

A stylized black and white graphic of a globe, showing the continents of Europe and Africa. The globe is partially obscured by the text 'STUDIA GEOHISTORICA'.

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Spis treści • Contents

Tradycje geografii historycznej • Traditions of historical geography

Stanisław Arnold

Geografia historyczna, jej zadania i metody (Wstęp)

(uwagi wstępne: Tomasz Siewierski, opracowanie: Marcin Morawiec) 7

Jan Śniadecki

O Mappie Krajowej

(uwagi wstępne: Beata Konopska, opracowanie: Michał Bąk, Beata Konopska) 20

Artykuły • Articles and theses

Tomasz Związek, Tomasz Panecki

Osadnictwo ołęderskie w badaniach nad rekonstrukcją szesnastowiecznego zalesienia
na przykładzie okolic Nowego Tomysła

The Usage of 18th c. Dutch-type Settlement in the Context of Afforestation Reconstruction

for Early Modern Times on the Example of Nowy Tomysł Vicinities 29

Kamil Nieścioruk

Z problematyki kartograficznej wizualizacji danych historycznych
na przykładzie zachodniogalicyskich cmentarzy wojennych

Cartographic Visualisation of Historical Data

on the Example of the Western Galicia War Cemeteries 63

Zbigniew Babik

W obronie kartografii. Polemika wokół lokalizacji i identyfikacji jezior luboskich

In Defense of Cartography. A Polemic over Localization and Identification of Lubosz Lakes 79

Alexey A. Frolov

Creating Large-Scale Historical Maps in Russian Historiography (20th–21st Centuries).

Methodical Approaches

Tworzenie wielkoskalowych map historycznych w rosyjskiej historiografii XX i XXI w.

Aspekty metodyczne 94

Ewelina Siemianowska

O przewłokach raz jeszcze

Once more on the Subject of Portages 115

Henryk Rutkowski

Granica mazowiecko-litewska między Wizną a Grodnem z 1358 r.

The Mazovian-Lithuanian Border between Wizna and Grodno from 1358 140

Elżbieta Kowalczyk-Heyman

Średniowieczne i wczesnonowoczesne młyny ziemi liwskiej (Młyny na Czerwonce)
Medieval and Early Modern Times Mills of the Liw Area (Mills on the River Czerwonka) 156

Agata Mirek

Female Orders and Congregations in Poland in the 19th and 20th Centuries
Zakony żeńskie na ziemiach polskich w XIX i XX wieku 176

Piotr Eberhardt

Polskie Imperium Słowiańskie według map Stanisława Wendekera z 1939 r.
i Konfederacji Narodu z 1941 r.
The Polish Slavonic Empire according to the Maps of Stanisław Wendeker of 1939
and the Confederation of the Nation of 1941 190

Atlas Fontium

Atlas Fontium
(Marek Stoń) 201

Ewa Kobylińska

Admisje notarialne w diecezji płockiej u schyłku średniowiecza
Admissions of Notaries Public in the Diocese of Płock in the Late Middle Ages 204

Recenzje i omówienia • Reviews and discussions

O rzece i wodzie w życiu codziennym człowieka średniowiecza, red. S. Moździoch, K. Chrzan,
Instytut Archeologii i Etnologii PAN, Ośrodek Badań nad Kulturą Późnego Antyku
i Wczesnego Średniowiecza, Wrocław 2015 (Spotkania Bytomskie VIII)
(Rafał Kubicki) 223

Urszula Sowina: Water, Towns and People. Polish Lands against a European Background
until the Mid-16th Century, Frankfurt am Main 2016
(Katalin Szende) 226

Archeologie a letecké laserové skenování krajiny / Archaeology and Airborne Laser Scanning
of the Landscape, ed. M. Gojda, J. John i in., Plzeň 2013
(Grzegorz Szalast) 234

Joanna Plit: Krajobrazy kulturowe Polski i ich przemiany, Instytut Geografii i Przestrzennego
Zagospodarowania im. Stanisława Leszczyckiego PAN, Warszawa 2016 (Prace Geograficzne, 253)
(Jan A. Wendt) 240

Edward Brooke-Hitching: The Phantom Atlas. The Greatest Myths, Lies and Blunders on Maps,
SIMON & Schuster, London i in. 2016
(Lucyna Szaniawska) 243

Słownik wsi śląskich w średniowieczu, vol. 1: Powiat lubiński, red. Dominik Nowakowski, authors: Dagmara Adamska, Agnieszka Latocha, Dominik Nowakowski, Aleksander Paroń, Marcin Siehankiewicz, Robert Sikorski, Instytut Archeologii i Etnologii PAN, Ośrodek Badań nad Kulturą Późnego Antyku i Wczesnego Średniowiecza, Wrocław 2014
(Joachim Stephan) 249

Bożena Degórska: Transformacja krajobrazu wschodnich Kujaw w kontekście zmian użytkowania ziemi i osadnictwa (1770–1970), Instytut Geografii i Przestrzennego Zagospodarowania PAN, Warszawa 2016
(Urszula Myga-Piątek) 252

Janusz Szyszka: Formowanie i organizacja dóbr monarszych w ziemi lwowskiej od połowy XIV do początku XVI wieku, Instytut Historii im. Tadeusza Manteuffla Polskiej Akademii Nauk, Societas Vistulana, Kraków 2016 (Maiestas – Potestas – Communitas, 5)
(Bohdan Smereka) 260

Komunikaty i sprawozdania • Communiqués and reports

Interdyscyplinarne Seminarium Naukowe „Młyny wodne w dorzeczu dolnej Wisły od początku XIX do początku XXI wieku” – Toruń, 26 maja 2017 r.
(Dariusz Brykała) 275

Konferencja naukowa „Współczesne badania geograficzno-historyczne krajobrazu kulturowego” – Łódź, 22–23 czerwca 2017 r.
(Łukasz Musiaka) 277

„Kartografia wojskowa krajów Młodszej Europy XVI–XX wieku”. XXX Ogólnopolska Konferencja Historyków Kartografii – Toruń–Grudziądz, 13–15 października 2016 r.
(Jerzy Ostrowski) 282

II międzynarodowa interdyscyplinarna konferencja naukowa z cyklu „Wieś Zaginiona” pt. „Wieś miniona, lecz obecna: ślady dawnych wsi i ich badania” – Chorzów, 16–17 listopada 2016 r.
(Jarosław Suproniuk) 287

XX Międzynarodowa i Ogólnopolska Konferencja Onomastyczna „Onomastyka – Neohumanistyka – Nauki Społeczne” – Kraków, 21–23 września 2016 r.
(Michał Gochna) 295

39. Ogólnopolska Konferencja Kartograficzna „Wizualizacja kartograficzna w nauce i praktyce” – Zwierzyniec, 26–28 września 2016 r.
(Kamil Nieścioruk) 297

Tematyka historii kartografii na konferencji kartograficznej w Zwierzyncu w dniach 26–28 września 2016 r.
(Lucyna Szaniawska) 299

Spis treści

Seminarium „Historia środowiskowa. Teoria i praktyka” – Warszawa, 23 listopada 2017 r. (Michał Słomski)	304
--	-----

Pro memoria

Andrzej Tomczak (1922–2017)	307
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* * *

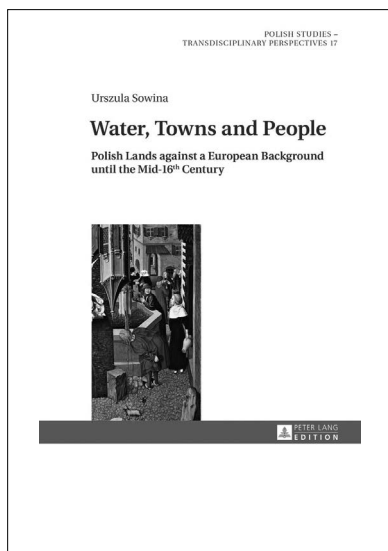
Instrukcja dla autorów • Guidelines for Authors	309
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Urszula Sowina: Water, Towns and People. Polish Lands against a European Background until the Mid-16th Century, Frankfurt am Main 2016, 530 pp. + 71 figs*

Water is an elusive substance – and an elusive subject. For a long time, historical research took its presence and availability for human life for granted, and paid very

interest in the subject. The close connection between water and urban development is common knowledge; examples of cities from Venice to Amsterdam, from Vienna to London are frequently discussed. Polish cities and towns, however, have been less in the limelight of international scholarship, mainly due to the limited access to relevant source materials (both written and archaeological), and the equally restricted availability of publications of local research results. Urszula Sowina's new monograph, translated by Justyna Woldańska in the framework of a program sponsored by the Polish Ministry of Culture to make available research results in world languages, offers a much welcome improvement of this situation.¹

Urszula Sowina is eminently qualified to provide an overview of this topic. She works as Associate Professor at the Institute of Archaeology and Ethnology of the Polish Academy of Sciences and – as the bibliography of the present volume demonstrates – since 1991 she has published numerous studies on various aspects of late medieval urban life based on archival and archaeological evidence. Her most frequently used sources are municipal court books, containing court cases, last wills, inventories and accounts and many other relevant pieces of information. She also integrates into her argument excavation reports and archaeological materials kept in museums. Her work has already achieved international



little attention to the provisioning of human settlements with water, and its impact on the organization of space and society. Inspiration and impetus to make water the protagonist of historical narratives reached historiography from many different sources, from antiquarian research into the history of technology through historical geography to the history of climate and its changes. Within geography, geological, hydrographical and topographical features play an equally important role in studying the presence, use, and management of water. Adding a historical perspective, particularly in view of the grave problems of the present, can lead to a better understanding, and maybe even resolving, of critical issues in a long-term perspective.

Urban history is yet another relatively new field that has developed a strong

* This review was written with the support of the projects "The Hungarian Atlas of Historic Towns" (NKFI K 11594) and the MTA BTK "Lendület" Hungarian Economic History Research Group (LP 2015-4/2015).

¹ The Polish original is: U. Sowina, *Woda i ludzie w mieście późnośrednio-wiecznym i wczesnonowoczesnym: ziemie polskie z Europą w tle*, Instytut Archeologii i Etnologii Polskiej Akademii Nauk, Warszawa 2009, ss. 488.

circulation, since several of her studies appeared in French, often comparing the Polish situation to that of France or the Kingdom of Castile. This is her first work on the subject made available to an English-speaking audience. In my review, I shall first summarize the main topics discussed in the volume, highlighting the author's most important observations and results, then raise some issues concerning the presentation of the material, and, finally, point out some questions that need to be resolved by future research.

After a brief introduction including the discussion of the international and Polish historiography of the subject and acknowledgments, the author first approaches her topic from a somewhat unexpected, philosophical-theoretical angle. She presents in *Part One* "opinions concerning the quality of water" made by selected medieval authors, first and foremost Jacques Le Lieur, secretary to Francis I, king of France, whose description of the water supply system of Rouen in 1524–1525 has been the subject of Sowina's previous publications. She expands her scope here to earlier times by a detailed analysis of the thirteenth-century encyclopaedic work of Bartholomaeus Anglicus, a treatise on *Ruralia commoda* by Pietro de Crescenzi of Bologna written in 1305, and the Florentine Leon Battista Alberti's famous *Libri de re aedificatoria decem* (1447–1452). The common denominator in these authors' works that is relevant for Sowina's later discussion is the clear preference of rainwater as the cleanest and healthiest form of drinking water, as opposed to still water or water from major rivers.

The question of how widely their ideas were known and especially put into practice in medieval Poland is more difficult to answer. The library of Matthias de Miechów (1457–1523), a well-educated physician, alumnus and later professor of the University of Kraków may give

an indirect indication. Furthermore, in 1549 an illustrated edition of de Crescenzi's work was published in Kraków, from which in the later part of the present volume some figures are reproduced. It might have also been worth mentioning that as a papal legate Bartholomaeus Anglicus was appointed to resolve disputes between duke Bolesław V and the cathedral chapter of Kraków, and that he wrote his encyclopaedia as part of his eastern mission as minister of the Saxons at Magdeburg. Nevertheless, despite all the popularity of these authors in educated circles, their influence on practical matters discussed in the rest of the work can be considered rather indirect.

The second and third parts of Sowina's book turn to more explicitly urban themes, and discuss *The town and the river* and *Water for towns*, respectively. In *Part Two*, the main emphasis is on the site selection of towns in relation to watercourses, be they major rivers or small streams. The dependence of towns on water is obvious: no major city (or even biggish town) in medieval Europe was ever able to grow and prosper that lacked access to a seaport or a major, and preferably navigable, river close by. The novelty of Sowina's approach to this connection is that she makes a distinction between lowland towns and upland towns. Lowland towns, presented on the example of Wrocław, were located on the same level as the watercourse defining its site. These sites enjoyed the direct benefit of close communication between town and water, but at the same time they were exposed to its drawbacks as well, especially flooding. Direct access to water resulted in the flourishing of crafts, partly using water as raw material or a cleansing agent, partly exploiting its energy for driving mills (fulling, grinding-, paper-, and sawmills). Upland towns were safer, but cut off from many of the advantages, especially because the residential areas were located far

above the groundwater-bearing stratum, which caused difficulties while obtaining water for everyday needs. In Sandomierz and Płock, prime examples of Polish highland towns, “crafts practiced *intra muros* were clearly underdeveloped” (p. 71). The disadvantages were often counterbalanced by favourable royal commercial policy, particularly privileges to collect customs duties from long-distance merchants transporting their goods on the river. The two types of towns also differed in their use of space: only lowland towns showed conscious efforts of connecting their built-up areas with the river.

The further subchapters of *Part Two* discuss the significance of smaller natural or artificial watercourses, using Kraków as the main example. Sowina argues convincingly that these rivulets, leats and moats were often more important for structuring urban space and accommodating industrial activities than major rivers. Finally, the use of water *extra muros*, for the irrigation of gardens or the creation of fishponds, is explored. In these areas, the towns competed for the resources with the landowning nobility, and it depended on the king’s favour, which of the parties could realize his claims.

Part Three, the longest and most detailed section of the book, deals with the water supply of towns, mainly for alimentary purposes. It starts with a reference to the authors quoted in *Part One* with devices for capturing and storing rainwater, and states the lack of evidence for the advanced type of filter cisterns in medieval Poland. Then, Sowina turns to the discussion of dug wells, emphasizing the great differences in cost and technology depending on the depth of the water-bearing stratum: for instance, in Poznań, groundwater could be reached at the depth of 2–5 meters, in Kraków 5–7 meters, and in Świdnica as deep as 15 meters. The section on the construction and maintenance costs to be borne

by the urban community is supported by a wealth of data from account books of various towns. The topography of private and public wells can be best reconstructed in the case of Kraków (pp. 224–225); it is questionable, however, how the location of public wells at road crossings affected the course of traffic. There were also private wells on practically every plot along the Rynek (Market Square). A very plausible hypothesis connects this arrangement with the allocation of plots following the 1257 town charter – maybe both were part of a common “original master plan” (p. 240)? Another valid point is the connection between the private ownership of wells and beer brewing, where access to good quality water was vital. As the example of Proszowice testifies, plots with dug wells were designated as “beer plots.”

One of the most illuminating sections of the volume is the discussion on the construction and functioning of water supply systems. It is intriguing to follow the different technological solutions and the possible routes of knowledge transfer, but it is hard to find direct proofs of how far the models described by Antique authors influenced the way water supply systems were constructed in towns of late medieval Central Europe. Evidence from Bohemian towns may suggest that, instead of consulting sources from ancient times, drainage technologies developed for mines and the mobility of masters with necessary skills made the decisive difference. In the case of Kraków, Sowina ascribes the initiative to install a water supply system to the urban elite, and particularly to Gottfried Fattinante (d. 1393), a burgher of Genovese origin who lived in Bruges before settling in the Polish capital (p. 290). Compared to the burghers’ initiative, provisioning the Wawel castle with a water pipeline in the first decade of the sixteenth century seems to be relatively late.

The analysis of pipe-tax (or network charge) payments in Kraków shows that it was possible to install connections, i.e. “conduits branching off from the town water supply system and reaching town plots” (p. 358). There were “first-rate users,” mainly owners of plots by the Rynek who could use water for household as well as brewing purposes, and “second-rate users” who paid *braxatura alias rorgeld* for using water exclusively for their breweries. Sowina asserts that by 1538 the *braxatura* became one of the main sources of income for the city council – thus the Kraków water supply system as an up-to-date infrastructural development, proved to be a good investment. It would have been interesting to examine its counterpart as well, the system of waste water management, which Sowina discussed in a Polish-language study.²

After this outline of the main themes and results, some issues of the presentation need to be pointed out, because they also bear relevance to the author’s observations, and to the fact how her data and conclusions can be integrated into further research and broader questions in Polish and international scholarship. First, let me discuss the geographical and chronological scope of the second and third chapters. As to the former, the subtitle of the book, *Polish lands against a European background* offers a loose indication. However, both terms invite closer scrutiny and raise several questions.

To those readers familiar with medieval Polish history, “Polish lands,” correctly chosen instead of “Poland,” evoke a sequence of important political and geographical transformations from the fragmentation of the country to different duchies in 1138, its reunification

by Władysław Łokietek in 1320, its expansion to Galicia (Red Ruthenia) from the 1340s, its personal union with the Grand Duchy of Lithuania after 1386, its fights with the Teutonic Order and the unification of the lands of the Order under the Polish crown after a long series of wars in 1466, just to mention the most important dates. All these changes have important implications on the actual area under study in the volume, and the set of examples to be mobilized: whether Gdańsk, Toruń or Lviv fulfil the criteria, or whether the territory of Lithuania should be considered. For the intended international readership, a map of the changing territorial extent of the Polish lands would have been very helpful.

The question of Silesia and its changing political allegiance would have also merited some explanation, particularly since Wrocław features very prominently among the examples. This is fully justified by its significance as an urban centre, and by the important research carried out there mostly by Polish scholars in the last few decades. However, much of the development that kick-started the late medieval flourishing of the city was due to its status as the seat of a separate duchy in the thirteenth century; and before the end of the volume’s time-frame, it slipped out of the control of the Polish crown again. These remarks may seem as factographic nit-picking, but in the light of the seigniorial impact on issues of water management, to be discussed below, political allegiances do have their relevance for the scope of the volume.

As to the broader framework, the “European background,” Sowina’s personal interest, the Romance-speaking lands of late medieval Europe dominate the scene. Examples from the Italian city republics, from the Iberian Peninsula, particularly Castile, and above all, some selected cities of France (Paris, Rouen, Chartres) are most frequently mentioned. Omitting

² U. Sowina, *Kanaty wód odpływowych w późnośredniowiecznym i wczesnonowoczesnym Krakowie*, in: *Ulica, Plac i Cmentarz w Publicznej Przestrzeni średniowiecznego i Wczesnonowoczesnego Miasta Europy Środkowej*, ed. S. Krabath, J. Piekalski, K. Wachowski, Wrocław 2011, p. 269–274 (Wratislavia Antiqua, 13).

the distant English and Scandinavian examples from the comparative materials is understandable, but more frequent comparisons to the German-speaking territories (besides the mentioned Nürnberg and Lübeck) would have been relevant. From the region including Poland itself, most frequently termed (East) Central Europe (interestingly, Sowina in her *Introduction* evokes the term *younger Europe – młodsza Europa*, coined by Jerzy Kłoczowski), examples from towns of the Bohemian crown are quoted most often, particularly Prague, Tábor and Olomouc.

The author of the present review would have liked to see the Kingdom of Hungary better represented in the comparative framework of the volume, too. Research on the issues of water management in Hungary is comparable to the results of Polish scholarship in its scope and methodological approach. The strong contribution of archaeological excavations of cisterns, wells, and waterworks counterbalances the losses inflicted by the large-scale destruction of the archival material. Sowina only quotes two articles by András Kubinyi and András Pálóczi Horváth, respectively (the latter focuses mainly on villages), and misses the overview of wells and cisterns in medieval Hungary by Ágnes Nagy and the most important recent discovery of King Sigismund's waterworks below the Buda castle. For the sake of future researchers of "water, towns and people," let me add here some details on these works.

Ágnes Nagy, who died tragically young, devoted her research to compiling a comprehensive catalogue of all information related to wells and cisterns on the territory of Hungary between the state foundation in the tenth century and the end of the seventeenth century. Her analysis concentrates on the construction, functioning and management of devices for accessing and storing water. The publication of studies into wells and their rich

archaeological deposits has a long tradition in Hungarian research (urban examples by Imre Holl, Zsuzsa Miklós, Dóra B. Nyékhelyi, Orsolya Mészáros and many others), but Nagy's systematic structural approach represented a novelty at the beginning of the twenty-first century. Her catalogue also includes specimens from market towns, villages and castles.³

The discovery of a hitherto unknown site of a pump-tower operating a new mechanical water-pump straight below Buda castle enriches our knowledge about water provisioning in a different context. The remains can be most likely identified with the device commissioned by King Sigismund from *Meister Hartmann Ror-smid* in 1416 for 1000 Rhenish guildens to be paid from the taxes of Nürnberg, a classic example of technology transfer as well as imperial financial transactions. Gabriella Fényes offered two different possible technical reconstructions of the structure that may have worked similarly to the devices presented by Sowina from the Old and New Towns of Prague, and perhaps also to the water tower (*vodná veža*) in medieval Pressburg (Bratislava, Pozsony). Károly Magyar's study connects the construction of the waterworks to the significant expansion of the Buda palace under Sigismund, who was by that time already crowned as King of the Romans and used his palace at Buda as a prime venue for royal as well as imperial representation.⁴ Recent research

³ Á. Nagy, *Brunnen und Zisternen im mittelalterlichen Ungarn*, "Antaeus (Mitteilungen des Instituts für Archäologie der Ungarischen Akademie der Wissenschaften)", 26, 2003, p. 343–411.

⁴ G. Fényes, *Középkori vízmű maradványai Budapest Lánchíd utca 19–21. alól* (Remains of a Medieval Waterwork from 19–21, Lánchíd Street, Budapest), "Budapest Régiségek", 41, 2007 [printed in 2009], p. 193–227; eadem, *Reste eines mittelalterlichen Wasserhebwerkes und eines aus der türkischen Zeit in Buda*, in: *Forum Urbes Medii Aevi VII, Proceedings of the 7th Year of the FORUM URBES MEDII Aevi. International Conference, Křtiny 13th–16th May 2008. The Resource Base and Its Utilisation in the Medieval Town*, Brno 2011, p. 62–67; K. Magyar, *A középkori budai vízművekről* / *The Medieval Waterworks of Buda*, in: *A középkor és a kora újkor régészete Magyarországon / Archaeology of the Middle Ages and the Early Modern Period in Hungary*, ed. Elek Benkő, Gy. Kovács, Budapest 2010, p. 189–204 (English summary: p. 204–206).

on mills and towns / mills in towns in Hungary, relevant for *Part Two* of Sowina's work has also yielded comparable results.⁵

As to the chronological framework of the reviewed volume, the upper time limit is relatively well defined as "the mid-sixteenth century," as the subtitle indicates. This choice is clearly justified by the increasing number of sources after 1500. To offer a rough estimate after reading the book, this reader has the impression that at least half of the Poland-related source materials used for the book come from the sixteenth century. Understandably, it is rather the inner logic of the individual themes than a strictly chosen closing date that defines the time frame of the investigation. For instance, in case of the *braxatura* revenues or for the payments of the master fountain-builders in Kraków the limit is 1538, whereas with regards to permissions to install water supply systems, or to certain statutes on fire-fighting, even the closing decade of the sixteenth century is deemed relevant.

It is more difficult to identify the lower time limit of the research: pragmatically speaking, it may be the date of the first preserved written sources pertaining to water management that guided the author's attention. However, if one also considers the archaeological evidence, as it is done in several chapters concerning the supply of water in late medieval cities, this time frame seems to be less obvious. The issue of site selection, the backbone of the second main chapter, predates the appearance of written administration and

may have warranted an earlier – or at least more clearly defined and argued – starting date. The time frame also raises the issue of long-term development, to which I shall return below.

The book is a translation of a Polish work (a habilitation thesis, see n. 1, above), with all its benefits and difficulties. Among the former one can emphasize the closeness to the sources, the presentation of abundant primary source material, complete with archival references, which have been meticulously collected and analysed by Urszula Sowina. Her familiarity with the documents, people, and sites of the towns of "the Polish lands," particularly Greater Poland and Lesser Poland, transpires through every page, every sentence of the book. At the same time, a similar level of familiarity cannot be expected from the readers, especially not from foreign scholars. The present reviewer feels that it might have served the needs of a broader readership to rework the Polish original before having it translated, even at the cost of the level of detail. It could have been possible to arrange the presented sources in a different way, for instance in tables, graphs, or in appendices, and add some explanatory remarks and figures, especially maps, to the main body of the volume.

Indeed, the illustrations leave the most to be desired. It may have been a compromise with the publisher, but the total number of 71 figures for a volume of 530 pages on a subject that has so much to do with construction and topography is less than ideal. The sense of lack is reinforced by the selection of the images. Starting with the cover: it shows a detail of a panel painting depicting a fountain in the background of the so-called *Regensburger Hostienfrevel* (the host-desecration of Regensburg); however, a Polish image, for instance a detail from the Codex Bezae, would have been much more appropriate. Inside the book, there is also an

⁵ J. Benda, *Malmok, pékek és kenyérszékék a késő-középkori Budán* [Commercial Buildings in Medieval Buda III. Mills, Bakeries and Bread Shops in Late Medieval Buda], "Tanulmányok Budapest Múltjából", 38, 2013, p. 7–31; A. Vadas, *Városárok és vízgazdálkodás a késő középkori Közép-Európa városáiban* [Town Moats and Water Management in the Towns of Late Medieval Central Europe], "Urbs. Hungarian Yearbook for Urban History", 10–11, 2015, p. 323–353; K. Szende, *Mills and Towns: Textual Evidence and Cartographic Conjectures from Hungarian Towns in the Pre-industrial Period*, in: *Extra muros. Vorstädtische Räume im Spätmittelalter und früherer Neuzeit*, ed. M. Uhrmacher, G. Thewes, Köln–Wien 2017 [in press].

imbalance in favour of the non-Polish-related images. 40 figures depict devices from various French, Spanish, Italian and other locations or reproduce illustrations from Georgius Agricola's *De re metallica*, and only 31 show sites from Polish towns or images created or published in Poland. Even this selection is rather biased, for instance with three figures devoted to the ceramic water-pipes of Wrocław. The most problematic is the small number and low resolution of town plans. Out of the dozens of Polish cities and towns surveyed for the completion of the book, only four have their ground plan included. Wrocław is shown through a reproduction of a 1562 view, Sandomierz, Płock, and Kraków (twice) by modern reconstructions of their ground plans. None of these, however, show legible names of streets and squares (only many unresolved numbers), which is even more regrettable since the text refers time and again to these names when describing certain features or devices. The best would have been to create special thematic maps showing e.g. the workshops of various water-using crafts, civic breweries, the running of the water conduits, and other phenomena described in the text.

Finally, let me discuss a few general points that may offer directions for further inquiry. As all good works of academic research, the present volume also inspires more new questions in its reader's mind than it answers. The first of these broader issues concerns long-term development: What processes can be observed as "undercurrents" to the features described in the volume, and do these represent a continuum, or are there distinct stages of change? The most general process is the commodification of water: the way how a freely available natural resource gains economic value and becomes subject to market considerations. The development of special technologies and the training of skilled masters who were paid

for preparing and maintaining devices for provisioning the population with water was part of this process. The introduction of special taxes for the use of such devices can be understood under similar terms. The dynamics of where, when and to what extent water supply networks replaced dug wells, and how other forms of access to water such as transport on carts or building leats were integrated into the supply system or served different purposes is also worth further investigation. Finally, transformations of social and spatial planning, particularly the relocation of entire settlements or parts of them, mainly in the thirteenth century, and the changes that this meant for the population and its access to water needs to be considered in this context.

The second broad issue to be raised is how specific was the Polish development "against a European background"? Let me mention here two typical, but unrelated issues. One of these is that, due to climatic reasons, Poland belongs to the "beer zone," i.e. the main form of supplying the population with safe drinks with a low alcohol content was brewing beer. This work necessitated the continuous access to good quality, relatively clean water, and influenced the use of space by the need to have wells or pipeline connections as close to malt-houses and beer-brewing as possible. Taxation and legislation also followed the needs of this branch of food industry. All these issues need to be considered when comparing the case of Polish towns to Italian, French or Spanish ones that belonged to the "wine zone" in Braudelian terms, where the production and consumption of wine required different spaces and infrastructure.

The other feature that made a huge difference in handling water-related issues in Polish towns was the extremely strong royal impact and control. The volume is full of examples when royal permission or privilege was required for such activities

that may have otherwise seemed to be dependent only on financial considerations. Questions like how much of the water-courses in or around a town belonged to the municipality; who was allowed to erect mills or construct fishponds and on what location; which town was endowed with the right to build water installations and who was granted permission to conduct water to his own house are perhaps the best examples to illustrate how much royal power could interfere.

The third set of questions, directly following from the previous one, is the evergreen topic of “belatedness” (or otherwise) of Polish (or Central European) social and economic development compared to other parts of Europe, including its urban aspects. This review is not the right place to explore this question in its full complexity, and in my view issues of water management are not sufficient by themselves to decide this long-standing historiographical debate. However, there are many details in this volume, partly summarized by Urszula Sowina in her *Conclusions* (esp. p. 420–422), that may contribute to a more sophisticated approach. Let us consider, for instance, knowledge transfer: What was the role of personal, business, or political contacts in the spread of technical innovations in the field of water supply systems, and

how much impact did scholarly treatises have? What was the course of this transfer within the Polish lands themselves: did innovations spread in a specific geographical direction or did it happen through the hierarchies of urban networks, from major cities to smaller market towns? On another note, to what extent are natural factors, such as “upland” location and a greater distance from water-bearing strata responsible for the “underdevelopment of crafts needing water and working *intra muros*”? Is the number of public wells, or the relation between this number and the overall population of a city indicative of its social, economic or technological development?

The number and gravity of the questions listed above is a good indicator that Urszula Sowina has done a great service to urban, social, and environmental history by offering her data and their analysis on the water management in Polish towns for comparative studies. She has already placed her research “against a European background,” but the rich material that she presents her readers with invites further contextualization in Central European or broader frameworks. If Polish examples will appear with greater frequency in future studies on environmental and urban history, the volume will have reached its goal. ■

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