Printing the Weather: Knowledge, Nature, and Popular Culture in Two Sixteenth-Century German Weather Books

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This article analyzes two vernacular German books that offered learned guidance for how to use natural observation as a means of gaining knowledge of the weather. Published a combined seventy-seven times throughout the sixteenth century, the "Wetterbüchlein" (Weather booklet) and "Bauern Practica" (Peasants' practica) were commercially successful and widely circulated. Printers marketed the books as being accessible to anyone and reinforced that claim in the paratextual features of the books. In text and image, these books promoted the idea that even common people could participate in the production of knowledge based on the proper observation of nature.

INTRODUCTION

THIS ARTICLE TELLS the story of two German weather books that were published a combined seventy-seven times from 1505 to 1605 and whose editions bear traces of the cultural hallmarks of sixteenth-century German lands.[1] The tale begins in the culturally influential city of Augsburg and extends to all

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[1] The total number may actually have been higher. More extant editions may be discovered and some editions may have been lost to posterity. The figure seventy-seven is based on my own research combing various bibliographic collections and information from individual library catalogues. The following study is based on my review of fifty-two of these known editions. By *German lands*, I refer to German-speaking parts of sixteenth-century Europe where the two books were printed and circulated, including regions located in the following countries today: Germany, France, Poland, and Switzerland.

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of the early German centers of printing. The artistic influences of Albrecht Dürer (1471–1528) shape an early chapter of the narrative. A decisive episode takes place in Wittenberg, where the books' relationship to Lutheran teachings was established. The story concludes during the high point of the era of religious confessionalization. These notable places, individuals, and trends are linked here by their connections to the content and marketing of these weather books. The books provided broad audiences with guidance for observing the weather and they infused popular culture with learned knowledge about nature. Their commercial success and wide circulation offer a sweeping view of the significance of natural observation of the weather across German-speaking society throughout the sixteenth century.

The books' numerous editions evince their commercial success.[2] The *Wetterbüchlein* (Weather booklet) was printed twenty-two times from 1505 to 1549 with only minor alterations in its content. The *Bauern Practica* (Peasants' practica) was printed fifty-five times from 1512 to the first years of the seventeenth century, and, although it added content over the decades, the original textual material from its earliest editions was included in every subsequent printing. Book printing was a business and the production of a book involved an up-front investment by the printer who published it. If books did not sell well enough to inspire confidence for future marketability, then they were not reprinted. These books were winning products for those earning a living from their production.

In addition to their many editions, the books also had wide circulation. Since the books were printed in the small quarto format, printers relied on selling many copies to be profitable; the print run of any edition would have easily numbered over one thousand copies.[3] In the first wave of their production from 1505 to the mid-1520s, the *Bauern Practica* and *Wetterbüchlein* were typically around eight folios in length. A booklet of this size might have sold for as little as a quarter of a laborer's daily wage.[4] Even as longer versions of the *Bauern Practica* appeared after 1530, reaching to a length of around forty-eight folios by midcentury, the books always remained in an accessible quarto format with a simple production quality. The seventy-seven known editions of the two books suggest that there was a strong market for them in sixteenth-century German

[2] Pettegree, 2011, 71–78. Green, 42, also explains, "The clearest, if not the only, measure of success for an early modern printed book is the number of times it was reprinted. A book that sold well provided readers with material that matched their interests and provided competing publishers with a formula for success in terms of text selection, paper size, book format, graphic layout, and target audience."

[3] Künast, 196, 231; Barnes, 36.

[4] Künast, 189–96; Barnes, 36; Brecht, 173.

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lands. Their format and production in great quantities indicate that a large audience accessed them.[5]

While it is difficult to conclusively ascertain precisely who viewed these books, their content suggests that they reached a popular audience. I use the term *popular* in this article as Alison G. Stewart does, in referring to printed media that "had the broadest possible audience, one that spanned various classes and sectors of society."[6] The books were directed, as stated in the long title of the *Wetterbüchlein*, to "anyone who is learned or unlearned."[7] Their subject matter of the weather was relevant to everyone.[8] They were vernacular books written in the common language of the day.[9] They were also affordable and their small size made them easy to carry and use on the move. After 1530, revisions to new editions of the *Bauern Practica* made them even more accessible to unlearned and semiliterate audiences. These changes included added mnemonic devices for learning the book's content, increased visual material, rhyming couplets for ease of oral transmission and memorization, and the inclusion of other practical tools. Handwritten annotations in nine extant copies of the books suggest that people did actually apply content from the books to their daily lives.[10] The lack of marginal notes in most surviving copies of these

[5] Hellmann, 1896, 7, summarily noted, "The *Bauern Practica* is the most circulated of all meteorological books." All translations are the author's except where otherwise noted.

[6] Here Stewart, 8, is specifically referring to peasant festival woodcuts, a genre that significantly overlaps with these sources.

[7] Reynmann, 1510d, VD16 R 1625, fol. 1^{r}: "ain yeder er sey geleert od' vngeleert." Editions of the *Wetterbüchlein* and *Bauern Practica* are cited along with their number in the Verzeichnis der im deutschen Sprachbereich erschienenen Drucke des 16. Jahrhunderts (VD16), when available, for ease of reference. The editions of the *Wetterbüchlein* and *Bauern Practica* are also listed separately in the bibliography under the section, *Printed "Wetterbüchlein" and "Bauern Practica."*

[8] As was their astrological content: Grafton, 10.

[9] On popular vernacular writers in sixteenth-century Germany, Chrisman, 57, notes, "Since their work was written in German, it could have been read by any literate person. The work of men like Sebastian Brant and Thomas Murner was read at all social levels."

[10] These individual copies, including their shelfmarks, are Reynmann, 1510a, VD16 R 1624, Bayerische Staatsbibliothek (BSB), Rar. 1494; Reynmann, 1510d, VD16 R 1625, Österreichische Nationalbibliothek, *70.C.58; Reynmann, ca. 1512a, VD16 R 1628, Augsburg Staats- und Stadtbibliothek, 4° Nat. 312; *Der bawrē practica*, ca. 1517, VD16 B 803, Herzog August Bibliothek (HAB), M: Oe 505; *Jn disem Biechlin wirt funden der Pauren Practick*, ca. 1519, VD16 B 796, HAB, A: 258.8 Quod. (4); *Der bawren practica*, 1521, VD16 B 809, Universitätsbibliothek Erfurt, 13 - A. 8° 00841 (09); *Jn disem Biechlin würt funden der Bauren Practick*, ca. 1521, VD16 B 807, BSB, Res. Phys.sp. 840 y; *Bawren Practica odder Wetter Büchlin*, 1533, VD16 B 813, Universitätsbibliothek Erfurt, 13 - A. 8° 00841 (10); Henricus von Uri, ca. 1560, VD16 B 822, Zentralbibliothek Zürich, AW 6056.

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ephemeral books does little to disprove that contemporaries actively used them, since so few copies remain and the ones that would have been used by common people in the wear and tear of daily life are the least likely to be preserved for posterity.[11]

How do the *Wetterbüchlein* and *Bauern Practica*, as popular media, relate to popular culture? Dating at least back to the work of Weber and Durkheim in the early twentieth century, theorists of early modern European society have developed a myriad of formulations to account for divisions in society as well as elements that unified it.[12] On the one hand, scholars have recognized numerous divisions in society, such as the distinction drawn in the *Wetterbüchlein* itself between learned and unlearned people.[13] On the other hand, despite those divisions, within society "a relatively unified 'culture' was formed."[14] Peter Burke accounts for cultural unity—while also setting its limits—by dividing early modern society into elite and common social groups as well as "great" and "little" cultural traditions.[15] He argues that common people only participated in the little tradition, or popular culture, while elites participated in both cultural traditions.[16] Thus, while he acknowledges that "broadsides and chapbooks seem to have been read by rich and poor, educated and uneducated," Burke sees this as an example of elites participating in popular culture rather than an instance of common people participating in something that spanned his great and little traditions.[17]

[11] This also holds true for *Schreibkalender*, printed astrological calendars with blank spaces for recording weather observations. They were produced in great quantities throughout the sixteenth century—VD16 lists 146 editions—and were obviously used for written annotations, yet only a small fraction of extant copies show significant signs of use: C. Pfister et al., 112–17.

[12] Weber; Durkheim. For a sample of twentieth-century developments in French scholarship, see the important studies by Bloch; Febvre; Le Roy Ladurie; for a broader summary of their Annales School, see Willis. For German scholarship through the 1960s, see Elias's remarkable study and Moeller's influential application of social conditions to the history of the Reformation. In English, see the foundational scholarship by Davis; Burke, from the 1970s.

[13] Scholars have traced divisions in society along numerous different lines. For just a small sample, compare Scribner's elite and popular, dominant and subordinate, powerful and powerless (Scribner, 2001, 47); Dixon's urban and rural, culture of the people and culture of the church (Dixon, 176–77); Chrisman's lay culture and learned culture (Chrisman); and Sabean's insiders and outsiders (Sabean, 28).

[14] Scribner, 2001, 47. See also, Sabean's formulation of the commonality in a community deriving from a shared discourse: Sabean, 28–29.

[15] Burke, 55.

[16] Burke, 55.

[17] Burke, 53.

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I contend, however, that the *Wetterbüchlein* and *Bauern Practica* connected elite and common people, uniting them in a shared popular culture that spanned society's divisions.[18] Specifically, the books made a path for people from across society to participate in natural observation together, and offered their audiences guided instructions for gaining knowledge about the weather through natural observation.[19] This article focuses on the act of observation as it was represented rhetorically and visually in the two books. In the sixteenth century, a new printed genre of learned astronomical publications bearing the name *observationes* created "a bridge from the small circles formed by generational chains of teachers and pupils to a wider astronomical community."[20] The *Bauern Practica* and *Wetterbüchlein* facilitated an even broader popularization of formerly esoteric learned methods for natural observation. Like the learned *observationes*, the *Bauern Practica* and *Wetterbüchlein* presented a special type of observation that was "not simply an act of observing but an act guided by a rule, protocol, or code of behavior."[21] These books offered their audiences methods that would enable them to transform common experiences into learned observation.[22]

Printers successfully marketed the books by appealing to their accessibility. The figure of the peasant was used to exemplify that the books were for everyone. As depicted in these books, peasants actively participated in the study of nature and the production of natural knowledge. Historians of science have begun to broaden their scope of investigation, now including contributions "from the margins" when considering the production of knowledge.[23] New studies no longer see knowledge creation as just the work of elite scholars, but trace how artisans, merchants, and people from around the globe created knowledge.[24] Along with giving attention to a broader range of human actors, such scholarship often emphasizes the ways that objects were instrumental in the production of knowledge.[25] This study builds on both of those tendencies by exploring how the *Wetterbüchlein* and *Bauern Practica* depicted German peasants joining in processes of knowledge

[18] For a few examples of other instances where scholars have located print media transcending divisions within society, see Davis, 192–93; Pettegree, 2005, 159–63; Stewart, 8; Chrisman, 57.

[19] Johns, 1–57, shows the important role that the advent of print played in the formation of new conceptions of nature.

[20] Pomata, 50.

[21] Pomata, 50.

[22] Pomata, 50.

[23] Smith and Schmidt, 8.

[24] P. H. Smith; Findlen, 2018; Smith and Schmidt.

[25] Daston, 2000; Dackerman; Findlen, 2013; Wilson and Yachnin.

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creation by making use of the physical books themselves. Peasants have not previously been included in studies of the production of knowledge, but these sixteenth-century books broaden the view of how extensively learned instruction for observing nature permeated society—making participation possible for peasants.

The representations of peasants in the *Wetterbüchlein* and *Bauern Practica* also offer a novel perspective within scholarship on Renaissance art, where considerably greater attention has been paid to them. Scholars have carefully traced treatments of peasants in the works of notable Northern European artists such as Dürer, Sebald Beham (1500–50), and Pieter Bruegel the Elder (ca. 1525/30–1569). Scholars have also analyzed common depictions of peasants as grotesque and engaged in bawdy behavior, debating whether these portrayals are pejorative, neutral, or were intended to be viewed in multiple ways.[26] This scholarship offers insights into how potentially satirical, ironic, and disparaging depictions of peasants might have reflected social hierarchy, class divisions, urban disdain for rural culture, and even historical imagination. Another theme that scholars have identified, particularly in the work of Breugel, is the depiction of "peasant labor and leisure."[27] These neutral or positive portrayals from the second half of the sixteenth century show peasants diligently at work or enjoying respite from their efforts.[28] Often, in those later depictions as in earlier ones, they were shown in landscape scenes that evoke a connection between peasants and the natural world and firmly establish the peasant as an object of study.[29] Larry Silver teases out these connotations in asserting that Dürer's interest in studying the peasant arose from "that wide-ranging interest in capturing the fullness of all humanity and nature."[30] In all of these manifestations, the artist passively observes peasants as if they were part of the natural world.

The peasants in the *Bauern Practica* and *Wetterbüchlein*, however, reveal a distinct trajectory of the peasant image. As depicted in these books, peasants are not merely part of nature; they actively participate in the study of nature and the production of natural knowledge. With the idea of popular culture as something that spanned divisions between common and elite, one can recognize the possibility that peasants were, at times, integrated into a shared culture with elites, rather than always relegated to the outside and to the passive position of being observed. In the *Wetterbüchlein* and *Bauern Practica*, the

[26] Rosenfeld, 1964, 373–75; Silver, 2006, 108; Müller, 5; Raupp, 138–41; Moxey, 65; Stewart, 59–135; Porras, 21–53.

[27] Silver, 2011, 307–59.

[28] Silver, 2011, 358.

[29] J. C. Smith, 309–50. Also see Sullivan's chapter on Bruegel's peasants: Sullivan, 98–126.

[30] Silver, 2006, 108.

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peasant naturalist becomes the figure of common men and women employing the practice of guided observation. The books promised that anyone could produce true knowledge of nature by following the established techniques of learned observers.[31] The *Bauern Practica* and *Wetterbüchlein* show that ties existed between learned Renaissance thought, vernacular printing, and popular culture in sixteenth-century German lands. After an initial overview of the textual content of the books, this article surveys the print history of the *Wetterbüchlein* and *Bauern Practica* during three major eras of their production: 1505–29, 1530–49, and 1550–1605.[32]

NATURAL WEATHER: THE TEXTUAL CONTENT OF THE BOOKS

The *Wetterbüchlein* and *Bauern Practica* taught common people how to observe nature and gain knowledge about the weather. A Bavarian astronomer named Leonhard Reynmann (fl. ca. 1504–25) wrote the *Wetterbüchlein* in 1505.[33] The only clues about Reynmann's biography come from this book and the series of other astrological books he authored.[34] In 1504, Reynmann wrote *Die auslegung vnd bedeütung der Siben grossen Coniunctionen* (The interpretation and meaning of the seven great conjunctions), which he dedicated to Count Wolfgang I of Oettingen (1456–1522).[35] It evidently earned the count's favor, as Reynmann also dedicated the *Wetterbüchlein* to him and reported in its preface that the book was carried out at the count's request.[36] Through the early 1520s, when his record ends, Reynmann wrote other notable astrological works that were printed in Nuremberg.[37] The author of the *Bauern Practica* is

[31] In this way, the books suggest a popular participation in the traditionally celebrated Renaissance mentality that "the full range of natural phenomena were now considered legitimate for study, entirely knowable and at man's disposal": Coates, 69. For a classic treatment of Renaissance uses of nature, see Glacken, 462–71. For an incisive argument about the limits of human control of nature during the Renaissance, see Merchant, 63–78.

[32] Extant editions of the books can be reliably placed in every decade of the sixteenth century besides the 1590s, although several editions were printed around the year 1600.

[33] Reynmann, 1505; Hellmann, 1893, 9.

[34] Reynmann was active as an author from 1504 to the mid-1520s, lived in Nuremberg later in his career, and produced several notable works of astrology besides the *Wetterbüchlein*, including Reynmann, 1504, 1515, and 1523.

[35] Reynmann, 1504.

[36] Reynmann, 1510d, VD16 R 1625, fol. 1^{v}.

[37] Reynmann, 1515, 1523. Reynmann has received some attention in recent scholarship, mostly for the vivid portrayals of the Renaissance cosmos in his books: see Barnes, 48; Scribner, 1981, 124; Warburg, 619.

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unknown, but the text appears to have originated from Upper Germany in Bavaria or Austria around 1480.[38] It was first printed in 1512, several years after the first edition of the *Wetterbüchlein*. While the text of the *Bauern Practica* had circulated in manuscript form for decades prior to being printed, Reynmann did not borrow text from manuscript copies of the *Bauern Practica* in his *Wetterbüchlein*. Although the two books entered the print market in the early sixteenth century with related subject matter, they contained entirely distinct textual content. In a short dedication at the beginning of the *Wetterbüchlein*, Reynmann juxtaposed his work with "other peasants' rules," indicating that he was aware of either the *Bauern Practica* or other texts similar to it and thought his book would appeal to audiences also familiar with those.[39]

Fifteenth-century astrometeorology heavily shaped each of these books. During that era, astrologers commonly predicted the weather based on the influence of planets and stars using a system that Ptolemy (ca. 90–168 CE) developed in detail, but which scholars also refined in the Middle Ages.[40] For instance, Leonhard Reynmann assembled the content of the *Wetterbüchlein* primarily from Guido Bonatti's (d. ca. 1300) *Book of Astronomy* (printed 1491) and Firminus de Bellavalle's (fl. 1338–45) *On Atmospheric Change* (printed 1485).[41] Moreover, he attributed parts of his book to the Arab polymaths Al-Kindi (ca. 801–73) and Haly Abenragel (ʿAlī Ibn Abī l-Rijāl; d. after 1037/38) and additionally cited Gerard of Cremona (ca. 1114–87), Alain de Lille (ca. 1128–1202), and Albertus Magnus (ca. 1200–80), as well as his own contemporary, Johannes Lichtenberger (d. 1503).[42] All of these scholars operated within an Aristotelian cosmology of

[38] A handwritten manuscript copy is currently held in the Staatsbibliothek zu Berlin, MS germ. qu. 1258. The language in this manuscript is identical to the text in printed editions of the *Bauern Practica*, starting with the first printed edition, *Jn dysem byechlein wirt gefunden vnd verstanden der pauren Lyessen vnd Regel*, ca. 1512, VD16 B 795.

[39] Reynmann, 1510d, VD16 R 1625, fol. 1^{v}. I have seen three other distinct peasants' rules besides the *Bauern Practica*: a late fifteenth-century handwritten manuscript currently held in Germanisches Nationalmuseum, Nuremberg, Hs. 198354 (for a bibliographical discussion of this text, see Kurras, 77); a handwritten manuscript attached to the end of the copy of Reynmann, 1510d, VD16 R 1625, held at the Österreichische Nationalbibliothek, *70.C.58, fols. 8^{v}–9^{v}; and the shared textual content of three printed Swiss peasants' practicas, which differs from that of the *Wetterbüchlein* or *Bauern Practica*. These are von Uri, 1517; ca. 1520a; and ca. 1520b.

[40] For example, Ptolemy, 195–219 (*Tetrabiblos* 2.9–13). On medieval and Renaissance developments, see Lawrence-Mathers; Martin; Jenks.

[41] Hellmann, 1893, 29–31; Thorndike, 3:271–80; Förster.

[42] On Lichtenberger and the sixteenth-century afterlife of his work, see Green, 43–55.

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the earth at the center of a closed universe. According to Aristotle (384–322 BCE), the four elements in the sublunary realm were subject to celestial influences.[43] In both the *Wetterbüchlein* and the *Bauern Practica*, the influence of the heavens on matter below the moon—including the weather—was accepted as a part of nature.[44]

The long title of the *Wetterbüchlein* succinctly characterizes what its content offered and for whom. The title reads: "Weather Booklet. Of true knowledge of the weather. So that anyone who is learned or unlearned, through entirely natural signs, may really and thoroughly know and recognize the variation of the weather. Drawn from and based on the rules of the highly renowned astrologers and additionally reinforced through daily experience."[45] The title identifies "true knowledge" as the book's product. More precisely, the title presents a path to gaining knowledge of the weather. The book offered its audience —"anyone who is learned or unlearned"—techniques for comprehensibly observing natural signs. In other words, it provided a guide to natural observation so that anyone could discern the information contained in nature about the weather. Learned astrologers are listed as the source of this information, with their rules transmitted through the book itself. The book promised its users the opportunity to employ proven methods of natural observation that had been well established within learned circles.[46]

The text of the *Wetterbüchlein* comprises thirteen short chapters describing observable natural phenomena and what they indicated about the weather. Chapter 1 addresses circles that are sometimes visible around the sun, moon, or stars.[47] Depending on the number and color of the circles, they portended clear weather or precipitation. Other chapters explain how to predict weather

[43] Aristotle, 1987, 6–25 (*Meteorologica* 1.2–3); Aristotle, 1953, 11 (*Generation of Animals* 1.2).

[44] Scholars such as Aby Warburg (1866–1929) and Berlin meteorologist Gustav Hellmann (1854–1939) pioneered the study of astrometeorological sources, but also inflected their findings with the qualitative judgment that astrology was superstitious. See Warburg, 645, and Hellmann, 1893, 8. Recently, historians such as Robert S. Westman and Robin B. Barnes have found that in the sixteenth century, nature included what happened above and below the moon and was conceptualized in a comprehensive Aristotelian framework.

[45] Reynmann, 1510d, VD16 R 1625, fol. 1^{r}: "Wetterbiechlin Von warer erkanntnusz des weters. Also das ain yeder er sey geleert od' vngeleert / durch alle natürliche anzaygung die endrung des wetters aygentlich vnnd gruntlich wissen vñ erkeñen mag. Gezogñ vñ gegründt vß den regeln der hochberumtñ Astrologen. Vñ darzü durch tägliche erfarūg bewärt."

[46] The creation of the *Wetterbüchlein* contributed to a transition in how astrological material was circulated, changing from "transmission from mentor to pupil, into printed book material addressed to a wider public": Pomata, 49.

[47] Reynmann, 1510d, VD16 R 1625, fol. 2^{r}.

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based on the appearance of the sunrise, sunset, clouds, rainbows, winds, and storms.[48] Chapter 7 explicitly incorporates astrology by highlighting specific celestial configurations as particularly significant for making weather predictions.[49] In chapter 8, "Of Knowledge of the Weather from the New and Full Moon," Reynmann echoes Ptolemy's *Tetrabiblos* in explaining that if the moon shines brightly for the three days before a new or full moon it means nice weather, while a dark moon indicates stormy weather.[50] The book concludes with a peasants' rule of rhyming couplets filled with numerous meteorological interpretations of mundane events, such as dogs eating grass which portended imminent rain.[51] The *Wetterbüchlein*, therefore, catalogues natural events in the skies and on the ground that were viewed as significant for predicting the weather.

The text of the *Bauern Practica* similarly compiles a variety of techniques for making predictions based on natural observation. The *Bauern Practica* presents weather observation on certain days, particularly during Christmastime, as a means of augury for predicting future weather and a variety of other events during the upcoming year.[52] The book opens with the pronouncement, "The wise and clever masters and stargazers have found how one may see and realize on holy Christmas about the outcome of the weather for the whole year."[53] The book lists what sunshine during the day and wind at night during the twelve days of Christmas portended for the following year.[54] It also notes astrologically significant days throughout the year, such as Saint Urban's Day on May 25, which was believed to indicate whether or not the wine harvest would be fruitful.[55] Finally, the *Bauern Practica* also guided readers in interpreting the appearance of the new moon and its significance for the weather.[56] Thus, the *Bauern*

[48] Reynmann, 1510d, VD16 R 1625, fols. 2^{v}–5^{r}.

[49] Reynmann, 1510d, VD16 R 1625, fol. 5^{v}.

[50] Reynmann, 1510d, VD16 R 1625, fol. 5^{v}: "Von erkantnus des weters auß dem neüwen vnd vomon"; Ptolemy, 215 (*Tetrabiblos* 2.13).

[51] Reynmann, 1510d, VD16 R 1625, fols. 6^{v}–7^{v}.

[52] Bächtold-Stäubli, 5:1405.

[53] *Jn dysem byechlein wirt gefunden vnd verstanden der pauren Lyessen vnd Regel*, ca. 1512, VD16 B 795, fol. 2^{r}: "DJe weyssen vnd clugen Maister vnnd sternschawer haben funnden wye man an der hayligen Cristnacht mag sehen vnd mercken an dem weter wie das gantz iar in wirckung sein."

[54] *Jn dysem byechlein wirt gefunden vnd verstanden der pauren Lyessen vnd Regel*, ca. 1512, VD16 B 795, fols. 2^{v}–3^{r}.

[55] *Jn dysem byechlein wirt gefunden vnd verstanden der pauren Lyessen vnd Regel*, ca. 1512, VD16 B 795, fol. 4^{r}.

[56] *Jn dysem byechlein wirt gefunden vnd verstanden der pauren Lyessen vnd Regel*, ca. 1512, VD16 B 795, fol. 6^{r}.

Practica, like the *Wetterbüchlein*, offered its audience guidance for how to observe nature in a way that would provide knowledge about the weather.

The books transmitted methods for natural observation from learned circles to broader audiences.[57] This guided observation functioned according to what Lorraine Daston has defined as "the *ontology* of scientific observation: how expert observation discerns and stabilizes scientific objects for a community of researchers."[58] In this case, the *Wetterbüchlein* and *Bauern Practica* identified specific observable features in nature and brought their significance into focus for a popular audience. With access to these books, people received programmatic instructions for joining the community of those who knew how to read nature for knowledge about the weather. The two books promised that anyone could participate in expert observation of the select natural phenomena highlighted within them. With a view of the textual content of the books, it is now possible to trace how that content was marketed and presented in their numerous editions throughout the sixteenth century.

ALBRECHT DÜRER AND THE FASHIONING OF THE PEASANT IMAGE, 1505–29

This section traces the paratextual presentations, especially the title woodcuts, of the *Wetterbüchlein* and the *Bauern Practica* in their first wave of publication from 1505 to 1529.[59] During these years, printers carefully coordinated woodcut images with the textual content that offered learned guidance to a popular audience. Although it seems fitting that peasants would adorn a book titled *Bauern Practica*, that pairing only coalesced over time. Initially, the books featured images of the learned guides, not the audience. The extant editions of the two books reveal the process by which printers landed on the peasant as the dominant visual representative of the *Bauern Practica* and, eventually, of the *Wetterbüchlein* as well. The peasant image accompanying the text of the *Bauern Practica* offered a model of common people using the information

[57] The *Wetterbüchlein* and *Bauern Practica* were part of a broader popularization of astronomical learning that was facilitated by many kinds of printed works including annual prognostications, calendars, almanacs, and *observationes*, of which Pomata, 49, writes, "It is in the astronomical context that we see an early example of the transformation of *observationes* from marginalia or private work records, meant at most for scribal transmission from mentor to pupil, into printed book material addressed to a wider public."

[58] Daston, 2008, 98 (italics in original).

[59] In my analysis of paratexts, I still draw on Genette's classic formulation of paratext as the productions which accompany a text "precisely in order to present it": Genette, 1. Thus, I read the paratextual elements as intentional presentations of the books' textual content. On paratext in the context of early print, see Green, 55–61; Smith and Wilson, 1–14; Ammon.

contained in the book. How the peasant was fashioned in the *Bauern Practica* and *Wetterbüchlein* owed more to Albrecht Dürer than to anyone else. His portrayals of peasants in everyday life proved to be a fitting match for printers seeking to depict the accessibility of their books' content.

The first *Wetterbüchlein* was most likely published in 1505 by the printer Hanns Froschauer (d. 1523) in Augsburg.[60] The commercial success of the book began in earnest in 1510 when another four editions were printed, three in Augsburg and one in Munich.[61] In 1511 and 1512, multiple new editions were printed in Augsburg and one was printed in Erfurt. The *Wetterbüchlein* remained marketable, with another four editions printed in Augsburg through 1515. Its commercial success was surpassed, however, even in this first wave of publications, by the *Bauern Practica*.[62] In 1512, Johann Sittich (d. ca. 1515) published the first edition of the *Bauern Practica* in Augsburg and it was printed four additional times there through 1518, as well as a total of nine other times in Munich, Erfurt, Strasbourg, Leipzig, Cologne, and Nuremberg through the early 1520s.[63] The late 1520s saw a gap in the production of both books. In 1530, they returned with new editions and a second wave of marketability.

In the first wave of editions, the printers of the *Wetterbüchlein* and the *Bauern Practica* synchronized the textual and visual features of the books. Words and images combined to convey guidance for natural observation. The woodcuts of the earliest editions of the *Wetterbüchlein* and the *Bauern Practica* depict the learned producers of the books' content. Three of the four 1510 editions of the *Wetterbüchlein* feature woodcuts on the title page

[60] Gustav Hellmann, 1893, 9, explains that although earlier bibliographic references existed, no surviving copies of the edition could be found by the end of the nineteenth century.

[61] Reynmann, ca. 1510c, VD16 R 1623; Reynmann, 1510a, VD16 R 1624; Reynmann, 1510d, VD16 R 1625; Reynmann, 1510b, VD16 R 1626.

[62] New production of the two books overlapped in the 1510s. Near the end of his career, the Strasbourg printer Matthias Hupfuff (d. 1520) printed both books for his first time in 1516: Duntze, 463–64.

[63] For ordering the earliest editions of the *Bauern Practica*, I have found Schanze to be reliable. Particularly notable is the recent consensus that the 1512 edition, *Jn dysem byechlein wirt gefunden vnd verstanden der pauren Lyessen vnd Regel*, ca. 1512, VD16 B 795, is the first printed edition rather than *Jn disem biechlein wirt gefunden der Pauren Practick*, 1508 [false], ca. 1518, VD16 B 794, which was previously—and now believed to be falsely—dated as 1508; cf. Rosenfeld, 1978 and 2004. My ordering only differs from Schanze's in that he does not include the edition, *Jn disem biechlein wirt gefunden der pauren Practick*, 1513, VD16 ZV 1124, or distinguish between the editions of the *Bauern Practica* and those of a Swiss peasants' practica which I mark as a separate book owing to its unique textual content.

and each of them depict a learned man or men in scholarly robes.[64] These figures represent members of the learned circles whose methods for natural observation were made available in the book itself. The title page of one of these 1510 editions, printed by Johann Otmar (d. ca. 1516), is particularly worthy of attention (fig. 1).[65] It shows a scholar in his study.[66] He is dressed in robes and sits with his gaze fixed upon an armillary sphere, which he holds in his hand. This pose highlights the art of astronomy as a source of the information contained within the book's pages. On the desk beside him sits a large open book. Rolling terrain and mountains below a starry sky are visible through a vast open window. The woodcut was made by the notable Augsburg artist Hans Burgkmair the Elder (1473–1531), whose initials, "HB," are visible on the side of the desk.[67] The title woodcut had appeared two years earlier on the cover of a satirical prognostication printed in Augsburg by Erhard Oeglin (ca. 1470–1520).[68] Oeglin was a close acquaintance and occasional collaborator of Otmar's and was likely his connection to the woodcut.[69] The woodcut itself is not explicitly satirical, making it applicable for use in a variety of printed works related to astronomy.[70]

The image implies that the *Wetterbüchlein* were the output of a scholar who combined technical expertise with attention to the natural world. Otmar's printing house used the same woodcut in two subsequent editions of the work, suggesting that its representation of the *Wetterbüchlein* was a commercial success.[71] Otmar's second edition of the *Wetterbüchlein*, likely printed in 1512, also contains another woodcut at the conclusion of the book; it portrayed a learned man in robes standing outside charting the positions of the heavens with an astrolabe.[72] A partially visible armillary sphere also sits on the ground in the bottom left corner of the picture. This second woodcut presented another image of the exemplary scholar observing nature.[73]

[64] Reynmann, ca. 1510c, VD16 R 1623; Reynmann, 1510a, VD16 R 1624; Reynmann, 1510b, VD16 R 1626.

[65] Reynmann, 1510a, VD16 R 1624.

[66] For works on the study in the Renaissance, see Thornton; Findlen, 1999.

[67] Burgkmair, *The Astronomer*, in Hollstein, 144 (no. 750). I thank Stephanie Leitch who first suggested to me that this was the work of Burgkmair.

[68] *Practica auff dis iar*, fol. 1^{r}.

[69] Oeglin and Otmar relocated to Augsburg from Tübingen together in 1502: Reske, 31–32.

[70] For a fuller treatment of satirical astrological publications, see S. Pfister.

[71] Reynmann, ca. 1512a, VD16 R 1628; Reynmann, ca. 1515, VD16 R 1632.

[72] It was rare in these years for an edition to have two woodcuts: Reynmann, ca. 1512a, VD16 R 1628.

[73] Seen in this way, the image is an example of the "humanist pedagogical preference for teaching by means of *exempla*—the virtues exemplified being in this case not moral but epistemic, the virtues of the diligent observer": Pomata, 50.

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Figure 1. Title page, *Uon warer erkantnũs des wetters*, Reynmann, 1510a. Bayerische Staatsbibliothek München, Rar. 1494, fol. 1[r] (VD16 R 1624).

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The early success of the *Wetterbüchlein* in Augsburg, including the marketing of the book as an accessible guide to natural observation from learned scholars, was a catalyst for the initial publication of the *Bauern Practica*. The Augsburg printer Johann Sittich produced the first printed edition of the *Bauern Practica* in 1512. Up to and during that year, four different printers in Augsburg and Munich had printed editions of the *Wetterbüchlein* and most of them had printed multiple editions of it. Sittich was not among their number. Sittich, however, found textual content that he could market to the same audiences who were making the *Wetterbüchlein* a profitable book for his Augsburg colleagues in the printing industry. He used the text of the *Bauern Practica*, a manuscript that had previously only circulated by hand copy, as the exemplar for a new publication. In his preparation of the text, Sittich made minimal alterations to it.[74] To the existing title, which he copied directly from the manuscript, he added the introductory words, "In this booklet is found and recognized."[75] He likewise copied the rest of the text within the book directly from the manuscript.

For his title image, Sittich used a large, high-quality woodcut with a striking resemblance to Burgkmair's *The Astronomer*, which Otmar had used for his *Wetterbüchlein* (fig. 2). In Sittich's woodcut, which features detailed shading and elaborate ornamentation, there appears, once again, a robed scholar sitting in his study. This time an armillary sphere hangs from the ceiling, suspended below an ornate cluster of grapes. The scholar sits on a throne-like chair and holds open a book; as he reads, he actively follows along with his finger or, perhaps, annotates the book. His gaze is indefinite and may be directed at the book, the armillary sphere before him, or past them both to the view from the window, which again features a view of the landscape. Visible in the distance are level and mountainous terrains, trees, possibly a river or a road, and above them all the clouds, stars, and moon. Various other books litter the study, giving the impression of an active work space. In using a woodcut with similar content to Otmar's title woodcut for the *Wetterbüchlein*, Sittich chose to also frame the *Bauern Practica* as the work of learned men. He visually depicted the "wise and clever masters and stargazers" credited on the title page of the *Bauern Practica* as the sources of the book's content.[76] The earliest editions of the *Wetterbüchlein* and the *Bauern Practica*, therefore, emphasized the learned sources of the books' content in their visual displays.

[74] Sittich's edition matches the text of the manuscript version, in the Staatsbibliothek zu Berlin, MS germ. qu. 1258.

[75] "Jn dysem byechlein wirt gefunden vnd verstanden," *Jn dysem byechlein wirt gefunden vnd verstanden der pauren Lyessen vnd Regel*, ca. 1512, VD16 B 795, fol. 1^{r}.

[76] *Jn dysem byechlein wirt gefunden vnd verstanden der pauren Lyessen vnd Regel*, ca. 1512, VD16 B 795, fol. 1^{r}: "die weysen vnd klugen maister vnd stern seher."

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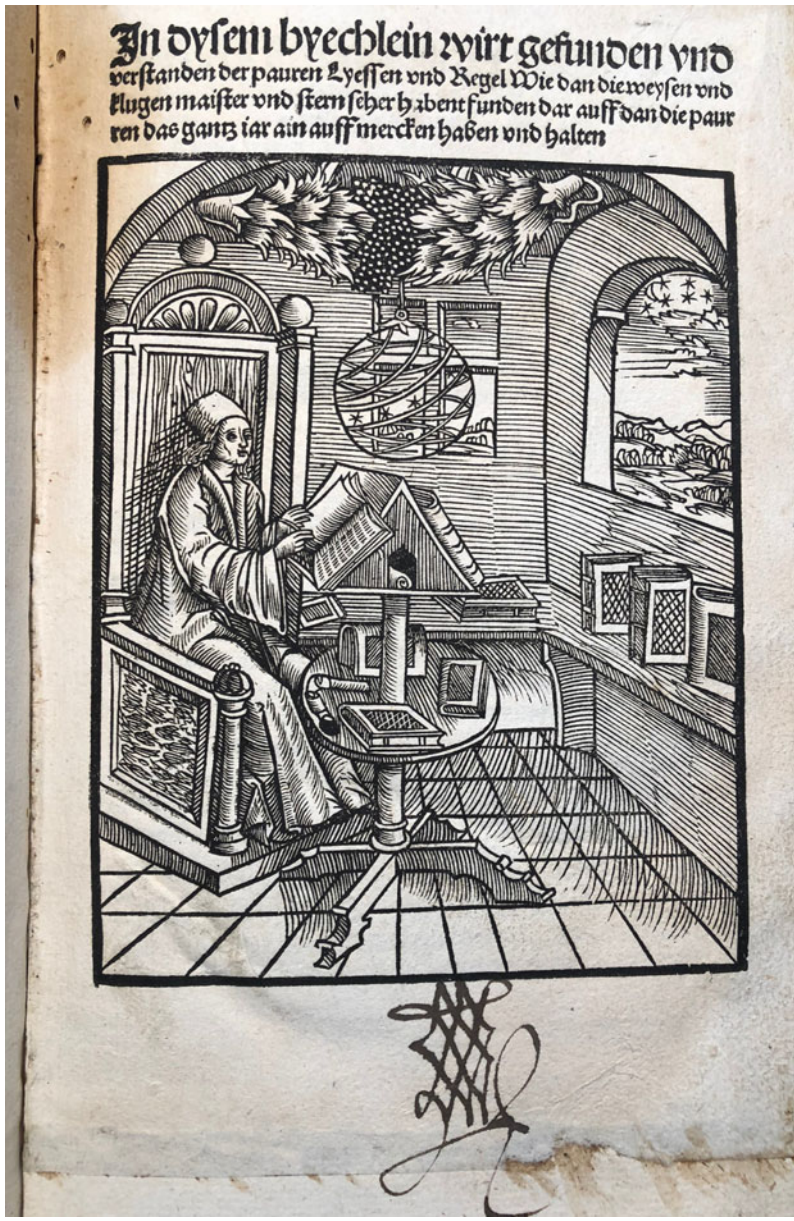

Figure 2. Title page, *Jn dysem byechlein wirt gefunden vnd verstanden der pauren Lyessen vnd Regel*, ca. 1512. Herzog August Bibliothek, A: 16.4 Astron. (2), fol. 1[r] (VD16 B 795).

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Figure 3. Title page, *Jn disem biechlein wirt gefunden der pauren Practick*, 1513. Herzog August Bibliothek, A: 253.1 Quod. (19), fol. 1[r] (VD16 ZV 1124).

Starting in 1513, a different trendsetting Augsburg printer, Johann Schönsperger the Younger (ca. 1480–1543), employed a new marketing strategy for the *Bauern Practica*. In the title woodcut, he replaced the learned producer of the text with a depiction of the book's popular audience (fig. 3). Schönsperger had already printed two editions of the *Wetterbüchlein* before

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he printed his first *Bauern Practica* with this innovation. For this edition, he used a generic border around a small woodcut showing two peasants, a man and a woman. Both members of the couple stand outside and are gesturing to the heavens, where the moon, stars, and sun are all visible. The image portrays peasants applying the rules for learned observation found in the booklet. The new image was so commercially successful that Schönsperger used it on the title page of the *Bauern Practica* for three different editions.[77] Schönsperger was an able marketer of the *Wetterbüchlein* and the *Bauern Practica*; he printed eight editions of the two works altogether, more than any other printer before 1530. He also successfully printed both works simultaneously between 1513 and 1518. Schönsperger's pioneering use of peasant imagery quickly caught on with other printers, who made portrayals of peasants the dominant representation of the *Bauern Practica*. Only slightly later would peasants also adorn the *Wetterbüchlein*.

Schönsperger's title page featuring peasants looking up at the sky incorporated visual elements that had circulated since the 1490s. Printed scenes depicting people gesturing toward the sun, moon, and stars reflected a broad interest in celestial observation in late fifteenth- and sixteenth-century German lands.[78] For example, a small woodcut accompanying a sermon on Luke 21 in an anonymous 1497 postil book depicts Jesus directing his disciples' gaze to the skies (fig. 4).[79] This scene offers a visual example of guided observation. Here Jesus is shown teaching his disciples, and subsequent Christians through the Gospel of Luke, how to observe the heavens and meaningfully read what they convey about the last days. Guided observation of the skies was satirized in chapter 65 of Sebastian Brant's (1458–1521) *Das Narrenschiff* (The ship of fools), first published in Basel in 1494 with woodcuts produced by Albrecht Dürer (fig. 5).[80] By showing the fool ironically guiding a learned man's observation of the skies, this woodcut inverted the transmission of knowledge from learned to unlearned people for humorous effect.[81] This image in the *Narrenschiff* and the one in the postil offer examples from the 1490s of scenes where people look

[77] *Jn dysem Byechlein wirt gefunden der pauren Practick*, 1513, VD16 B 797; *Jn disem biechlein wirt gefunden der pauren Practick*, 1513, VD16 ZV 1124; *Jn disem biechlein wirt gefunden der pauren Pracktick*, 1514, VD16 B 799.

[78] Barnes, 1–15.

[79] Luke 21 was often preached on the second Sunday of Advent in sermons that addressed the heavenly signs of the last days: *Hie hebt sich an das ewangelibuch*, fol. 3^{v}.

[80] Brant, 2004, 161. It is debatable whether or not Brant actually doubted the usefulness of astrology: Brant, 1944, 378n10.

[81] Although satirical, it still relied on and reflects "what was taken for granted in popular culture," in this case, a general awareness of guided observation of the heavens: Scribner, 1981, 94. See also Green, 111.

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up at the skies. The *Bauern Practica* would later match the structure of these scenes but show peasants as the ones observing the heavens.

The visual features and characteristics of the peasants who populated this type of scene in the *Bauern Practica* also derived from artistic representations in the 1490s. Dürer was particularly responsible for fashioning the appearance of the peasants who adorned the *Bauern Practica* and *Wetterbüchlein*. When Dürer turned his attention to peasants in a pioneering series of drawings and engravings in the 1490s, he portrayed them in their lifelike qualities, free from grotesque or distorted features. A drawing from the mid-1490s, *Rustic Couple and Three Peasants*, features a couple gesturing toward the sky and a separate scene of three peasants talking with one another (fig. 6).[82] Dürer may have produced the drawing in preparation for his engraving, *Three Peasants in Conversation*, which features many of the same elements as the three peasants on the left of the drawing (fig. 7).[83] This drawing and engraving are representative of Dürer's work on peasants in the 1490s, which portrayed common men and women in a neutral way and engaged in mundane activities.

It was precisely this depiction of the peasant as a normal, everyday person that came to animate the *Bauern Practica* and *Wetterbüchlein*. In some instances, the peasants in the woodcuts of these books were derived from Dürer's original creations. His influential work on peasants was widely duplicated in the early sixteenth century. The engraving *Three Peasants in Conversation* was copied at least fifteen different times by contemporary artists, including as an etching by Augsburg's Daniel Hopfer (ca. 1470–1536).[84] The three peasants were also featured on the covers of the *Bauern Practica* and *Wetterbüchlein* starting with an edition of the *Bauern Practica* published in Cologne around 1518 (fig. 8).[85] In this woodcut, the peasants are placed into the familiar structure of stars, moon, and sun above observers, including a middle figure gesturing to the heavenly bodies with an extended arm, which was later added to complete the scene.

Not every peasant portrayed in editions of the *Bauern Practica* or *Wetterbüchlein* was a direct copy from Dürer, but his realistic fashioning of peasants as innocuous men and women in the 1490s established the look that the peasants in these two books maintained throughout the sixteenth century. The disproportionate, drunk, defecating, or otherwise coarse peasants frequently

[82] Dürer drawing 1496/16, *Rustic Couple and Three Peasants*, in Strauss, 424.

[83] Dürer engraving 86, *Three Peasants in Conversation*, in *Illustrated Bartsch*, 10:75.

[84] Hopfer, 68, in *Illustrated Bartsch*, 17:145; a print is held in the British Museum, 1845,0809.1354. For the other numerous copies of Dürer's "Three Peasants in Conversation" see *Illustrated Bartsch*, 10:191–94 (commentary).

[85] *Jn desem boechgelyn wyrt gefunden der Buren Practick*, ca. 1518, VD16 B 833, fol. 1[r]; Beckers.

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Figure 4. *Hie hebt sich an das ewangelibuch*, 1497. Woodcut. Herzog August Bibliothek, A: 11.6 Theol., fol. 3^{v} (ISTC ie00086000).

portrayed in the sixteenth century by artists including Beham and Bruegel are nowhere to be found in these two books.[86] Disparaging depictions of peasants

[86] Even Dürer produced images of bulky, bawdy peasants in the 1510s; see his 1519 engraving, *Peasants at Market*, reproduced in Strieder, 153 (figure 172); Silver, 2006, 107. On Beham and his possible influence on Bruegel's depictions of boorish peasants, see Stewart, 59–135.

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Figure 5. Sebastian Brant. *Das Narrenschiff*, chapter 65, 1494. Woodcut. Bayerische Staatsbibliothek München, Rar. 121, fol. 81^{v} (BSB-Ink B-816).

would not have fulfilled the function of the peasant in the *Bauern Practica* and *Wetterbüchlein*, which was to exemplify the accessibility of the books' content for a broad audience. Dürer's 1490s peasants supplied the books' early producers with models of simple people who turned out to be commercially successful representatives of the books' users. Significantly, the peasants in the two books

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Figure 6. Albrecht Dürer. *Rustic Couple and Three Peasants*, 1496. Drawing. © Kupferstichkabinett. Staatliche Museen zu Berlin (KdZ 4270).

included women as well as men, offering a rare Renaissance portrayal of women participating in natural observation and the production of knowledge.[87]

Over the rest of the sixteenth century, creators of new editions of the *Wetterbüchlein* and *Bauern Practica* would add further nuance to the role of the peasant in the books, but not until after a pause in production from the mid-1520s. The exact reasons for the lull in new editions are difficult to

[87] I have discovered sixteen editions of the two books with depictions of women on the title page alone. Paula Findlen, 1999, 44, has also argued for the permeability of gendered boundaries around the household when it came to participating in the production of knowledge in the Renaissance: "In its official image, the museum was a setting in which women did not enter; accordingly, they did not publicly participate in any of its activities, including the production of scientific knowledge. Yet as descriptions of early modern domestic and scientific life suggest, this demarcation was ambiguous if not precarious. . . . If a scholar conducted a great deal of his 'public' life in the household, then how were such boundaries to be effectively maintained? Instead they quite often broke down in practice."

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Figure 7. Albrecht Dürer. *Three Peasants in Conversation*, ca. 1497. Kulturhistorischen Museum Magdeburg (Gr.53.59).

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Figure 8. Title page, *Jn desem boechgelyn wyrt gefunden der Buren Practick*, ca. 1518. Universitätsbibliothek Basel, Bg III 791, fol. 1[r] (VD16 B 833).

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know for certain.[88] One possibility is that the market for astrological works was crowded by publications focused on the great conjunctions that began in 1524, pushing out books like the *Wetterbüchlein* and *Bauern Practica* that were equally applicable to any year. Indeed, in 1523 Leonhard Reynmann wrote a new book for that occasion entitled *Practica vber die grossen vnd manigfeltigen Coniunction der Planeten die iī̃n jar M.D.XXiiij* (Practica about the great and manifold conjunctions of the planets which appear in the year 1524).[89] Another possibility is that the Peasants' War of 1525 somehow restricted the market or heightened the risk for printers to create a book for peasants. The biggest shift in German printing during these years, though, was the emergence of Martin Luther (1483–1546) as the most prolific author of the day.[90] The features of evangelical printing in the 1520s—such as the rapid circulation of a text via local reprints, the stark increase in vernacular printing, and the use of illustrations to reach semiliterate audiences—shaped the market in which new editions of the *Bauern Practica* and *Wetterbüchlein* would have to compete.[91] In the 1520s, Luther irrevocably changed the German print market. It is very significant, therefore, that when new editions of the *Bauern Practica* and *Wetterbüchlein* reemerged in 1530, one of the books had received an update in Wittenberg.

WITTENBERG AND THE SECOND WAVE OF NEW EDITIONS, 1530–49

Wittenberg was a small, provincial town with a young university when Martin Luther became famous and made it the home of a new evangelical movement. The town's development as a center of printing aided its influence throughout German lands.[92] On the back of the introduction of the religious pamphlet, Wittenberg printers trumped established order in the German book trade, and the town rose to the top of all German centers of book production.[93] Over the course of the entire sixteenth century, more books were produced in Wittenberg than in any other city in German lands.[94] The practice of rapidly reprinting marketable books from Wittenberg in new cities further amplified

[88] The fact that both books reemerged in 1530 with numerous new editions could hardly be coincidental and suggests that whatever market forces discouraged printers from investing in these books during the 1520s subsided in a fashion that was obvious to printers at the time.

[89] Reynmann, 1523.

[90] Chrisman, 40; Edwards, 17.

[91] Pettegree and Hall, 789; Pettegree, 2015, 145–48.

[92] Pettegree, 2011, 96.

[93] Pettegree, 2011, 91.

[94] Pettegree, 2011, 91–106.

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the cultural impact of publications that originated there.[95] It was into this altered world of German print that the *Bauern Practica* and *Wetterbüchlein* reemerged with new editions in 1530. In the 1530s and 1540s, the *Wetterbüchlein* saw its last print run while the *Bauern Practica* would continue to be reprinted throughout the rest of the century.

In these new editions, the books displayed strong continuity with editions from the first wave of their publication, in both their textual content and paratextual elements. The books continued to offer guidance on how to discern the weather through natural observation. The image of the peasant was still used to emphasize the accessibility of the books. In the 1530s, peasants began to appear on the title pages of the *Wetterbüchlein* as well as the *Bauern Practica*. A woodcut created by Hans Burgkmair showing a peasant and the four elements was featured on a 1530 *Wetterbüchlein*.[96] Other editions of the *Wetterbüchlein* feature a title woodcut with another adaptation of two of the peasants from Dürer's *Three Peasants in Conversation* (fig. 9).[97] In this woodcut, the familiar peasants are placed in a setting that combines natural and human-made features with the heavens, mountains, vegetation, and houses all visible together. In the scene, two peasants look at each other as one gestures upward, suggesting that they are in conversation about what is observable in the heavens. The woodcut presented the *Wetterbüchlein* as giving its audience the ability to observe nature and discern its significance for themselves where they lived. The picture showed that anyone could gain useful knowledge from the content within the book.

Some title woodcuts during these years depicted the use of books even more explicitly. One title woodcut of a *Bauern Practica* displays the common scene of two peasants outside under the skies with one gesturing upward (fig. 10). Rather than standing, however, one of the two men in the scene is sitting on a log, using a stump as a lectern for an open book, presumably the *Bauern Practica* itself. The seated man resembles one of Dürer's three peasants, who can be identified by his hat and clothing, which are unique to this figure among Dürer's art and earlier *Bauern Practica* and *Wetterbüchlein* woodcuts. In this scene, however, in addition to watching the sky, the man has been given another task. He has become the teacher and stepped into the role previously attributed to the learned man.[98] His right hand is placed

[95] Pettegree, 2015, 145–48.

[96] Reynmann, 1530a, VD16 R 1635; Burgkmair, *A Peasant Standing between Four Circles with the Elements*, in Hollstein, 143 (no. 749).

[97] The same woodcut was used on the title page of two editions of the *Wetterbüchlein* printed by Heinrich Steiner (fl. 1517–48) in Augsburg in the 1530s: Reynmann, ca. 1530b, VD16 R 1633; Reynmann, 1538, VD16 R 1638.

[98] The other peasant in the woodcut exemplifies a semiliterate audience for the book.

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Figure 9. Title page, *Wetterbüchlein vonn warer erkantnuß des wetters*, Reynmann, 1538. SLUB Dresden / Digital Collections / Meteor.224, fol. 1[r] (VD16 R 1638).

on the open book in a similar pose as the scholar in his study that Johann Sittich used as the title woodcut for the very first printed *Bauern Practica* (fig. 2). In the second wave of editions of the *Bauern Practica* and the *Wetterbüchlein*, the peasant became the guide to learned observation of the weather. With access to the *Bauern Practica*, he could now join the scholar as a learned observer of nature and transform the outdoors into his

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own study.[99] This image of the outdoor peasant posed as a scholar in his study represents a popularization of learned knowledge—which is exactly what the books offered their audiences.

While both books were marketed as being accessible for everyone, only the *Bauern Practica* was actually revised to be more accessible to popular audiences. Notably, this revision came from the hands of Wittenberg printer Georg Rhau (1488–1548) and also served to synchronize the promotion of popular natural observation with Martin Luther's evangelical theology.[100] The new 1530 Wittenberg edition of the *Bauern Practica* directly confronted the compatibility between evangelical beliefs and the book's instructions for gaining knowledge of the weather through natural observation. In these years, "Lutheran reformers were by no means united in their assessment of the value of natural knowledge."[101] Martin Luther occasionally expressed skepticism of natural divination based on astrology.[102] That view, however, was not the only one that emanated out of Wittenberg. Luther's closest colleague, Philip Melanchthon (1497–1560), held a very favorable opinion of the usefulness of the study of nature, including the art of astrology. Fourteen years Luther's junior, Melanchthon came to the University of Wittenberg in 1518 as a professor of Greek and was a central figure of the evangelical movement for the rest of his life. His most notable legacy within Lutheranism is as the leading author of foundational theological creeds of the religion, including the 1530 Augsburg Confession. In the sixteenth century, Melanchthon also successfully reformed education in German lands, earning him the designation of Praeceptor Germaniae (Teacher of Germany).[103] He propagated a distinctly Lutheran natural philosophy that emphasized the providence of God.[104] Even before he published famous pronouncements of his views on the subject later in the decade, features of Melanchthon's natural philosophy were on full display in the 1530 Wittenberg *Bauern Practica*. The *Bauern Practica* actually served as an opportune vehicle for spreading his ideas about the study of nature.

Careful attention to the relational dynamics within Luther's inner circle in Wittenberg reveals a crucial component of the cultural context of the 1530 Wittenberg edition of the *Bauern Practica*. Although Luther occasionally ribbed

[99] On the sixteenth-century transformation of the solitary Renaissance study into a social setting, see Findlen, 1999.

[100] *Gemeyne Practica odder Weissagung*, 1530, VD16 G 1061.

[101] Westman, 110.

[102] For an extensive and accessible collection of Luther's statements and writings on astrology, see Warburg, 652–82.

[103] On Melanchthon's curricular program for meteorology in particular, see Vermij.

[104] Kusukawa, 1–4.

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Figure 10. Title page, *Bauren Practica / oder Wetter Büchlin*, ca. 1540. Bayerische Staatsbibliothek München, Rar. 1942#Beibd.3, fol. 1[r] (VD16 B 816).

Melanchthon for his interest in astrology around the dinner table and rehearsed some common critiques of astrology in his 1527 preface to a new edition of the prophecies of Johannes Lichtenberger, he did not censor the production of popular astrological publication in his hometown.[105] The charismatic Luther was at

[105] Unlike Brant's critique of astrology for undermining the providence of God (Brant, 2004, 161–64 [*Narrenschiff* 65]), Luther accepted that astrology existed apart from spiritual revelation and under God's providence. Still, he followed Pico in questioning the accuracy of astrology, saying of Lichtenberger, "Firstly, I consider the foundation of his astrological art to be sound, but the art itself to be uncertain": translated in Warburg, 676.

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the center of deep emotional ties that bound together his closest co-laborers in the evangelical movement.[106] He maintained tight control over operations in Wittenberg, including print production. As Melchior Lotter (ca. 1490–1544) learned the hard way in 1525 when he was forced to move his printing business out of Wittenberg, Luther had ultimate leverage over his printers by the mere fact that he could choose to stop sending them work.[107] The printer of the 1530 *Bauern Practica*, Georg Rhau, had a completely different experience with Luther.[108] A professional teacher of music before he successfully claimed his place in the burgeoning world of Wittenberg print production in 1523, Rhau maintained a close friendship with Luther throughout the rest of their lives. They shared a love for music and Rhau was a frequent guest at Luther's house for nights of music with friends, including Melanchthon.[109] Rhau applied his expertise in music to his work as a printer, creating a niche market for himself with the production of music books.[110] He also displayed creativity and originality with works on nature, including a successful book entitled *Ein newes Pflanzbüchlein* (A new plant booklet), which in 1529 became the first published book on gardening and was reprinted an additional ten times in numerous cities.[111] Rhau was a talented and trendsetting printer. In his hands, the *Bauern Practica* received an update with astute attention to current market conditions for books on nature and a theological basis from the inner sanctum of Wittenberg.

A new foreword to the *Bauern Practica*, appearing for the first time in Rhau's 1530 edition, artfully combined clever marketing for the book, pastoral admonition, and a justification for the study of nature.[112] The harmony between the content of this text and Melanchthon's subsequent writings about natural philosophy supports Gustav Hellmann's suggestion that Melanchthon contributed to the production of this edition, even though it remained entirely anonymous.[113] Melanchthon viewed nature as reflective of God's providential design and, therefore, useful for learning about God.[114] Since it was created by God, nature was also seen as a means for learning from God. The 1530 foreword to the *Bauern Practica* makes this very argument. It reads: "It was and is a common

[106] Rublack, 47–55.

[107] Pettegree, 2011, 98.

[108] The most complete study of Rhau's life and work is still Woelbing. I thank Inga Mai Groote, who notified me of this 1929 unpublished dissertation.

[109] Charteris, 4–6.

[110] Pettegree, 2011, 98.

[111] Wimmer, 1; VD16.

[112] *Gemeyne Practica odder Weissagung*, 1530, VD16 G 1061, fols. 2^{r}–4^{v}.

[113] Hellmann, 1896, 34.

[114] Kusukawa, 137, 144.

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proverb: It must be a good friend who warns one of harm. But the bearer of a good and happy message is also worthy of reward."[115] After putting the reader into a favorable disposition with this uncontroversial truism about friendly behavior, the author draws a weighty conclusion from its general principle. The foreword continues that all practicas and prophecies—in this context a clear reference to the content of the book itself—can be sources of such good or bad news, in addition to the "written revelation of the Holy Spirit."[116] The author lists specifically what these extrabiblical sources include: the marvelous course of the heavens, the view of the planets and other stars, and the foundation of long, skillful experience.[117] Citing astrology and experience—or, learned natural observation over time—as means of predicting the future, the author affirms the formula previously advanced by Reynmann in the *Wetterbüchlein*.[118] The foreword continues that from observation of nature one can discover "future good fortune and misfortune, storms and thunderstorms" and either give good news or true warnings.[119] Ultimately, the good news and warnings have a spiritual purpose—helping others "to fear, love, and trust God the almighty."[120]

Melanchthon echoed this appeal to piety in his 1536 defense of astrology against Giovanni Pico della Mirandola's (1463–94) formidable critiques from the late fifteenth century. In his preface to Johannes Schöner's (1477–1547) *Tabulae Astronomicae Resolutae* (1536), Melanchthon argues: "From the stars' positions many things may be revealed about bodily health, about talents and temperaments, about many misfortunes in life, stormy weather, and changes in republics. But most of all, contemplation and attention to such matters is conducive to prudent behavior. The Christian religion neither objects to this opinion, nor do sacred writings damn such predictions, for they occupy the same part of Physics as do the predictions of medical doctors . . . therefore, it is both pious to understand God's works and to observe the forces imparted to them."[121] The foreword of the 1530

[115] *Gemeyne Practica odder Weissagung*, 1530, VD16 G 1061, fol. 2^{r}: "Es ist seer ein gemein sprichwort / vnd ist auch war. Es mus ein guter freund sein / der eins fur schaden warnet. Dagegen ist auch ein gute fröliche bottschafft / eins guten bottenbrods wol werd."

[116] *Gemeyne Practica odder Weissagung*, 1530, VD16 G 1061: "offenbarung des heiligen geistes geschrieben."

[117] *Gemeyne Practica odder Weissagung*, 1530, VD16 G 1061, fol. $2^{r–v}$.

[118] Reynmann's title claimed that the *Wetterbüchlein* was "drawn from and based on the rules of the highly renowned astrologers and additionally reinforced through daily experience": Reynmann, 1510d, VD16 R 1625, fol. 1^{r}.

[119] *Gemeyne Practica odder Weissagung*, 1530, VD16 G 1061, fol. 2^{v}: "zukünfftigen glucks vnd vnglücks / gewitters vnd vngewitters."

[120] *Gemeyne Practica odder Weissagung*, 1530, VD16 G 1061: "Gott den allmechtigen zu fürchten / lieben vnd vertrawen."

[121] As cited in Westman, 112.

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Bauern Practica aligns perfectly with this statement from Melanchthon. It offers tangible instructions for how one could piously use the information contained in the book. The author of the foreword goes so far as to assert that proper Christian love orders one to use the book and the work "of the naturalistic and artful astrologer" contained within it, and then to tell others the good or bad news.[122] The news would facilitate further piety in the hearer. If a good, fruitful year is on the horizon, the news could help one avoid pride and false security, stay in the fear of God, and have true hope.[123] If an unfruitful year with thunderstorms, famine, pestilence, and war is predicted, then one should not despair like unbelievers, but should trust in God's loving-kindness and pray to the Lord Jesus Christ, confess sin, and hope for grace.[124] The admonition to pray for grace mirrors the emphasis on God's providence that was central to Melanchthon's natural philosophy. God is not portrayed as being limited by the stars. Repentance and appeals to God's loving-kindness reflected confidence that God had the power to overrule the natural influences of the heavens.

Just as the new 1530 foreword contained a Lutheran—albeit, via Melanchthon—endorsement of the utility of natural observation for common people, Georg Rhau's updates to the *Bauern Practica* made the book even more practical to use. The foreword contains a concluding passage extolling the form of the book as "simple for everyone to read."[125] It also advertises that the "Common Practica" was good from year to year, until the end of the world.[126] With this line of thought, the printer was clearly positioning the book as an alternative or supplement to annual prognostications, suggesting that he believed that people who purchased those books would also be interested in this one. The author also emphasizes the book's accessibility by noting that while only experts could read the meaning of the course of the stars, everyone can observe the weather during Christmastime.[127] Here the invitation to observe nature and to participate in the construction of natural knowledge is offered to all.

In a version of the book that saw four new editions in 1530, Rhau reworked the original content of the *Bauern Practica* with supplemental sections and gave it a new title. These changes reached new heights in making the *Bauern Practica*

[122] *Gemeyne Practica odder Weissagung*, 1530, VD16 G 1061, fol. 2^{v}: "der natürlichen / künstreichen Sternkündiger."

[123] *Gemeyne Practica odder Weissagung*, 1530, VD16 G 1061, fol. 3^{r}.

[124] *Gemeyne Practica odder Weissagung*, 1530, VD16 G 1061.

[125] *Gemeyne Practica odder Weissagung*, 1530, VD16 G 1061, fol. 4^{r}: "von jderman billich zu lesen."

[126] *Gemeyne Practica odder Weissagung*, 1530, VD16 G 1061.

[127] *Gemeyne Practica odder Weissagung*, 1530, VD16 G 1061, fol. $4^{r–v}$. In making this particular argument the author elided that much of book's content also promised to give its audience the tools to employ the art of astrology on their own.

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accessible to more people. The title of this new version of the *Bauern Practica* was "Common Practica or Prophecy of the Old Wise Men. From Year to Year Always True."[128] In these editions, the content of the original manuscript text and earlier printed editions are faithfully reproduced, but have been changed from prose to rhyming couplets.[129] Furthermore, in addition to the foreword, Rhau added several other new sections that substantially lengthened the work as a whole. This informational content included: when the four seasons begin and end; a Cisio Janus for aiding memorization of the holy days in each month; a table based on astrology for determining the best times for bloodletting; sections on the four elements and four complexions; a section on the four winds; and regimens for each of the twelve months.

The changes and additional content augmented the original presentation of the *Bauern Practica* as a book of practical use for a general audience. It was packaged in a way that gave the book the broadest possible public. The rhyming couplets made the original content of the *Bauern Practica* easier to follow when heard aloud and easier to memorize. The new sections in the book contained information to aid people in keeping track of the calendar throughout the year and organize their everyday routines accordingly. This was practical information for people who wanted to order their behavior according to astrological influences and desired the means for tracing natural cycles with precision. It also served to transmit Lutheran theology.

Rhau was also the printer responsible for one final alteration in the *Bauern Practica* that had a lasting legacy. In 1533 he published another edition of the work, keeping the content from the "Common Practica" in place, but gave it a new title. For the rest of the century, the *Bauern Practica* was predominantly known as the *Bawern Practica oder Wetter Büchlin* (Peasants' practica or Weather booklet), a title that Rhau was the first to attach to the *Bauern Practica*.[130] It did not borrow any content from Reynmann's *Wetterbüchlein*, but it did usurp his title. In that edition, Rhau also attributed the *Bauern Practica*, for the first time, to Albertus Magnus, Al-Kindi, Haly Abenragel, and Ptolemy, further associating it with the learned origins of the *Wetterbüchlein*.[131] Indeed, at the beginning of the 1530s the *Bauern*

[128] *Gemeyne Practica odder Weissagung*, 1530, VD16 G 1061, fol. 1^{r}: "Gemeyne Practica odder Weissagung der alten weisen Manner. Von iar zu iar ymerdar werendt."

[129] For example, the information that sunshine on Saint Paul's Day (January 25) portended a fruitful year was transformed from "Scheind die sun an sant Pulus tag betheut ein fruchtbariar" to "Wenn die Sonne an Sanct Pauls tage scheind || Dadurch wird ein ftruchtbarlichs iar gemeint." See *Jn dysem byechlein wirt gefunden vnd verstanden der pauren Lyessen vnd Regel*, ca. 1512, VD16 B 795, fol. 3^{v}; *Gemeyne Practica odder Weissagung*, 1530, VD16 G 1061, fol. 9^{r}.

[130] *Bawren Practica odder Wetter Büchlin*, 1533, VD16 B 813.

[131] *Bawren Practica odder Wetter Büchlin*, 1533, VD16 B 813, fol. 2^{r}.

Practica and Reynmann's *Wetterbüchlein* were still on parallel trajectories and competing in the same print markets.

The *Wetterbüchlein* was printed seven times in the 1530s, with most of the editions concentrated in the earliest years of the decade, starting with the reemergence of new editions of the *Wetterbüchlein* and the *Bauern Practica* in 1530. The *Bauern Practica* was also printed seven times in the 1530s. In the 1540s, however, the intertwined print history of the two books parted ways for good. The *Wetterbüchlein* was printed only two last times in that decade, while the *Bauern Practica* was printed another five times on its way to continued marketability in the second half of the sixteenth century. Unlike the updated version of the *Bauern Practica*, in the 1530s the *Wetterbüchlein* remained unchanged apart from two modifications to the title page: the aforementioned inclusion of woodcuts depicting peasants (fig. 9) and the addition of the name of author Leonhard Reynmann, which had previously been known only from the dedicatory preface.[132] Only in its final printing did the *Wetterbüchlein* receive an update somewhat comparable to what Rhau did with the *Bauern Practica*.

In Dortmund in 1549, the physician Tarquinius Schnellenberg (d. 1561) integrated the material from the original *Wetterbüchlein* into a work he called *Ein newes Wetterbüchlein* (A new weather booklet) in which he added new sections on medicine, as in the 1530 *Bauern Practica*, addressing topics such as the four elements and bloodletting.[133] At that time, Schnellenberg's printer, Melchior Soter (fl. 1544–51), ran the first and only printing shop in the city.[134] A new foreword written by Schnellenberg made the case that the *Wetterbüchlein* was useful for practicing medicine and emphasized the astrological and natural bases of the book. Schnellenberg echoed the views of Melanchthon, explaining that astrology was a gift from God.[135] He explicitly placed astrology into a natural framework over which God was named sovereign.[136] As in the text from Melanchthon cited above, Schnellenberg drew a link between weather and the field of medicine through astrology. Despite duplicating parts of the successful formula of the *Bauern Practica*, Schnellenberg's new *Wetterbüchlein* was not reprinted.[137] For the rest of the century, only the title of Leonhard Reynmann's book, not its content, would continue to be reproduced.

[132] In one edition printed around 1530, VD16 B 8422, astrologer Matthias Brotbeihel (fl. ca. 1526–47) took credit for the *Wetterbüchlein*: see Brotbeihel. His edition added minimal new content about the twelve astrological signs to an otherwise unaltered book.

[133] Reynmann and Schnellenberg, 1549, VD16 R 1640.

[134] Reske, 172.

[135] Reynmann and Schnellenberg, 1549, VD16 R 1640, fol. 2^{r}.

[136] Reynmann and Schnellenberg, 1549, VD16 R 1640.

[137] The edition was printed in a provincial location in terms of print production and notably lacked woodcuts, except on the title page, in an era when they were popular.

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THE *BAUERN PRACTICA* IN THE CONFESSIONAL AGE, 1550–1605

From 1550 through the first years of the seventeenth century, an additional twenty-seven editions of the *Bauern Practica* were printed in German lands. The book was printed consistently in the 1550s, 1560s, 1570s, and 1580s, with peaks in the early 1560s and late 1570s. In the 1590s production stopped, only to see a resurgence around the turn of the century. Confessional consolidation and standardization marked German lands during these decades.[138] Although the *Bauern Practica* did not have explicit confessional markers, it was already embedded in Lutheran culture. During these years, the book was published primarily, but not exclusively, in Lutheran cities.[139] The center of production for new editions of the *Bauern Practica* shifted to Frankfurt am Main, a locus of book distribution due to the annual book fair there.[140] In these years, new editions of the work were commonly printed with some variation of Georg Rhau's title *Bawern Practica oder Wetter Büchlin*; these generally featured all the content he added to the original work, as well as more sections that contained further practical information and aids for observing nature.[141]

The *Bauern Practica* had great consistency throughout the entire sixteenth century. Besides preserving the original textual content of the 1512 edition in every new edition, the portrayal of learned information passed to the hands of common people remained steady. As the book developed, its new content made it accessible to and useful for increasingly broad audiences. The use of the image of the peasant to represent the book's practicality was also amplified as new editions incorporated

[138] See Lotz-Heumann for a concise overview of confessionalization.

[139] Von Uri, ca. 1580; Hellmann, 1896, 21 (no. 14); and *Pawren Practica*, ca. 1585, VD16 ZV 26339, were all published in Catholic Cologne. Moreover, in that era of widely circulating books, the location of publication did not preclude the possibility that a book was sold in other regions including ones with differing confessional identities.

[140] On the Frankfurt Fair, see Flood; Pettegree, 2011, 65–90. In the annual Frankfurt catalogue, the *Bauern Practica* fell into the miscellaneous category that was not divided, in contrast to theological books, along confessional lines. Only one edition of the *Bauern Practica*, *Ein wahrhafftinge Practoca*, 1585, VD16 B 832, printed in Speyer, appears in the catalogue: Willers, 363.

[141] In these decades, Henricus von Uri was commonly named as the author of the previously anonymous *Bauern Practica*. Von Uri had earlier been given as the author of the Swiss peasants' practicas in which it was explained that he received the content of the book via revelation from the angel Raphael: von Uri, 1517, fol. 1^{v}. In the later editions of the *Bauern Practica*, any mention of Raphael had been dropped and it is unclear if the name Henricus von Uri had any significance or merely provided a means of fulfilling the convention of that time to avoid marketing an anonymous book. Also unclear is whether or not von Uri was a real person. One Swiss legend holds that in the thirteenth century a Henricus von Uri received a vision, wandered from his home, and eventually founded a hospital: Rosenfeld, 1964, 380.

more woodcuts throughout its pages. New images matched new content that supplied aids for intelligently observing nature. The following overview and images are drawn from a typical edition for the era, published in Frankfurt am Main around 1560 by Weigand Han (ca. 1526–62).[142] Not every subsequent edition had all the elements described below, but this edition is quite complete.[143]

In the text and in diagrams, the *Bauern Practica* provided aids for keeping track of the calendar and the movements of the planets and stars.[144] This information based on learned knowledge presented numerous ways for anyone to independently determine astrological influences throughout the year and throughout the day. The Cisio Janus, a clever mnemonic device, allowed people to memorize the number of days in each month and the church calendar as short poems for every month in rhyming couplets. For instance, January's poem is thirty-one words long and the individual words of each line fall on the holy days of the month. January's opening couplet contains eleven words, "(1)Jesus (2)the (3)Child (4)was (5)circumcised / (6)Three (7) Kings (8)of (9)Orient (10)came (11)riding."[145] These two lines convey that January 1 is the day on the liturgical calendar for celebrating the circumcision of Jesus eight days after his birth, and that January 6 is Epiphany, which is called Drei Königs Tag (Three Kings' Day) in German. Knowing the calendar was vital for keeping track of astrologically significant days of the year, and the Cisio Janus made it easy to commit to memory. It was also a feature of the book particularly well suited for verbal transmission from a reader to semiliterate audiences of the book.

The book also contained a chart for calculating the cycle of the moon and several sections explaining which planets and stars were influential during various times of the year and what activities should be done or avoided accordingly. In one chart (fig. 11), scenes from the four seasons are shown with accompanying text that contains the following information for each season: its wind, its zodiac signs, its months, its humor, its element, its temperature and wetness, and its part of the day.[146] So, summer has the east wind Euros; the zodiac signs Cancer, Leo, and Virgo; the months of June, July, and August; the choleric humor, or yellow bile; its element is fire; it is warm and dry; and its part of the day is sunrise.[147] All of this content highlights a process of increasingly refined and accessible presentations within the

[142] Von Uri, ca. 1560, VD16 B 822.

[143] It is very similar, for instance, to a 1602 edition published in Erfurt. Von Uri, 1602, VD17 39:113608U.

[144] Von Uri, ca. 1560, VD16 B 822, fol. 33^{v}.

[145] Von Uri, ca. 1560, VD16 B 822, fol. 15^{r}: "Jhesus das Kindt ward beschnitten / Drey König von Orient kamen geritten." Parenthetical numerals are my own addition in order to call attention to the use of this mnemonic device.

[146] Von Uri, ca. 1560, VD16 B 822, fol. 38^{v}.

[147] Von Uri, ca. 1560, VD16 B 822.

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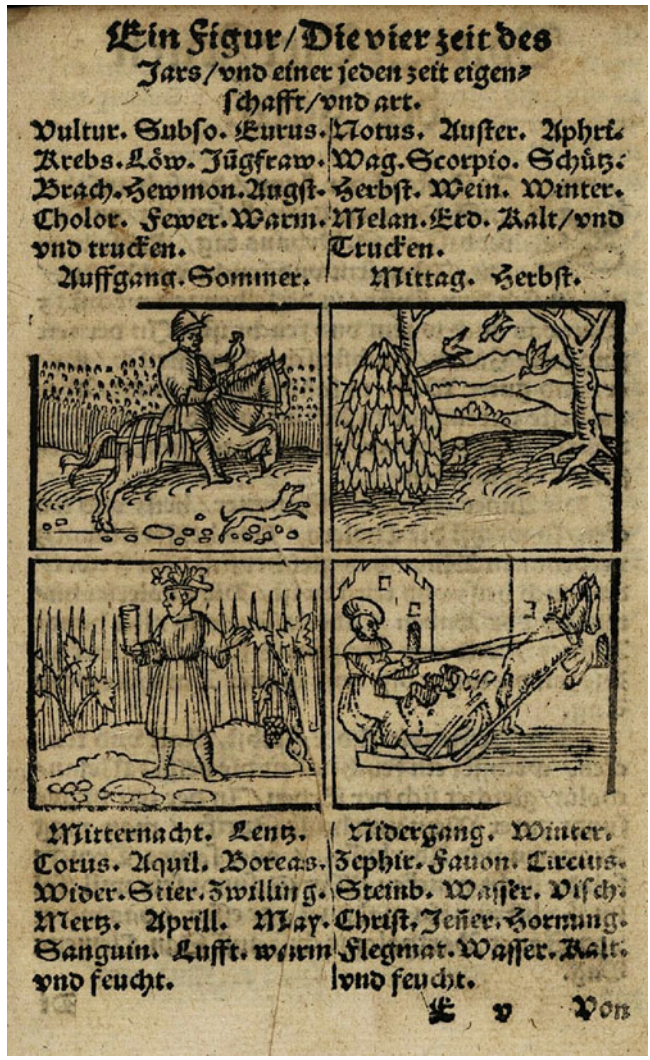

Figure 11. Henricus von Uri. *Bawren Practica / Oder Wetterbüchlin*, ca. 1560. Woodcut. Zentralbibliothek Zürich: AW 6056, fol. 38^{v} (VD16 B 822).

Bauern Practica of the harmony between natural knowledge and daily life in all of its seasonal varieties. By 1560, a single page could visibly render the comprehensive framework for making sense of observed nature that had always underlain the *Bauern Practica*.

In these later editions of the *Bauern Practica*, the image of the peasant continued to function as it had before, modeling the skillful observation of nature

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Figure 12. Henricus von Uri. *Bawren Practica / Oder Wetterbüchlin*, ca. 1560. Woodcut. Zentralbibliothek Zürich: AW 6056, fol. 9^{v} (VD16 B 822).

by common people. In fact, in these editions the peasant image was used even more widely than before and in specific new contexts. Whereas earlier title woodcuts showed peasants observing the skies and even teaching out of the *Bauern Practica*, the peasant was put to more varied tasks in illustrations throughout the pages of these later editions. For instance, numerous woodcuts depicting peasants at work under the influence of the stars complemented textual content prescribing monthly activities. In *Weinmonat* (an archaic synonym of *Oktober*), to take one example, a small woodcut depicts men harvesting and crushing grapes and then storing the juice in barrels (fig. 12).[148] The astrological sign for the month, Scorpio, is also pictured in the scene of preparing wine. As in earlier depictions of peasants in the *Wetterbüchlein* and *Bauern Practica*, the peasants seen here are not satirical figures, but instead illustrate a bridge between natural knowledge of the cosmos and everyday life.

In one particularly marketable feature of the *Bauern Practica* in the second half of the sixteenth century, the peasant image is put to an even more practical use. The *Bauern Practica* included instructions for making a sundial with a straw and one's left hand. The accompanying title for the section explains that it was "for farmers, messengers, sailors, merchants, and

[148] Von Uri, ca. 1560, VD16 B 822, fol. 9^{v}.

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Figure 13. Paul Reinmann. Sundial, 1599. British Museum, London (00442155001).

everyone who journeys over water or land."[149] Keeping track of the hour of the day would allow a person to apply the information in the book about the different influences of planets throughout the day. A wealthy person might own a pocket sundial such as the one created in 1599 by Paul Reinmann (d. 1608) of Nuremberg (fig. 13). For everyone else, if they had access to a *Bauern Practica*, a straw would suffice. This feature of the book was

[149] Von Uri, ca. 1560, VD16 B 822, fol. 44^{r}: "fur Ackerlaut / Botten / Schiffleut / Kauffleut / vnd alle die wander zu Wasser oder zu Land."

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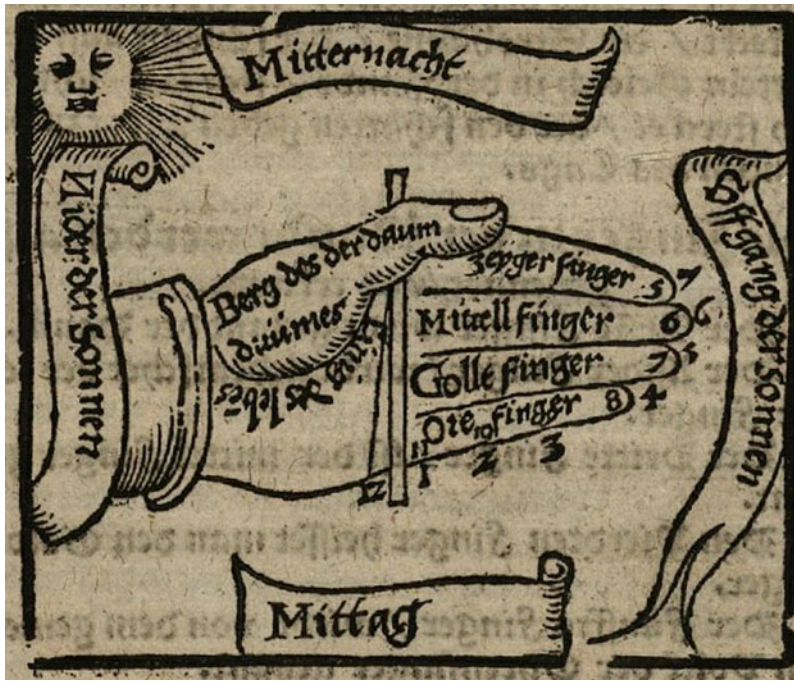

Figure 14. Henricus von Uri. *Bawren Practica / Oder Wetterbüchlin*, ca. 1560. Woodcut. Zentralbibliothek Zürich: AW 6056, fol. 44[r] (VD16 B 822).

appealing enough to warrant space on the title page of an edition published around 1600.[150] With this knowledge of how to use one's hand as a clock, a person could stay connected to the cosmos however remotely they wandered. A detailed image demonstrated how to hold the straw under one's thumb and across the palm with numbers on each finger showing the hour of the day (fig. 14).[151] A second woodcut also demonstrated how one should position the entire body in summer and winter to use the hand sundial (fig. 15).[152] This image of the peasant even eclipsed the peasant as a learned man seen in the last section (fig. 10). No longer a representative picture of a peasant teaching a pupil, by demonstrating a proper stance for the hand sundial, the image of these peasants actually taught the viewer of the book directly. It is this austere image of peasants discerning the time of day in a remote field that best epitomizes what the *Bauern Practica* and *Wetterbüchlein* promised

[150] Von Uri, ca. 1600, fol. 1[r].
[151] Von Uri, ca. 1560, VD16 B 822, fol. 44[r].
[152] Von Uri, ca. 1560, VD16 B 822, fol. 46[v].

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Figure 15. Henricus von Uri. *Bawren Practica / Oder Wetterbüchlin*, ca. 1560. Woodcut. Zentralbibliothek Zürich: AW 6056, fol. 46^{v} (VD16 B 822).

in some fashion throughout the entire sixteenth century: techniques for common people to independently gain knowledge from nature.

CONCLUSION

In the sixteenth century, producers of the *Wetterbüchlein* and *Bauern Practica* developed the image of the peasant naturalist: a simple person skillfully observing nature. In this context, peasant men and women represented the possibilities for new sectors of society to access and use learned information through print. While depicted realistically, the peasants in these books were also designed as part of an extended marketing campaign and served a function analogous to actors or models in modern advertising. It is too limiting to suppose that the *Wetterbüchlein* and *Bauern Practica* were directed specifically or primarily to peasants. In keeping with the definition of *popular* employed throughout this article, I argue that these books are best understood as being marketed to as broad of an audience as possible, one that spanned society. From a commercial perspective, it makes sense that the printers who invested in these books wanted

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to sell them as widely as possible. Ultimately, then, the image of the peasant intelligently observing the heavens or sitting in the seat of the scholar represented the promise that "anyone who is learned or unlearned" could gain a true knowledge of the weather.[153]

These books visually and textually conveyed a message about themselves; namely, that they could transmit the skills necessary for learned observation of nature. The books, therefore, mediated the popular production of knowledge in multiple ways. On one level, they gave common people a practical guide to easily observable natural occurrences and provided simple ways of discerning their significance. On a more foundational level, however, the marketers of these books propagated the idea that common people could produce knowledge from nature in the first place. In addition to circulating the technical information within the books, each new edition also reinforced the notion that finding naturalistic explanations for phenomena was open to everyone. Based on the commercial success of these two books, that was an idea German society was ready to embrace in the sixteenth century.

[153] Reynmann, 1510d, VD16 R 1625, fol. 1^{r}.

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Der bawren practica. Jn disem buchlein wirt gefundē der bawrē Lüsen vnd Regel darauff sie das gantz iar eyn auff mercken haben vnnd halten. Erfurt: Matthes Maler, 1521. VD16 B 809.

Bawren Practica odder Wetter Büchlin. Wittenberg: Georg Rhau, 1533. VD16 B 813.

Der bawrē practica. Jn dißem büchlein wirt gefundē der bawrē Lusen vnd Regel darauff sie das gantz iar eyn auffmercken haben vnd halten. Leipzig: Martin Landsberg, ca. 1517. VD16 B 803.

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Gemeyne Practica odder Weissagung der alten weisen Manner. Von iar zu iar ymerdar werendt. Wittenberg: Georg Rhau, 1530. VD16 G 1061.

Jn desem boechgelyn wyrt gefunden der Buren Practick ader pronosticatio vñ regell dair vp sy danñ dat gătze jair eyn vpmyrcken haue vñ halden. Cologne: Arnd von Aich, ca. 1518. VD16 B 833.

Jn disem biechlein wirt gefunden der pauren Pracktick vnnd regel darauff sy das gantz jar ain auffmercken haben vnnd halten. Augsburg: Johann Schönsperger, d. J., 1514. VD16 B 799.

Jn disem biechlein wirt gefunden der Pauren Practick vnnd regel darauff sy das gantz iar ain auffmercken haben vnnd halten. Augsburg: Johann Schönsperger, d. J., 1508 [false], ca. 1518. VD16 B 794.

Jn disem biechlein wirt gefunden der pauren Practick vnnd regel darauff sy das gantz jar ain auffmercken haben vnnd halten. Augsburg: Johann Schönsperger, d. J., 1513. VD16 ZV 1124.

Jn disem Biechlin wirt funden der Pauren Practick vnd Regel / daruff sie das gantz jar ein vffmercken haben vnd halten. Strasbourg: Matthias Schürer, ca. 1519. VD16 B 796.

Jn disem Biechlin würt funden der Bauren Practick vnd Regel / daruff sie das gantz jar ein vffmercken haben vnd halten. Strasbourg: Matthias Schürer, ca. 1521. VD16 B 807.

Jn dysem Byechlein wirt gefunden der pauren Practick vñ regel darauff sy das gătz jar ain auffmercken haben vnnd halten. Augsburg: Johann Schönsperger, d. J., 1513. VD16 B 797.

Jn dysem byechlein wirt gefunden vnd verstanden der pauren Lyessen vnd Regel Wie dan die weysen vnd klugen maister vnd sternseher habent funden darauff dan die paurren das gantz iar ain auffmercken haben vnd halten. Augsburg: Johann Sittich, ca. 1512. VD16 B 795.

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Pawren Practica / Wie man die Witterung deß gantzen jars eigentlich erlernen mag / durch Järliche erfarung gewiß vnnd war befunden. Jetzund auffs new widerumb gemehret / Vnnd mit schönen Figuren gezieret. Henricus von Vry Mit sampt angehencktem Layen Compaß / ins Menschen lincken Hand klärlich beschriben / Allen Ackerleuten / Botten / Schiffleuten / Kauffleuten / vnd andern / so zu Wasser vnd Lande Reysen / nützlich zu wissen. Cologne: Gerhard von Kempen, ca. 1585. VD16 ZV 26339.

Reynmann, Leonhard. *Von warer Erkanntnus des Weters*. Augsburg: Johann (Hans) Froschauer, 1505.

Reynmann, Leonhard. *Uon warer erkantnũs des wetters Also das ain yeder er sey geleert oder vngeleert durch alle natürliche antzaygung die ändrung des wetters aigentlich vnd augscheinlich wissen vnd erkennen mag / getzogen vnd gegründt auß den regeln der hochberümsten Astrologen / vñ dartzů durch die täglichñ erfarung die ain maysterin ist aller kunnst bewärt*. Augsburg: Johann Otmar, 1510a. VD16 R 1624.

Reynmann, Leonhard. *Von warer erkanntnuss des wetters Also das ain yeder er sey gelert oder vngelert durch alle natürliche anzaigung die ännd*r̃*g des wetters aÿgentlich vñ augenscheinlich erkennen mag rc*. Munich: Hans Schobser, 1510b. VD16 R 1626.

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Reynmann, Leonhard. *Wetterbiechlin Von warer erkanntnusz des weters. Also das ain yeder er sey geleert od vngeleert / durch alle natürliche anzaygung die endrung des wetters aygentlich vnnd gruntlich wissen vñ erkeñen mag. Gezogñ vñ gegründt vß den regeln der hochberümtñ Astrologen. vñ darzü durch tägliche erfar*r̃*g bewärt*. Augsburg: Johann Schönsperger, d. J., 1510d. VD16 R 1625.

Reynmann, Leonhard. *Uon warer erkantnũs des wetters Also das ain yeder / er sey geleert oder vngeleert / durch alle natürliche anzaygung die änderung des wetters aygentlich vnd augscheinlich wissen vnd erkennen mag / getzogen vnd gegründt auß den Regeln der hochberümbtsten Astrologen / vnd dartzü durh die täglichen erfarung die ain maysterin ist aller kunst bewärt*. Augsburg: Johann Otmar, ca. 1512a. VD16 R 1628.

Reynmann, Leonhard. *Võ warer erkantnusz des weters. Also das ain yeder er sey gelert oder vngelert durch alle natürliche anzaygung die endrung des weters aygentlich vnd augscheinlich wissen vnnd erkennen mag. gezogen vnnd gegründt auß den regeln der hochberümbten Astrologen. vnnd darzũ durch die täglichen erfarung die ain maisterin ist aller kunst bewärt*. Augsburg: Johann (Hans) Froschauer, 1512b. VD16 ZV 26292.

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Reynmann, Leonhard. *Practica von warer erkentnis des wetters / Also / das ein ieder er sey gelert odder vngelert / durch alle natürliche anzeigung die endrung des wetters / eigentlich vnd augenscheinlich wissen vnd erkennen mag / gezogen vnd gegründ aus den regeln der hochberümbten*

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Astrologen / vnd darzu durch die tegliche erfarung die ein meisterin ist aller kunst bewert. Zwickau: Wolfgang Meyerpeck, 1530a. VD16 R 1635.

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Reynmann, Leonhard. *Wetterbüchlein vonn warer erkantnuß des wetters. Also das ain jegklicher / er sey gelert oder vngelert / durch alle natürliche anzaigung / die veränderung des wetters / eygentlich vnd gründtlich wissen vnd erkeñen mag. Gezogen vnnd gegründt auß den Regeln der Hochberümpten Astrologen vnnd darzü durch tägliche erfarung beweret*. Augsburg: Heinrich Steiner, 1538. VD16 R 1638.

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