31.2 | 695 |

Table 30. **Distribution of Coverage of the Ears Among Acorn Hats and All Headdress**

| | Not Covered (%) | Partially Covered (%) | Completely Covered (%) | N |
|------------|-----------------|-----------------------|------------------------|-----|
| Acorn Hats | 83.3 | 14.1 | 2.6 | 156 |
| Overall | 72.2 | 19.1 | 8.7 | 791 |

Table 31. **Distribution of the Position of the Headdress Among Acorn Hats and All Headdress**

| | Centered (%) | Left (%) | Right (%) | Off Head (%) | N |
|------------|--------------|----------|-----------|--------------|-----|
| Acorn Hats | 92.9 | 3.2 | 1.9 | 1.9 | 156 |
| Overall | 81.2 | 3.4 | 3.9 | 11.5 | 791 |

than for headdresses in general, but followed the same general pattern except for the British Islands, which had the third highest aspect ratio for acorn hats, but the second lowest overall. Figure 39 (p. 84) shows a plot of mean aspect ratios by place of origin.

In general from 1450 to 1499, acorn hats were worn inside about 49.7% of the time and outside 50.3% of the time. There was no significant variation between these percentages and for the sample overall. Whether the acorn hat was worn inside or outside did vary significantly over time

($\chi^2 = 14.04$, $df = 4$). Figure 40 (p. 85) shows the proportions of acorn hats worn inside or outside. Acorn hats worn outside dominated from 1460 to 1489, but those worn inside dominated from 1450 to 1459 and 1490 to 1499. There also significant variations in the location of use by place of origin ($\chi^2 = 17.42$, $df = 5$). French acorn hats were more likely to be worn inside and acorn hats in the Holy Roman Empire were more likely to be worn outside.

Previously it was noted that acorn hats were worn by the courtier/professional/official class in greater proportions than

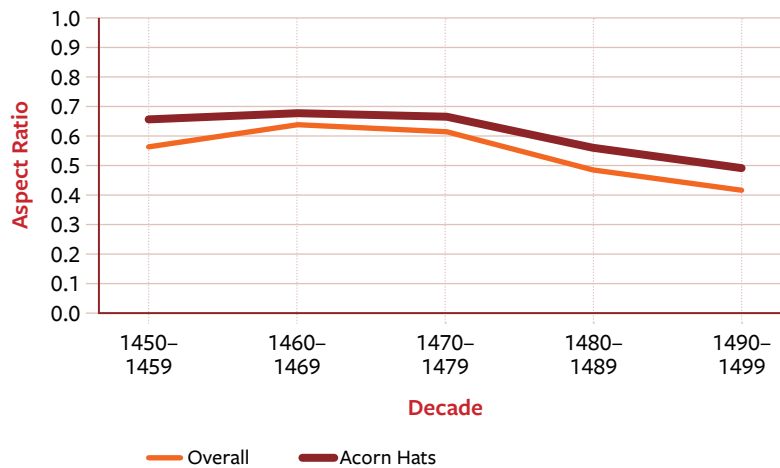


Figure 38.
Aspect Ratios for Acorn Hats and All Headdress Over Time

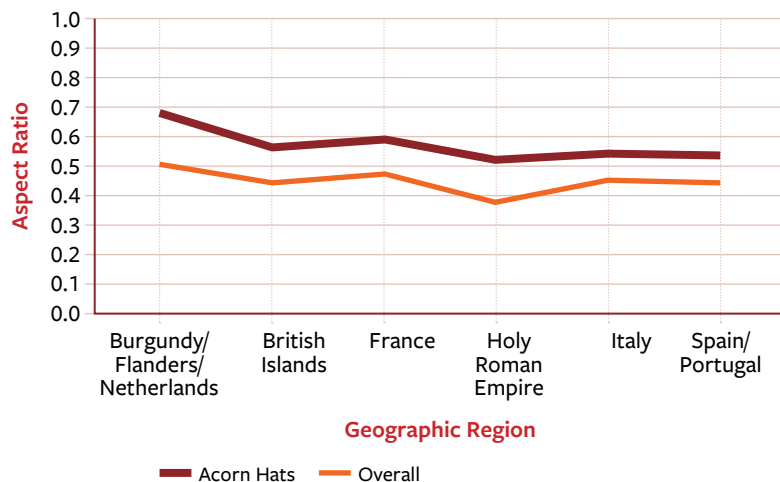


Figure 39.
Aspect Ratios for Acorn Hats and All Headdress by Place of Origin

that class appeared in the sample and worn by the gentry and yeoman/artisan/laborer classes in smaller proportions than their classes appeared in the sample ($\chi^2 = 9.44$, $df = 4$). These proportions did not vary significantly over time or by place of origin. Table 32 displays the relative proportions

of the social classes wearing acorn hats and wearing all headdress.

Bonnets

Bonnets were the predominant headdress type from 1500 to 1519 and one of the predominant headdresses of 1490 to 1499. Bonnets were more complex hats. They were also found to vary significantly by place of origin ($\chi^2 = 13.86$, $df = 5$), and were more prevalent in Spain/Portugal and less prevalent in Burgundy/Flanders/Netherlands. As was observed before, the sample size for Burgundy/Flanders/Netherlands for the time period in which bonnets were present was especially small, so the low proportion of bonnets in Burgundy/Flanders/Netherlands may be due to sampling error.

Brimless bonnets only appeared 9.6% of the time. Brims were most ordinarily continuous (21.7%), partial (31.3%), or split (24.4%). Overlapping split brims appeared 13.0% of the time. The brim types of bonnets did not vary significantly over time. The spread of the data did not allow analysis of the distribution of brim type by place of origin. The only suggested trend in the data was that French bonnets seem to be more likely to have continuous or partial brims and less likely to have any other type of brim, and bonnets from the Holy Roman Empire had a disproportionate amount of overlapping split brims. Applied decoration on bonnets appeared about as frequently as for the sample as a whole, appearing unadorned 73.9% of the time. The relative proportion of plain bonnets did not vary significantly over time, but did by place of origin ($\chi^2 = 13.86$, $df = 5$). Bonnets from Italy were more likely to be

decorated, and bonnets from the British Islands were more likely to be plain. When a bonnet was decorated, the most usual types of decoration were applied jewels, feathers, and laces or “points.”

The prevalent category of coverage of the hair-growing area for the bonnet was the 50% to 75% category comprising 57.3% of bonnets that covered the head with the 25% to 50% category being the next most frequently found percentage of coverage with 30.0%. Bonnets also covered less of the head than did all the headdresses ($\chi^2 = 20.56$, $df = 2$). Fewer than expected bonnets covered 75% or more of the hair growing area, while more than expected covered 50% or less. Table 34 (p. 86) shows the comparison of the distribution of coverage for both bonnets and the sample overall. There were no significant variations in percentage of coverage over time. The sample size for the bonnets was not large enough to make determinations of whether there were significant variations in color by place of origin.

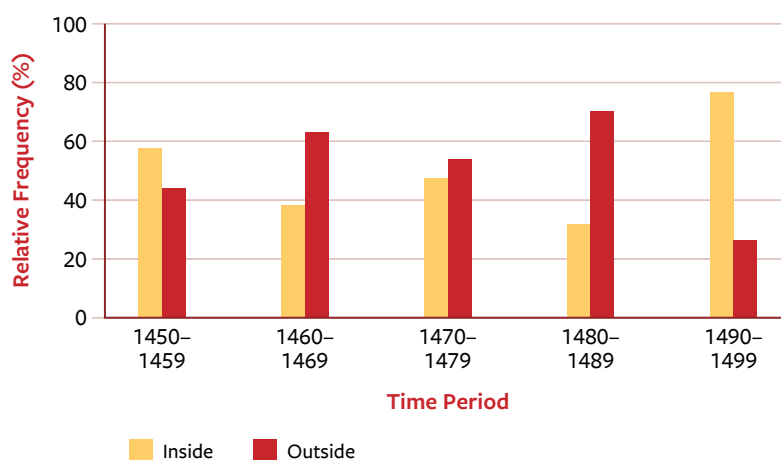


Figure 40.

Relative Frequency of Interior/Exterior Usage of Acorn Hats Over Time

The ears were not covered by bonnets of this period 76.5% of the time, partially covered 21.7% of the time and completely covered only 1.7% of the time. Bonnets were less likely to cover the ears completely than other headdresses ($\chi^2 = 7.11$, $df = 2$). Table 35 (p. 86) shows the comparison of the distribution of coverage for both

Table 32. **Distribution of Social Class Among Wearers of Acorn Hats and Wearers of All Headdress**

| | Gentry (%) | CPO (%) | BM (%) | YAL (%) | Clergy (%) | N |
|------------|------------|---------|--------|---------|------------|-----|
| Acorn Hats | 23.4 | 58.0 | 6.9 | 5.9 | 5.9 | 188 |
| Overall | 31.6 | 45.3 | 5.9 | 12.3 | 4.8 | 791 |

CPO = Courtier/professional/official BM = Burgher/merchant YAL = Yeoman/artisan/laborer

Table 33. **Distribution of Color Among Bonnets and All Headdress**

| | Red (%) | Black (%) | Blue (%) | Brown/White (%) | Others (%) | N |
|---------|---------|-----------|----------|-----------------|------------|-----|
| Bonnets | 34.4 | 31.1 | 3.3 | 11.5 | 19.7 | 61 |
| Overall | 35.0 | 23.5 | 10.8 | 16.6 | 14.1 | 574 |

bonnets and the sample overall. Coverage of the ears did not deviate significantly over time or by place of origin.

Only four bonnets were worn off of the head; three of these were carried in the hand and the other was lying on the ground. Bonnets worn on the head for this period were 96.5% of all bonnets with only 3.5% were not being worn on the head. Although most bonnets were worn centered on the head, sizable proportions of them were worn tilted to one side or the other. Table 36 shows the comparison of the distribution of the position of the headdresses for both acorn hats and the sample overall. Contingency analysis suggests that bonnets were worn centered in smaller proportions, and were worn tilted to the right and off of the head in greater proportions than

for the overall sample ($\chi^2 = 75.29$, $df = 3$). There were no significant variations in the position of the bonnets used over time or by place of origin.

The mean aspect ratio of bonnets overall was 0.343. Mean aspect ratios of bonnets for each decade varied significantly with time (F -value = 3.38; $df = 4/94$). Figure 41 shows a plot of the aspect ratios of bonnets and of all headdress over time. Except for the decade, 1480 to 1489, aspect ratios of the bonnets were usually lower than for headdresses in general. The aspect ratios for the decades 1440 to 1449 and 1480 to 1489 were similar to the overall aspect ratios for those decades. After 1490, the aspect ratio appears to level off at about 0.330. Mean aspect ratios did not vary significantly for place of origin.

Table 34. **Distribution of Coverage of the Hair-Growing Area Among Bonnets and All Headdress**

| | 0%–50% (%) | 50%–75% (%) | 75%–100% (%) | N |
|---------|---------------|----------------|-----------------|-----|
| Bonnets | 30.9 | 57.3 | 11.8 | 110 |
| Overall | 22.4 | 46.3 | 31.2 | 695 |

Table 35. **Distribution of Coverage of the Ears Among Bonnets and All Headdress**

| | Not Covered (%) | Partially Covered (%) | Completely Covered (%) | N |
|---------|--------------------|-----------------------------|---------------------------|-----|
| Bonnets | 76.5 | 21.7 | 1.7 | 115 |
| Overall | 72.2 | 19.1 | 8.7 | 791 |

Table 36. **Distribution of the Position of the Headdress Among Bonnets and All Headdress**

| | Centered (%) | Left (%) | Right (%) | Off Head (%) | N |
|---------|-----------------|-------------|--------------|-----------------|-----|
| Bonnets | 68.7 | 12.2 | 15.6 | 3.5 | 115 |
| Overall | 81.2 | 3.4 | 3.9 | 11.5 | 791 |

In general, bonnets were worn inside about 57.3% of the time and outside 41.7% of the time. These percentages varied significantly from the sample overall ($\chi^2 = 4.30$, $df = 1$) with bonnets more likely to have been worn inside than for all headdresses as a whole. Whether the bonnet was worn inside or outside did vary significantly over time ($\chi^2 = 18.11$, $df = 2$). Figure 42 shows the proportions of bonnets worn inside or outside. Bonnets worn inside dominated from before 1500 and after 1509, but those worn outside dominated from 1500 to 1509. There also were no significant variations in the location of use by place of origin.

Bonnets were worn by the gentry class in greater proportions than that class appeared in the sample and worn by the yeoman/artisan/laborer classes in smaller proportions than that class appeared in the sample ($\chi^2 = 11.63$, $df = 4$). Table 37 displays the relative proportions of the social classes wearing bonnets and wearing all headdress. The distribution of bonnets by social class and decade and social class and place of origin was such that contingency analysis was not possible. It can be noted that bonnets first appear worn by the gentry and courtier/professional/official classes in the 1440 to 1449 and 1480 to 1489 decade, and did not appear to be worn by the lower classes until the 1490 to 1499 decade or worn by the clergy until the 1510 to 1519 decade.

Chaperones

Chaperones were one of the predominant headdresses from 1400 to 1429 and were found in every decade. They were also

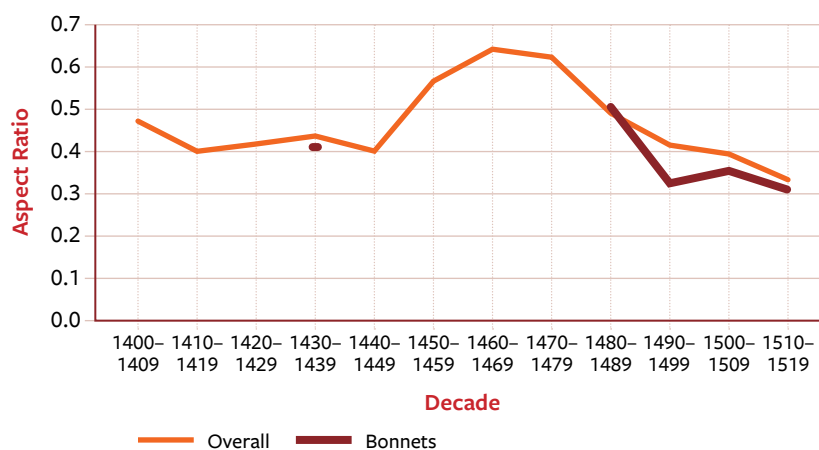


Figure 41.
Aspect Ratios for Bonnets and All Headdress Over Time

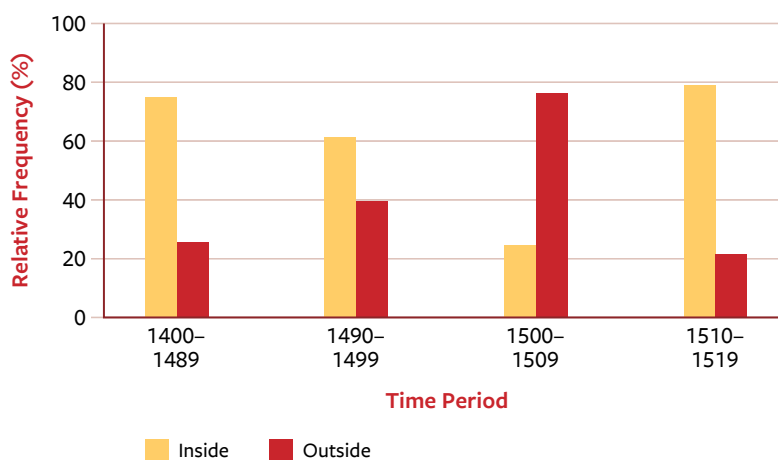


Figure 42.
Relative Frequency of Interior/Exterior Usage of Bonnets Over Time

found to vary significantly by place of origin ($\chi^2 = 11.28$, $df = 5$), and were more prevalent in Burgundy/Flanders/Netherlands and the British Islands and less prevalent in Spain/Portugal and France.

Padded or twisted roll brims were the predominant brim type (69.6%), with continuous brims as the next more common

Table 37. Distribution of Social Class Among Wearers of Bonnets and Wearers of All Headdress

| | Gentry (%) | CPO (%) | BM (%) | YAL (%) | Clergy (%) | N |
|---------|------------|---------|--------|---------|------------|-----|
| Bonnets | 40.9 | 48.7 | 3.5 | 4.3 | 2.6 | 115 |
| Overall | 31.6 | 45.3 | 5.9 | 12.3 | 4.8 | 791 |

CPO = Courtier/professional/official BM = Burgher/merchant YAL = Yeoman/artisan/laborer

(25.9%). There were a few chaperones categorized as brimless as the shoulder capes obscured the brim so that no definite determination could be made. By combining decades for analysis, it was found that brim types of chaperones did vary significantly over time ($\chi^2 = 16.39$, $df = 4$). Continuous brims dominated from 1400 to 1409 and from 1500 to 1519, while padded roll brims dominated from 1410 to 1489. Figure 43 shows the relative frequency of brim types by the time categories used in analysis. Since chaperones were originally hoods worn sideways, it would make sense that the earlier chaperones would be more likely to have flat continuous brim. As the chaperone developed into a hat, a padded or stiffened ring would have better supported the shoulder cape and tippet and made the whole concoction easier to wear. The spread of the data did not allow analysis of the distribution of brim type by place of origin.

Applied decoration on chaperones appeared about as frequently as for the sample as a whole, appearing unadorned 75.0% of the time. The distribution of the data did not allow chaperones to be statistically analyzed for relationship over time or by place of origin. When a chaperone was decorated, the most usual types of decoration were applied jewels and dagging.

The most popular colors for chaperones were red, black, and blue. Red was used for chaperones 41.6% of the time, black was used 23.4% of the time, and blue was used 18.2%. The relative frequency of appearance of red and blue was greater than expected based on the sample as a whole. The relative distribution of the colors for chaperones was slightly significantly different from the relative distribution of all headdresses ($\chi^2 = 9.79$, $df = 4$). Table 38 shows the comparison of the distribution of color for both chaperones and the sample overall. The colors were distributed in such a way that contingency analysis could not be done to test the relationships of color with time or by place of origin. However, the use of blue in chaperones discontinued after 1439.

The prevalent category of coverage of the hair-growing area for the chaperone was the 75% to 100% category comprising 51.6% of chaperones that covered the head with the 50% to 75% category being the next most frequently found percentage of coverage with 46.2%. Chaperones tended to cover 75% to 100% of the head in proportions greater than found for all headdresses ($\chi^2 = 18.7$, $df = 1$). Table 39 shows the comparison of the distribution of coverage for both chaperones and the sample overall. Although the 50% to 75% category had to

be combined with the 0% to 25% and the 25% to 50% categories for analysis, it is obvious from Table 39 that fewer than expected chaperones covered less than 50% of the hair growing area while the relative frequency of chaperones in the 50% to 75% category was close to the expected relative frequency. By combining decades, it was found that the coverage of the head did vary significantly with time ($\chi^2 = 21.68$, $df = 4$). The 75% to 100% category predominated from 1400 to 1459 and from 1510 to 1519 while the 50% to 75% category dominated from 1460 to 1499. Figure 44 (p. 90) shows the relative frequency of coverage categories by the time categories used in analysis. The coverage of the head did not vary significantly by place of origin.

The ears were not covered by chaperones of this period 66.1% of the time, partially covered 30.4% of the time and completely covered only 3.6% of the time. Chaperones were more likely to cover the ears partially than other headdresses ($\chi^2 = 11.36$, $df = 2$). Table 40 (p. 90) shows the comparison of the distribution of coverage for both chaperones and the sample overall. By

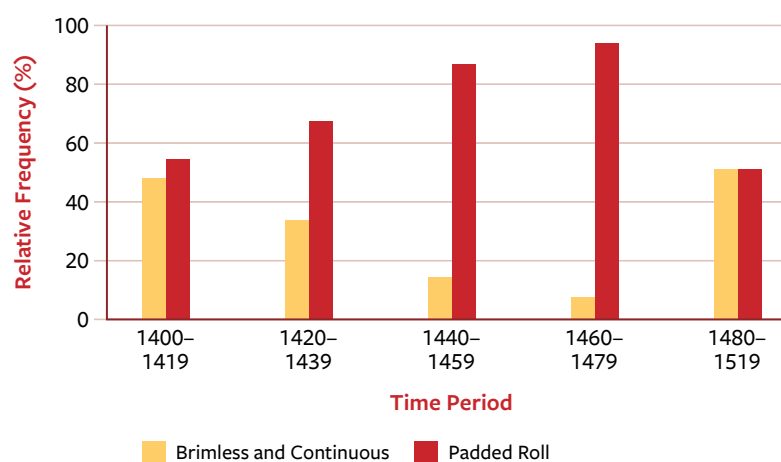


Figure 43.

Relative Frequency of Brim Types for Chaperones Over Time

combining decades, it was found that the coverage of the ears did vary significantly with time ($\chi^2 = 21.08$, $df = 4$). Chaperones that partially covered ears dominated from 1400 to 1419 while chaperones that did not cover the ears dominated from 1440 to 1519. Figure 45 (p. 91) shows the relative frequency of coverage of the ears categories by the time categories used in analysis. The sample sizes for each place of origin was not large enough to make determinations

Table 38. Distribution of Color Among Chaperones and All Headdress

| | Red (%) | Black (%) | Blue (%) | Brown/White (%) | Others (%) | N |
|------------|---------|-----------|----------|-----------------|------------|-----|
| Chaperones | 41.6 | 23.4 | 18.2 | 9.1 | 7.8 | 77 |
| Overall | 35.0 | 23.5 | 10.8 | 16.6 | 14.1 | 574 |

Table 39. Distribution of Coverage of the Hair-Growing Area Among Chaperones and All Headdress

| | 0%–50% (%) | 50%–75% (%) | 75%–100% (%) | N |
|------------|------------|-------------|--------------|-----|
| Chaperones | 2.2 | 46.2 | 51.6 | 93 |
| Overall | 22.4 | 46.3 | 31.2 | 695 |

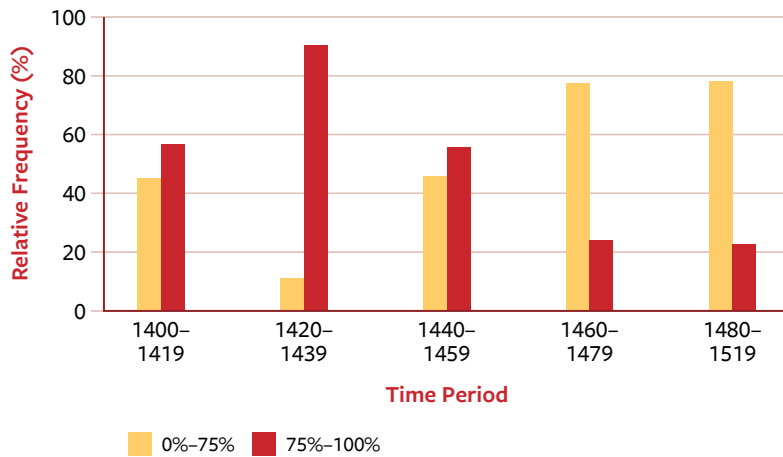


Figure 44.

Relative Frequency of Coverage of the Hair-growing Area by Chaperones Over Time

of whether there were significant variations in the distribution of the coverage of ears by place of origin.

Nineteen chaperones were worn off of the head; seventeen of these were suspended over the shoulder and two were carried in the hand. Chaperones worn on the head for this period constituted 83.0% of all

chaperones with 17.0% of chaperones not being worn on the head. Most chaperones were worn centered on the head, with only a two being worn tilted to the right. Table 41 shows the comparison of the distribution of the position of the headdresses for both acorn hats and the sample overall. There was no significant variations of the proportions of hats worn on the head and off of the head between chaperones and all headdress. The distribution of the chaperones for the position of the headdresses was not adequate enough to make determinations of whether there were significant variations in the distribution of the position of the hats over time or by place of origin.

The mean aspect ratio of chaperones overall was 0.384. Mean aspect ratios of chaperones for each decade did not vary significantly with time or for place of origin.

In general, chaperones were worn inside about 51.0% of the time and outside 49.0% of the time. These percentages did not vary significantly from the sample overall.

Table 40. **Distribution of Coverage of the Ears Among Chaperones and All Headdress**

| | Not Covered (%) | Partially Covered (%) | Completely Covered (%) | N |
|------------|-----------------|-----------------------|------------------------|-----|
| Chaperones | 66.1 | 30.4 | 3.6 | 112 |
| Overall | 72.2 | 19.1 | 8.7 | 791 |

Table 41. **Distribution of the Position of the Headdress Among Chaperones and All Headdress**

| | Centered (%) | Left (%) | Right (%) | Off Head (%) | N |
|------------|--------------|----------|-----------|--------------|-----|
| Chaperones | 82.6 | 2.3 | 1.5 | 13.7 | 112 |
| Overall | 81.2 | 3.4 | 3.9 | 11.5 | 791 |

Whether the chaperone was worn inside or outside varied significantly over time if decades were combined ($\chi^2 = 12.72$, $df = 5$). Figure 46 shows the relative frequency of the location of wear by the time categories used in analysis. Outside wear was found more frequently than expected for the period 1420 to 1439 and inside wear was found more frequently than expected for the periods 1440 to 1459 and 1480 to 1499. The sample size for each of the places of origin was not large enough to make determinations of whether there were significant variations in the distribution of the position of the hats by place of origin.

Chaperones were distributed by social class in proportions that did not vary significantly for the overall distribution of headdresses by social class. Table 42 (p. 92) displays the relative proportions of the social classes wearing chaperones and wearing all headdress. It should be noted that no one who could be identified as clergy worn chaperones. The distribution of chaperones by social class and decade and social class and place of origin was such that contingency analysis was not possible. However, there were no members of the gentry represented wearing chaperones in the Holy Roman Empire and no members of the courtier/professional/official class represented wearing chaperones in Spain/Portugal.

Hoods

Hoods were one of the predominant headdress types from 1400 to 1419 and from 1440 to 1449 and were found in every decade. They were not found to vary significantly by place of origin.

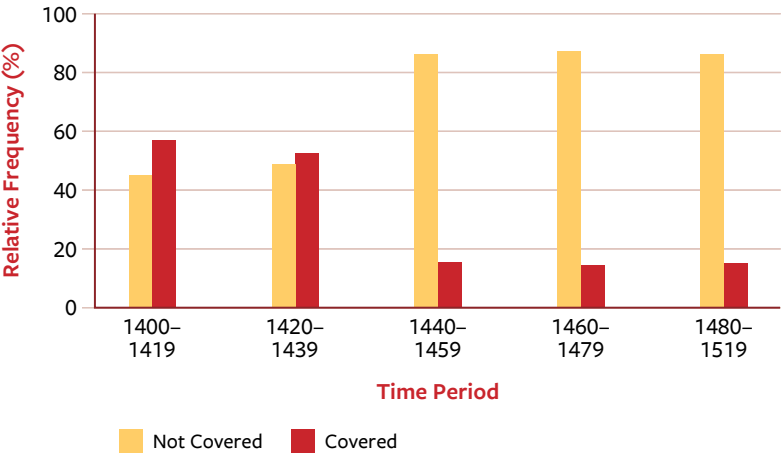


Figure 45.
Relative Frequency of the Coverage of the Ears
by Chaperones Over Time

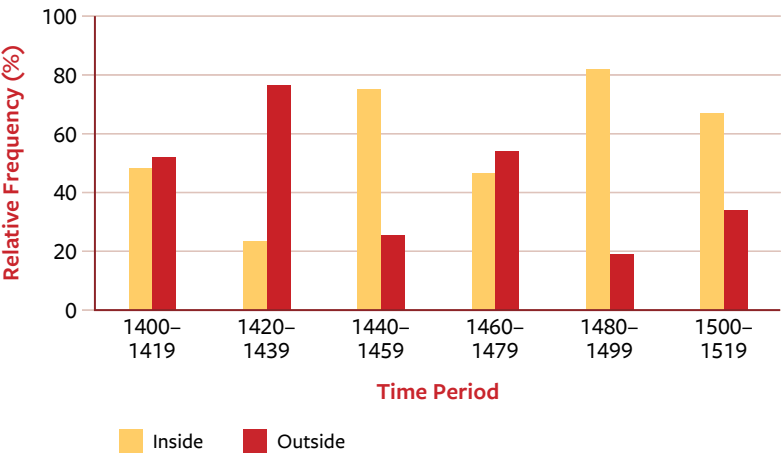


Figure 46.
Relative Frequency of Interior/Exterior Usage of
Chaperones Over Time

Hoods were categorically defined as having no brim. Applied decoration on hoods appeared significantly more frequently than for the sample as a whole, with 38.3% of hoods being decorated as compared to 25.4% of all headdresses ($\chi^2 = 7.04$, $df = 1$). Contingency analysis for the distribution

Table 42. **Distribution of Social Class Among Wearers of Chaperones and Wearers of All Headdress**

| | Gentry (%) | CPO (%) | BM (%) | YAL (%) | Clergy (%) | N |
|------------|------------|---------|--------|---------|------------|-----|
| Chaperones | 31.2 | 50.0 | 8.0 | 10.7 | 0.0 | 112 |
| Overall | 31.6 | 45.3 | 5.9 | 12.3 | 4.8 | 791 |

CPO = Courtier/professional/official BM = Burgher/merchant YAL = Yeoman/artisan/laborer

of hoods over time could only be accomplished by combining two or more of the decades together. After doing so, no significant variation was found for hoods over time. Since place of origin categories could not be logically combined, contingency analysis could not be performed for the distribution of hoods by place of origin. However, the proportions of plain and decorated hoods for each location did not seem to vary greatly from the overall proportions of plain and decorated hoods. When a hood was decorated, the most usual types of decoration were dagging (54.8% of decorated hoods) and cording or applied bands of trim (19.0%)

The most popular colors for hoods were red, blue, brown, and white. Red was used for hoods of this period 30.3%, blue was used 19.7%, and the combined category of brown/white was used 22.7% of the time. The relative distribution of the colors for hoods were significantly different from the relative distribution of all headdresses ($\chi^2 = 10.70$, $df = 4$). Black was found less often and blue and brown/white were found more often for hoods than for all headdresses. Table 43 shows the comparison of the distribution of color for both hoods and the sample overall. The sample size for color was not large enough to make determinations of whether there were

significant variations in color over time or by place of origin.

The coverage of the head and of the ears by the hood depended on how it was worn. When the hood was worn up, the coverage of the head was almost always 75% to 100% and the ears were always completely covered. When it was worn down, the coverage of the head was coded “not applicable,” and the ears were not covered. Only two hoods worn on the head had coverages other than 75% to 100%; these were worn pushed to the back of the head, but not onto the shoulder.

The nature of the hood made it nearly impossible to tilt in any direction, so when it was worn on the head, it was always worn centered. When worn off of the head, it was always pushed onto the shoulders. Hoods were worn on the head 44.4% of the time and off of the head 55.6% of the time. Contingency analysis suggests that hoods were worn on the head in smaller proportions, and were worn off of the head in greater proportions than for the overall sample ($\chi^2 = 152.5$, $df = 1$). Table 44 shows the comparison of the distribution of position of the headdress for both hoods and the sample overall. There were no significant variations in the position of the hoods used over time or by place of origin.

Since hoods conformed to the shape of the head, there was no measurable height or width of the headdress in comparison to the head and, consequently, no aspect ratio.

In general, hoods were worn inside 50.0% of the time and outside 50.0% of the time. These percentages did not vary significantly from the sample overall. Whether the hood was worn inside or outside did vary significantly over time ($\chi^2 = 20.77$, $df = 4$). Figure 47 shows the proportions of hoods worn inside or outside. Hoods worn inside dominated from before 1420 and after 1469, but those worn outside dominated from 1420 to 1469. Whether there were significant variations in the location of use by place of origin could not be determined because of the particular distribution of the sample.

Although the burgher/merchant and clergy classes were combined for analysis of the hoods, the expected value for the frequency of appearance of hoods for the clergy class was 4.8%, but the actual frequency was 23.5%. Clergy wore an unusually large number of hoods, but the courtier/

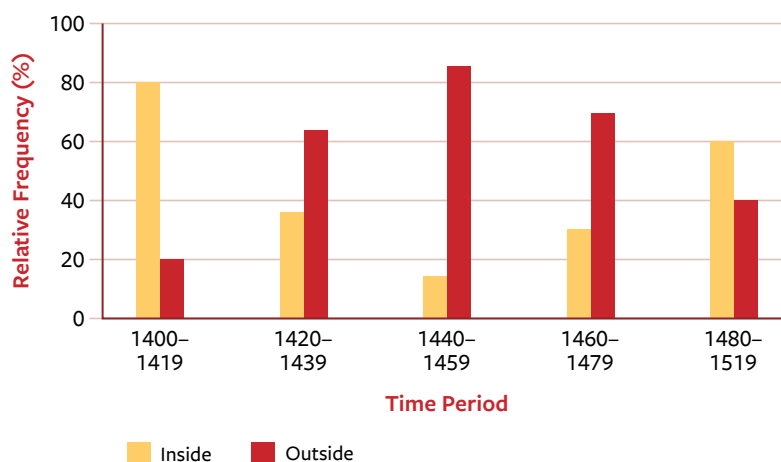


Figure 47.

Relative Frequency of Interior/Exterior Usage of Hoods Over Time

professional/official class wore fewer than expected ($\chi^2 = 22.24$, $df = 3$). Table 45 (p. 94) displays the relative proportions of the social classes wearing hoods and wearing all headdress. The distribution of hoods by social class and decade and social class and place of origin was such that contingency analysis was not possible. Clergy wearing hoods were concentrated in Italy, where 76.9% of the hoods worn by clergy were found.

Table 43. Distribution of Color Among Hoods and All Headdress

| | Red (%) | Black (%) | Blue (%) | Brown/White (%) | Others (%) | N |
|---------|---------|-----------|----------|-----------------|------------|-----|
| Hoods | 30.3 | 12.1 | 19.7 | 22.7 | 15.2 | 67 |
| Overall | 35.0 | 23.5 | 10.8 | 16.6 | 14.1 | 574 |

Table 44. Distribution of the Position of the Headdress Among Hoods and All Headdress

| | On Head (%) | Off Head (%) | N |
|---------|-------------|--------------|-----|
| Hoods | 44.4 | 55.6 | 81 |
| Overall | 88.5 | 11.5 | 791 |

Table 45. **Distribution of Social Class Among Wearers of Hoods and Wearers of All Headdress**

| | Gentry (%) | CPO (%) | BM (%) | YAL (%) | Clergy (%) | N |
|---------|------------|---------|--------|---------|------------|-----|
| Hoods | 25.9 | 32.1 | 2.5 | 16.0 | 23.5 | 115 |
| Overall | 31.6 | 45.3 | 5.9 | 12.3 | 4.8 | 791 |

CPO = Courtier/professional/official BM = Burgher/merchant YAL = Yeoman/artisan/laborer

Sack Hats

Sack hats were a variant form of chaperone in which the shoulder cape has been converted to a sack-shaped crown. Sack hats were one of the predominant headdresses from 1400 to 1429 and were found in every decade except 1510 to 1510. They were also found to vary significantly by place of origin ($\chi^2 = 11.28$, $df = 5$), and were more prevalent in Italy and the British Islands and less prevalent in Burgundy/Flanders/Netherlands.

Padded or twisted roll brims were the predominant brim type (61.2%), with continuous brims as the next more common (26.2%). There was one sack hat categorized as brimless as the crown obscured the brim so that no definite determination could be made, and two examples of split brims were found. Sack hats were the only hat style in which multiple brims could be found; there were seven examples of these. By combining decades for analysis, it was found that brim types of sack hats did vary significantly over time ($\chi^2 = 16.65$, $df = 3$). Continuous brims were combined with brimless, split, and multiple-brim types. This combined category dominated from 1440 to 1469, while padded roll brims dominated from 1400 to 1439 and from 1470 to 1509. Figure 48 shows the relative frequency of brim types by the time

categories used in analysis. The spread of the data did not allow analysis of the distribution of brim type by place of origin. The Holy Roman Empire and Italy were the only places of origin to have sack hats with multiple brims, and Italy was the only place of origin in which continuous brims were more prevalent than padded or twisted roll brims.

Applied decoration on sack hats appeared about as frequently as for the sample as a whole, appearing unadorned 81.2% of the time. By combining decades, it was found that decoration status of sack did vary significantly over time ($\chi^2 = 6.84$, $df = 2$). Figure 49 shows the relative frequency of decoration by the time categories used in analysis. Generally, the tendency for decorated sack hats decreased over time, and the tendency for plain sack hats increased. The distribution of the data did not allow sack hats to be statistically analyzed for relationship over time or by place of origin. When a sack hat was decorated, the most usual type of decoration were applied jewels.

The most popular colors for sack hats were red and blue. Red was used for sack hats 49.2% of the time and blue was used 15.4%. The relative frequency of appearance of red and blue was greater than expected based on the sample as a whole. The relative distribution of the colors for sack hats was

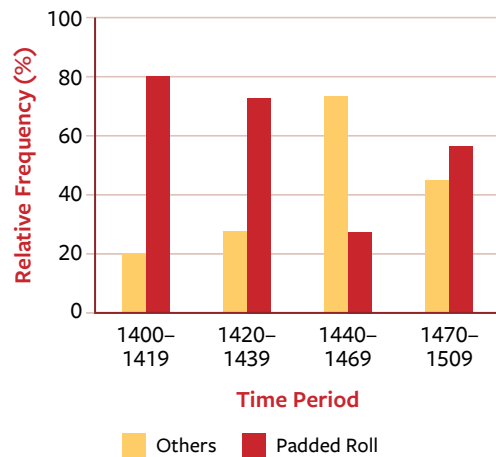


Figure 48.
Relative Frequency of Brim Types for Sack Hats Over Time

significantly different from the relative distribution of all headdresses ($\chi^2 = 10.97$, $df = 4$). Table 46 shows the comparison of the distribution of color for both sack hats and the sample overall. Red and blue were found in unexpectedly high proportions, while black and brown/white were found unexpectedly low proportions. The colors were distributed in such a way that contingency analysis could not be done to test the relationships of color with time or by place of origin.

The prevalent category of coverage of the hair-growing area for the sack hat was the 50% to 75% category comprising 49.3% of sack hats that covered the head with the

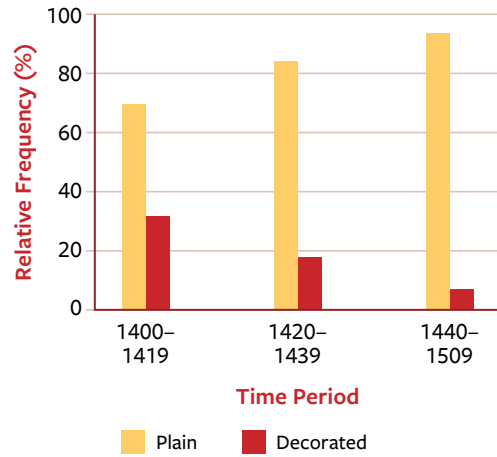


Figure 49.
Relative Frequency of the Appearance of Decoration for Sack Hats Over Time

75% to 100% category being the next most frequently found percentage of coverage with 44.5%. Sack hats were more likely to cover 75% to 100% of the head than would all headdress types combined ($\chi^2 = 13.0$, $df = 2$). Fewer than expected sack hats covered less than 50% of the hair growing area, but the relative frequency of sack hats in the 50% to 75% category was close to the expected relative frequency. Table 47 (p. 96) shows the distribution of coverage for both sack hats and the sample overall. By combining decades, it was found that the coverage of the head did vary significantly with time ($\chi^2 = 17.52$, $df = 3$). The 75% to 100% category dominated from 1400 to 1439, while the 50% to 75% category

Table 46. **Distribution of Color Among Sack Hats and All Headdress**

| | Red (%) | Black (%) | Blue (%) | Brown/White (%) | Others (%) | N |
|-----------|---------|-----------|----------|-----------------|------------|-----|
| Sack Hats | 49.2 | 10.8 | 15.4 | 10.8 | 13.8 | 65 |
| Overall | 35.0 | 23.5 | 10.8 | 16.6 | 14.1 | 574 |

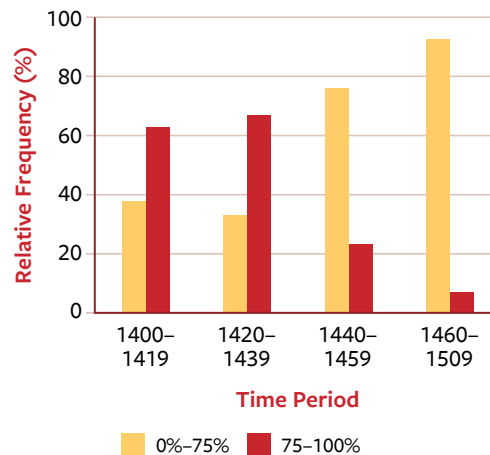


Figure 50.

Relative Frequency of the Coverage of the Hair-growing Area by Sack Hats Over Time

dominated from 1440 to 1509. Figure 50 (p. 96) shows the relative frequency of coverage categories by the time categories used in analysis. The coverage of the head was distributed in such a way that contingency analysis could not be done to test the relationships of color by place of origin.

The ears were not covered by sack hats of this period 75.0% of the time, partially covered 22.5% of the time and completely

covered only 2.5% of the time. Coverage of ears by sack hats did not vary significantly from the coverage of the ears by all head-dress. Table 48 shows the comparison of the distribution of coverage for both sack hats and the sample overall. By combining decades, it was found that the coverage of the ears did vary significantly with time ($\chi^2 = 10.19$, $df = 2$). Sack hats that did not cover the ears dominated from 1400 to 1509 but the relative frequency of sack hats that covered the ears entirely or in part diminished with time. Figure 51 shows the relative frequency of coverage of the ears categories by the time categories used in analysis. The sample sizes for each place of origin was not large enough to make determinations of whether there were significant variations in the distribution of the coverage of ears by place of origin.

Only two sack hats were worn off of the head and these were carried in the hand. Sack hats worn on the head for this period constituted 97.5% of all sack hats with 2.5% were not being worn on the head. Most sack hats were worn centered on the head,

Table 47. **Distribution of Coverage of the Hair-Growing Area Among Sack Hats and All Headdress**

| | 0%–50% (%) | 50%–75% (%) | 75%–100% (%) | N |
|-----------|------------|-------------|--------------|-----|
| Sack Hats | 6.5 | 49.3 | 44.2 | 77 |
| Overall | 22.4 | 46.3 | 31.2 | 695 |

Table 48. **Distribution of Coverage of the Ears Among Sack Hats and All Headdress**

| | Not Covered (%) | Partially Covered (%) | Completely Covered (%) | N |
|-----------|-----------------|-----------------------|------------------------|-----|
| Sack Hats | 75.0 | 22.5 | 2.5 | 80 |
| Overall | 72.2 | 19.1 | 8.7 | 791 |

with only three being worn tilted to one or the other side. There was a significant variation of the proportions of hats worn on the head and off of the head between sack hats and all headdress ($\chi^2 = 6.37$, $df = 1$). Table 49 shows the comparison of the distribution of the position of the headdresses for both acorn hats and the sample overall. The distribution of the sack hats for the position of the headdresses was not adequate enough to make determinations of whether there were significant variations in the distribution of the position of the hats over time or by place of origin.

The mean aspect ratio of sack hats overall was 0.509. Mean aspect ratios of sack hats for each decade did not vary significantly with time, but did vary significantly by place of origin (F -value = 2.449, $df = 5/65$). Italy had the highest mean aspect ratio, 0.600, while Spain/Portugal had the lowest, 0.406. Table 50 (p. 98) gives the mean aspect ratio for each place of origin.

In general, sack hats were worn outside about 72.0% of the time and outside 28.0% of the time. These percentages did vary significantly from the sample overall ($\chi^2 = 8.96$, $df = 1$). Whether the sack hat was worn inside or outside did not vary significantly over time. The sample size for each of the places of origin was not large enough to make determinations of

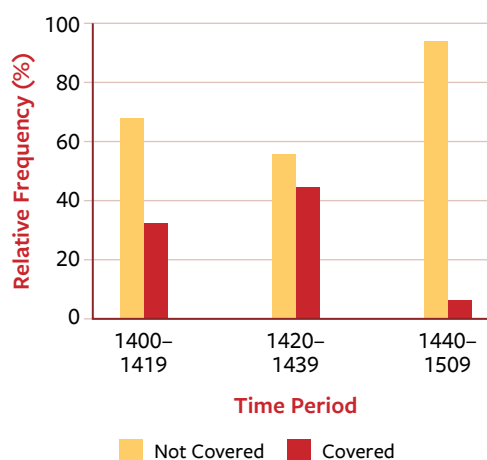


Figure 51.

Relative Frequency of the Coverage of the Ears by Sack Hats Over Time

whether there were significant variations in the distribution of the location of wear the hats by place of origin. However, sack hats worn indoors predominate in the Holy Roman Empire, and no hats worn indoors appeared in the British Islands.

Sack hats were distributed by social class in proportions that did not vary significantly for the overall distribution of headdresses by social class. Table 51 (p. 98) displays the relative proportions of the social classes wearing sack hats and wearing all head-dress. It should be noted that no one who could be identified as clergy wore sack hats. The distribution of sack hats by social class and decade and social class and place of

Table 49. **Distribution of the Position of the Headdress Among Sack Hats and All Headdress**

| | Centered (%) | Left (%) | Right (%) | Off Head (%) | N |
|-----------|--------------|----------|-----------|--------------|-----|
| Sack Hats | 93.8 | 2.5 | 1.2 | 2.5 | 80 |
| Overall | 81.2 | 3.4 | 3.9 | 11.5 | 791 |

Table 50. **Mean Aspect Ratio of Sack Hats for Each Place of Origin**

| | Mean | Standard Deviation | N |
|-------------------------------|-------|--------------------|----|
| Italy | 0.600 | 0.211 | 20 |
| France | 0.539 | 0.128 | 11 |
| Holy Roman Empire | 0.491 | 0.172 | 12 |
| Burgundy/Flanders/Netherlands | 0.465 | 0.140 | 11 |
| British Islands | 0.437 | 0.126 | 10 |
| Spain/Portugal | 0.406 | 0.100 | 7 |
| Overall | 0.508 | 0.172 | 71 |

Table 51. **Distribution of Social Class Among Wearers of Sack Hats and Wearers of All Headdress**

| | Gentry (%) | CPO (%) | BM (%) | YAL (%) | Clergy (%) | N |
|-----------|------------|---------|--------|---------|------------|-----|
| Sack Hats | 37.5 | 38.8 | 7.5 | 16.2 | 0.0 | 80 |
| Overall | 31.6 | 45.3 | 5.9 | 12.3 | 4.8 | 791 |

CPO = Courtier/professional/official BM = Burgher/merchant YAL = Yeoman/artisan/laborer

origin was such that contingency analysis was not possible. However, there were no members of the burgher/merchant or yeoman/artisan/laborer classes represented wearing sack hats in the British Islands and members of the burgher/merchant class represented wearing sack hats in Spain/Portugal exceeded the number of members of the gentry and the courtier/professional/official class.

Stiffened Hats

Stiffened hats were one of the predominant headdress from 1470 to 1489. They were also found to vary significantly by place of origin ($\chi^2 = 13.69$, $df = 5$), and were more prevalent in Burgundy/Flanders/Netherlands and less prevalent in Spain/Portugal, and the British Islands.

Brimless stiffened hats only appeared 4.5% of the time. Brims were most ordinarily

rolled (43.2%), Robin Hood (28.0%), or continuous (17.4%). Split or overlapping split brims appeared 6.9% of the time. The brim types of stiffened hats did not vary significantly over time. The spread of the data did not allow analysis of the distribution of brim type by place of origin. Although a larger sample size was needed, the data suggests that continuous, split, and brimless hats seemed more popular in Italy and Spain/Portugal and less popular in France and the British Islands. Rolled brims were found in the British Islands and France in higher than usual proportions, but were not found as frequently in the Holy Roman Empire, Italy, or Spain/Portugal. Finally, Robin Hood brims seemed to be concentrated in the Holy Roman Empire. Applied decoration on stiffened hats appeared about as frequently as for the sample as a whole, appearing unadorned 69.7% of the time. The relative proportion

of plain stiffened hats did not vary significantly over time. The distribution of the data did not allow stiffened hats to be statistically analyzed for relationship by place of origin, but the data suggests that plain stiffened hats seemed to be strongly preferred in Burgundy/Flanders/Netherlands, the British Islands, and the Holy Roman Empire, but stiffened hats in Italy and Spain/Portugal were less likely to be undecorated. When a stiffened hat was decorated, the most usual types of decoration were applied jewels, feathers, and hat bands.

The most popular colors for stiffened hats were black, red, brown, and white. Black was used for stiffened hats 33.3% of the time, red was used 18.0% of the time, and brown and white, combined, were used 19.8%.

The relative frequency of appearance of red was less than expected based on the sample as a whole. The relative distribution of the colors for stiffened hats was significantly different from the relative distribution of all headdresses ($\chi^2 = 15.27$, $df = 4$). Table 52 shows the comparison of the distribution of color for both stiffened hats and the sample overall. The colors were distributed in such a way that contingency analysis could not be done to test the relationships of color with time or by place of origin.

The prevalent category of coverage of the hair-growing area for the stiffened hat was the 50% to 75% category comprising 62.5%

of stiffened hats that covered the head with the 75% to 100% category being the next most frequently found percentage of coverage with 19.6%. Stiffened hats tended to cover 50% to 75% of the head in proportions greater than found for all headdresses ($\chi^2 = 46.36$, $df = 2$). Fewer than expected stiffened hats covered 75% or more or less than 50% of the hair growing area. Table 53 (p. 100) shows the comparison of the distribution of coverage for both stiffened hats and the sample overall. There were no significant variations in percentage of coverage over time. The sample size for the stiffened hats was not large enough to make determinations of whether there were significant variations in coverage of the hair growing areas by place of origin.

The ears were not covered by stiffened hats of this period 77.2% of the time, partially covered 20.5% of the time and completely covered only 2.3% of the time. Stiffened hats were less likely to cover the ears completely than other headdresses ($\chi^2 = 6.75$, $df = 2$). Table 54 (p. 100) shows the comparison of the distribution of coverage for both stiffened hats and the sample overall. Coverage of the ears did not deviate significantly over time. The sample size for the stiffened hats was not large enough to make determinations of whether there were significant variations in the distribution of the coverage of ears by place of origin.

Table 52. **Distribution of Color Among Stiffened Hats and All Headdress**

| | Red (%) | Black (%) | Blue (%) | Brown/White (%) | Others (%) | N |
|----------------|---------|-----------|----------|-----------------|------------|-----|
| Stiffened Hats | 18.0 | 33.3 | 11.7 | 19.8 | 17.1 | 111 |
| Overall | 35.0 | 23.5 | 10.8 | 16.6 | 14.1 | 575 |

Table 53. **Distribution of Coverage of the Hair-Growing Area Among Stiffened Hats and All Headdress**

| | 0%–50% (%) | 50%–75% (%) | 75%–100% (%) | N |
|----------------|---------------|----------------|-----------------|-----|
| Stiffened Hats | 17.9 | 62.5 | 19.6 | 112 |
| Overall | 22.4 | 46.3 | 31.2 | 695 |

Table 54. **Distribution of Coverage of the Ears Among Stiffened Hats and All Headdress**

| | Not Covered (%) | Partially Covered (%) | Completely Covered (%) | N |
|----------------|--------------------|--------------------------|---------------------------|-----|
| Stiffened Hats | 77.2 | 20.5 | 2.3 | 132 |
| Overall | 72.2 | 19.1 | 8.7 | 791 |

Table 55. **Distribution of the Position of the Headdress Among Stiffened Hats and All Headdress**

| | Centered (%) | Left (%) | Right (%) | Off Head (%) | N |
|----------------|-----------------|-------------|--------------|-----------------|-----|
| Stiffened Hats | 82.6 | 2.3 | 1.5 | 13.7 | 132 |
| Overall | 81.2 | 3.4 | 3.9 | 11.5 | 791 |

Eighteen stiffened hats were worn off of the head; ten of these were carried in the hand, three were lying on the ground, and five were suspended over the shoulder. Stiffened hats worn on the head for this period constituted 86.4% of all stiffened hats with 13.7% were not being worn on the head. Most stiffened hats were worn centered on the head, with only a few being worn tilted to one side or the other. Table 55 shows the comparison of the distribution of the position of the headdresses for both acorn hats and the sample overall. There were no significant variations of the proportions of hats worn on the head and off of the head between stiffened hats and all headdress. There were no significant variations in the position of the stiffened hats used over time. The sample size for the stiffened hats was not large enough to

make determinations of whether there were significant variations in the distribution of the position of the hats by place of origin.

The mean aspect ratio of stiffened hats overall was 0.421. Mean aspect ratios of stiffened hats for each decade did not vary significantly with time or for place of origin.

In general, stiffened hats were worn inside about 32.0% of the time and outside 68.0% of the time. These percentages varied significantly from the sample overall ($\chi^2 = 8.79$, $df = 1$) with stiffened hats more likely to have been worn outside than for all headdresses as a whole. Whether the stiffened hat was worn inside or outside did not vary significantly over time. The sample size for the stiffened hats was not large enough to make determinations of whether there were significant variations in

the distribution of the hat position by place of origin. The samples sizes for particular places of origin did permit contingency analysis and in both Italy ($\chi^2 = 5.25$, $df = 1$) and the Holy Roman Empire ($\chi^2 = 7.91$, $df = 1$), the headdress was worn outside in greater proportions than for stiffened hats in general. Figure 52 shows the distribution of location of wear of stiffened hats by place of origin.

Stiffened hats were worn disproportionately by the yeoman/artisan/laborer class, but they were favored by the courtier/professional/official class ($\chi^2 = 25.38$, $df = 4$). Table 56 (p. 102) displays the relative proportions of the social classes wearing stiffened hats and wearing all headdress. The distribution of stiffened hats by social class and decade and social class and place of origin was such that contingency analysis was not possible.

Other Headdress Types

The remainder of the headdress types had very small sample sizes of eighteen or less. Statistical analysis over time and by place of origin was impractical, if not impossible. Two of the types, coifs and draped headdress, were represented throughout the study period, but were found only in small frequencies. The appearance of chaplets and rondelles occurred sporadically throughout the period. Four headdress types, sugarloaf hats, stocking hats, cauls, and flat hats, were restricted to particular short time spans. None of these headdress types, except coifs, were worn by clergy. The following were short summaries of notable characteristics of the remaining headdress types.

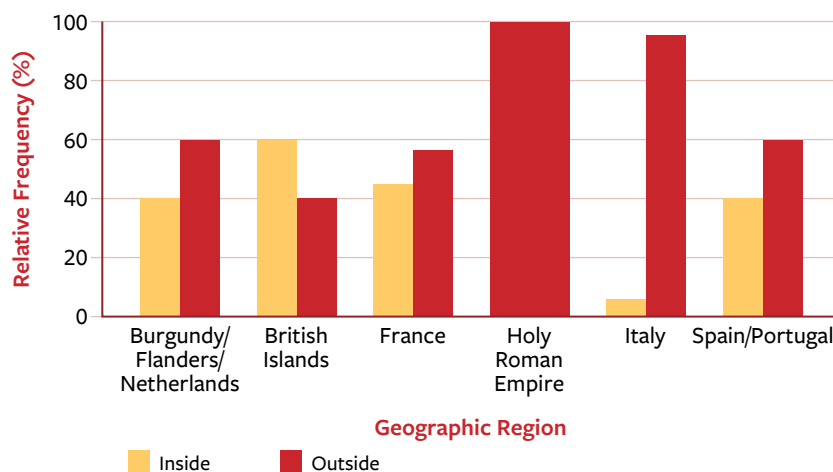


Figure 52.
Relative Frequency of Interior/Exterior Usage of Stiffened Hats by Place of Origin

Chaplets and Rondelles

These two headdress types share the characteristic that they consist only of brims. Chaplets were defined as having only continuous brims and rondelles were defined as having only padded or twisted roll brims. Since they had no crown, they tended to cover less of the head than did the sample as a whole. Chaplets were often smaller than rondelles and generally covered 0% to 50% of the hair-growing area. Rondelles, being larger, covered 25% to 75% of the hair-growing area. Most rondelles and chaplets appeared prior to 1440, although chaplets seemed to have revived after 1500.

Coifs

There were never more than three coifs appearing in any decade and none appeared from 1410 to 1429. Coifs were found in all places of origin. By the nature of its design, coifs were plain caps that had no brims,

Table 56. **Distribution of Social Class
Among Wearers of Stiffened Hats and Wearers of All Headdress**

| | Gentry (%) | CPO (%) | BM (%) | YAL (%) | Clergy (%) | N |
|----------------|---------------|------------|-----------|------------|---------------|-----|
| Stiffened Hats | 31.8 | 35.6 | 5.3 | 25.8 | 1.5 | 132 |
| Overall | 31.6 | 45.3 | 5.9 | 12.3 | 4.8 | 791 |

CPO = Courtier/professional/official BM = Burgher/merchant YAL = Yeoman/artisan/laborer

always covered the ears, covered more than 75% of the hair-growing area, and was worn centered on the head. Coifs appeared in every social class, but seemed to be more concentrated in the courtier/professional/official classes. This accords well with Margaret Scott’s view that by the fifteenth century, coifs were worn primarily by men in the professions.²

Draped Headdress

Draped headdresses were found throughout the study period, although mostly after 1470, in all places of origin except the British Islands. Coverage of the head was evenly distributed in every category except no draped headdress covered less than 25% of the hair-growing area. Most draped headdresses were white and unadorned. All social classes wore them except clergy.

Sugarloaf Hats

Sugarloaf hats were just very tall acorn hats, and they shared the features of acorn hats. Sugarloaf hats were found between 1460 to 1499, primarily between 1470 and 1479. The ten acorn hats were either brimless or had continuous brims. They were worn centered, covered about 25% to 50% of the hair-growing area and never covered the ears. The sugarloaf hats in this sample were generally either red or blue. Only members

of the gentry and courtier/professional/official classes were portrayed wearing sugarloaf hats.

Stocking Hats

Stocking hats were also a variation on the acorn hat and were found from 1490 to 1519. The five stocking hats in the sample were either from Burgundy/Flanders/Netherlands or from the Holy Roman Empire. The stocking hat was worn centered, covered 50% to 100% of the head, and had either continuous or partial brims. All stocking hats in the sample were decorated; most with tassels. A stocking hat was present in all social classes except clergy.

Cauls

Cauls were also found only between 1490 and 1519, primarily in the Holy Roman Empire. They covered most of the hair-growing area, but generally not the ears. Most were brimless or had a small continuous brim. Many cauls were ornamented with figured fabrics. Cauls were worn mostly by men in the gentry or in the courtier/professional/official classes.

Flat Hats

Flat hats had fairly complex brims, including split, overlapping split and Robin Hood

2. Margaret Scott, *A Visual History of Costume: The Fourteenth & Fifteenth Centuries* (London: B. T. Batsford Ltd, 1986), 141

brims, and were found mostly in the Holy Roman Empire. All but one flat hat was decorated, usually with applied jewels. Half of the flat hats were worn tilted to one side or the other, and the other half were worn

centered on the head. They generally covered 25% to 50% of the hair-growing area. As with cauls and sugarloaf hats, flat hats were worn mostly by men in the gentry or courtier/professional/official classes.

CHAPTER V

Summary and Conclusions

This thesis used visual documentation from the fifteenth and early sixteenth-century to produce an aggregate description of the visual characteristics of Western European men's headdress from 1400 to 1519. 791 examples of men's headdress were selected for form analysis, and each example was subjected to classification in thirteen categories. Nine of the categories of physical characteristics were analyzed in terms of decade and place of origin. Each class in another category, headdress type, was further analyzed in terms of the remaining ten categories over time and by place of origin. Whenever possible and appropriate, statistical analysis techniques were applied to test if there were significant variations over time or by place of origin.

What follows are a summary of the overall trends in European society, aesthetics, and men's headdress from 1400 to 1519, and some comments on the methodology and its application.

Men's Headdress in the Fifteenth and Early Sixteenth Century

The greatest common bond among Europeans during the fifteenth and early sixteenth

century was Christianity. Social hierarchy and social customs and symbols were rooted in and supported by the Christian faith and the institution of the Christian Church. During this period, the nature of spirituality was changing. These changes were based on a renewed emphasis on humanity and human achievement. This focus on humanity was not a rejection of the spiritual, but a transformation of the spiritual from the organized corporate religious practice into more individual, personal practice. At the same time, increasing literacy among the lower orders allowed more of the lay population to participate directly in spirituality through the ability to read the scriptures and the meditation exercises for themselves. Expanding literacy and the transformation of the spiritual, among other factors, provided a ground for questioning the purposes and structure of the Church, and the nature of the social hierarchy, and an increased use of and appreciation for one's vernacular language and vernacular culture. Although these changes were to bring a divergence of cultural forms, national languages, and national institutions, most of the fifteenth-century culture was remarkably homogenous. The educational curriculum was similar throughout Western Europe. At

the beginning of the fifteenth century, artisans travelled throughout Europe acquiring and disseminating techniques and aesthetic ideals over a broad geographic area.

Aesthetics, artistic practices, and the form of material objects used reflected these divergences, changes, and similarities in society. The two major artistic styles or aesthetics of this period were the “international” Gothic (sometimes called “Flamboyant” Gothic) and the Renaissance. These two styles are often contrasted with the Gothic characterized by complex outlines and curvilinear forms and shapes, a high degree of surface ornamentation, asymmetrical balance, and a strong preference for soaring height; and the Renaissance being characterized by simple, easily-defined outlines, the use of angular forms, a low degree of surface ornamentation, symmetrical balance, and a emphasis on the horizontal.

The Renaissance aesthetic become dominant all over Europe by the end of the sixteenth century. During the fifteenth century, the Renaissance aesthetic was gradually adopted throughout northern Italy. Although some Italian artists remained essentially Gothic, these artists incorporated classical elements and concepts of mathematical perspective into their works. The Renaissance aesthetic had only started to influence the arts in Northern Europe by the end of the century and the beginning of the sixteenth century, but there is evidence that the Gothic style itself was evolving in a direction of simplicity of line and ornament and of a greater angularity of line, while retaining the ideals of height.

The overall homogeneity of European culture was supported by this study. There

was little geographic diversity of headdress. Although each of the headdress types had geographic areas in which it was more likely to be found, there were examples of each headdress type in every place of origin. No area produced a headdress type that was exclusive, or nearly exclusive, to it. In most of the individual characteristics studied, usually only one or two geographic regions had statistically significant variations from the rest of the geographic areas. Three areas diverged more often than others: Italy, the Holy Roman Empire, and the British Islands. The British Islands were physically isolated from the rest of Europe and did not have centers of major cultural influence. The Holy Roman Empire was also culturally isolated from the mainstream. Italy, as we have seen, was the home of the Renaissance aesthetic.

The characteristics of Italian men's headdress that did deviate did tend to follow general characteristics of the Renaissance aesthetic. Italian men's headdress had a lower percentage of decoration, less complex brim types, was less likely to be combined with other headdress, and tended to be somewhat shorter than other European headdress. By contrast, the Holy Roman Empire seemed to take Gothic ideals to the extreme, with the exception of height. Headdresses from the Holy Roman Empire tended to be shorter and wider than overall European headdress.

Given the association of ornateness and complex outlines with the Gothic and unadorned, simple lines with the Renaissance, it would be expected that European headdress would have more visual complexity through most of the fifteenth century, and that visual complexity would diminish with

the spread of the Renaissance aesthetic from Italy into the north. Brim type, percentage of decoration, and the ratio of decoration type per decorated headdress were used to determine the degree of visual complexity. In general, it was found that headdress tends to be more visually complex from the beginning of the study period, from 1400 to 1449 and during the last two decades, 1500 to 1519, while visual simplicity was preferred from 1450 to 1499. The high complexity found in the first half of the century was as expected, but the low complexity found in the middle of the century to the end was contrary to the Gothic preference for intricate shapes. Yet evidence of other artifacts from Northern Europe, and the fact that the preference for height remains in the headdress does not indicate that the Gothic style has been abandoned. Also there was increasing visual complexity at the time that Renaissance ideals were spreading throughout the north that was contrary to the Renaissance ideals as well. The reasons for these apparent contradictions provide a rich area for further research.

The emphasis on height or width in headdress did generally agree with expectations based on Gothic or Renaissance aesthetics. At the beginning of the fifteenth century headdresses were both tall and wide. About 1450, the width of headdress was abruptly reduced producing a headdress that was not only tall, but also very slender, which served to emphasize the tallness. After 1490, both height declined and the width increased. Headdresses were relatively short and wide. The ratio of height to width at the beginning of the fifteenth century and at the end of the study period were roughly the same, but headdresses from 1490 to

1519 were much reduced in size relative to the size of the head.

Although asymmetrical balance was associated of the Gothic and symmetrical balance was associated with the Renaissance, the opposite trend appears in headdress. Although symmetrically-positioned headdress was preferred throughout the study period, there was an increasing trend to asymmetrical positions on the head during the last twenty years of the study period just as a trend toward greater symmetry as the Renaissance aesthetic spread would be expected.

Over time, the characteristics of headdress seemed to change two times, creating three periods. In the first period, 1400 to about 1449, there was an established feature or set of features. About 1450, this feature or set was replaced with another, often contrasting, feature or set. Again, about 1490, the first feature reasserts itself, or yet a third features replaces the second. In addition to brim type complexity, percentage of decoration, and aspect ratio, this temporal trend was also found for coverage of the hair-growing area, coverage of the ears, and the height and width of headdress. More of the head was covered from 1400 to 1469 and after 1510, but in that middle period, less of the head was covered. Again coverage of ears showed a similar progression. The tendency for headdress to cover the ears was greatest from 1400 to 1449 and then decreased. About 1510, there were signs that coverage of the ears was increasing again. Three general periods of changes in physical characteristics emerge: 1400 to about 1449, 1450 to about 1489, and 1490 to 1519.

The study of headdress worn or carried off of the head may lead to an exploration of

role of headdress in the forms of courtesy and the ideas of status and deference found in a place or time. Most headdresses were worn on the head rather than carried. After 1490, it was more likely that headdress would be depicted on the head. Headdresses from Holy Roman Empire were somewhat more likely to be worn off of the head than headdress from other locations.

Attributes of Headdress Types

Headdress types used in this study could be grouped into three general varieties, headdress types that appeared sporadically throughout the study period, headdress types that have a continual, if sometimes small, existence throughout the period, and those that appear to have a more limited temporal existence with a fairly definite rise, peak, and fall in frequency of appearance. Chaplets, rondelles, and draped headdress were examples of the first variety. Their small numbers and their spread over time made their temporal and geographic characteristics difficult to delineate.

Hoods, coifs, and stiffened hats constituted the second variety of headdress type. Coifs and hoods were remnants of headdresses popular in the previous century. Coifs persisted as headdresses frequently worn by members of the courtier/professional/official class as symbols of their positions. Hoods and stiffened hats had functional qualities as protection from the elements which would explain their longevity and their popularity with the lower orders. Hoods were also a customary part of a clergyman's attire.

The third variety of headdress types included chaperones, sack hats, acorn hats, and bonnets. If the study period had been extended, flat hats and cauls would have likely fitted into this variety as well. Chaperones and sack hats were dominant headdresses until 1450. The peak popularity for these two headdresses was in the 1420s. There appeared to have been a recurrence of popularity for chaperones, but the sample size for the places of origin that had many chaperones for the decade for which there was a fall in usage was small, and it may well be that if the sample had been more complete, this decline may proved to have been more apparent than real. Chaperones were especially frequently worn in the British Islands and in Burgundy/Flanders/Netherlands. Sack hats were also popular in the British Islands and in Italy.

Acorn hats predominated from 1450 to 1499 providing almost one-half of all headdresses worn from 1450 to 1489. The peak popularity for acorn hats were the 1460s and 1470s. Acorn hats were particularly popular in Spain/Portugal and with the courtier/professional/official class. Bonnets were a dominant headdress type from 1490 to the end of the study period. The bonnet's apparent peak of popularity was in the 1510s, but the study period ends as this peak was reached. Bonnets were unusually popular in Spain/Portugal and with the gentry class.

Earlier, it was stated that change occurred slowly in this time period, but that the pace of change was beginning to accelerate. The popularity peaks of each of these headdresses (sack hats being grouped with chaperones) were about forty to fifty

years apart. The time span of this study was too short to determine if there was any acceleration in the rate of adoption of new headdress types. However, the earlier popular styles had a slower decline than later styles, and there was more than one dominant headdress style at the same time. Later, there was only one truly dominant style at a time and each of these was adopted rapidly and intensely. This suggests that the expansion of study period both into the fourteenth and sixteenth centuries might be fruitful in detecting an acceleration in the rates of adoption of new styles.

Methodology

Every attempt was made to have an adequate sample for every place of origin for every decade in the study period. However, it was not possible to find enough visual sources to complete the desired sample. Some times and places produced sources that were valued enough to be collected and saved and ultimately reproduced; others did not. Lines of artistic development that were not part of the mainstream were not often reproduced, and it was difficult to find examples for this study. A more complete sample might change some of the generalizations from this study.

Another significant problem encountered in creating a sample for this study was the lack of precision in the dating of visual sources. It was important to have sources that were dated independently of costume historians and important to have sources dated to within a ten-year period. Unfortunately, many clear examples of men's headdress had to be rejected as they were not dated more definitively than "first quarter

of the fifteenth century," or even "fifteenth century." Had these been more precisely dated, some of the gaps in the sample could have been filled.

Thirteen characteristics of men's headdress were defined for use in a form analysis study. Each characteristic contained two or more mutually-exclusive classifications to which each headdress could be assigned. Because the study period was lengthy, and the focus of study, men's headdress, was broad, these classifications had to also be broad enough to be applicable to the whole period and to the diversity of headdress. On the whole, these classifications were adequate to define the general parameters of fifteenth- and early sixteenth-century headdress and give a good foundation from which to pursue other lines of inquiry. However, some of the classifications may be too general to capture the subtle differences within any one of the headdress types. One of the refinement of this classification system would be to use the general classifications developed as a basis to define more headdress-type-specific classifications which can be used to find these subtle geographic or temporal characteristics that cannot be established with the current system.

Another problem with such general categories were that some headdresses fit the established definition of a headdress type, but did not conform to the holistic concept of that type. The few instances of acorn hats prior to 1450 and the one specimen of a bonnet before 1480 were examples of this phenomena. They fitted the categories, but did not "feel" like that headdress type. Again, headdress-type-specific classifications could be useful in this situation.

Conclusions and Recommendations

For the most part, this quantitative method of study provided a detailed outline of the characteristics of men's headdress from 1400 to 1519. The results from the study of each characteristic over time and geography can provide the basis for more detailed study of that characteristic in order to better fill in the outline. This method of study can be extended and modified in several ways to give a more complete picture. These were completion of the sample, extension in time to the fourteenth and sixteenth centuries, and extension of the method to other items of clothing and then correlating the items with each other.

Earlier, it was also noted that larger samples for each of the place of origin and decade combinations could give more accurate information about the characteristics of headdress. Also developing headdress-specific categories may also uncover more subtle patterns missed by the broad classifications used in this study. This method may be extended to other items of clothing for the same period, giving an idea of the kinds of clothing items that were associated with each other and to discern other social, religious, or aesthetic patterns that may not be apparent in headdress alone.

Over the study period, variations in the characteristics of men's headdress tended to fall into three chronological periods: 1400 to 1449, 1450 to 1489, and 1490 to 1519. These periods did appear to match periods of change in aesthetic thought, but the actual characteristics of the headdresses

found in these periods often contrasted with expectations derived from contemporary aesthetic trends. Changes in vertical and horizontal emphasis in headdress did accord well with the expectations but that visual complexity often did not. Generally the characteristics of headdress did not vary much by place of origin, but headdresses from three places of origin, Italy, the Holy Roman Empire, and the British Islands stood out being as relatively distinctive for some characteristics.

Although one hundred and twenty years may seem like a more-than-ample amount of time for patterns to emerge, the pace of change during the late Middle Ages and early Renaissance was slow enough that the study period from 1400 to 1519 was too short for more than a glimmer of a pattern to appear. However, based on the study of Gothic and Renaissance art and artifacts, there seems to be two currents. The Gothic aesthetic appeared to be evolving from an ornamented, rounded style to a simpler, more linear style, but retaining the penchant for verticality. This appears about the middle of the fifteenth century. The other current was the evolution of Renaissance aesthetics and its expansion into Northern Europe around 1490 to 1500. The exact nature and mechanisms of the manifestation of aesthetic ideals into material objects are beyond the scope of this study, but the results from this study can be combined with other types of documentation such as household accounts, trade records, studies of other types of decorative arts, literature and chronicles to more firmly place headdress in its aesthetic, as well as social and cultural, contexts.

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