Abstract  Geographical periodicals of circa 1800 served to gather material, and to facilitate its rapid evaluation. Travel literature enabled scientists and publishers to report on research travels and at the same time ensured a rapid promulgation of the results of the newest expeditions. Geographical knowledge has always been enriched by the support of both ethnographic illustrations and of cartographic records of remote areas. The aim of the paper is to analyze geographical and cartographical knowledge through texts, images and maps and to discover the strategies of these forms of representation; this will be based on various periodicals issued by the “Landes-Industrie-Comptoir” and the “Geographisches Institut”. In an unprecedented form of synthesis an astronomer and a publisher succeeded in issuing the Allgemeine Geographische Ephemeriden: this set a new standard in terms of geo-cartographic periodicals in the early nineteenth century. Between 1798 and 1831 a total of 81 volumes of the Ephemeriden were published. Contemporaneously in Weimar, another collection was issued that discussed the most recent and most significant travel accounts and news about the progress in geography: the Bibliothek der neuesten und wichtigsten Reisebeschreibungen und geographischen Nachrichten zur Erweiterung der Erdkunde (1800–1835). In this way, the world’s geographic image received in Germany from 1800 to 1830 was disseminated by the combination of texts, pictures and maps produced at Bertuch’s enterprises.

1 Introduction

Maps, atlases, globes and geographical serials were the mainstay of the enterprises of Friedrich Justin Bertuch (1747–1822), the only significant manufacturer of geographic and cartographic products in Germany at the beginning of the nineteenth century. In 1791, Bertuch began to operate under the name of the “Landes-Industrie-Comptoir”.

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For strategic positioning in the spatial information market the “Geographisches Institut” was separated off in 1804. Up to the 1830s Bertuch and his staff succeeded in manufacturing and merchandizing a variety of geographic and cartographic materials. The “Geographisches Institut” provided a school series (textbook, school atlas, school globe), a handbook of geography, a geographical journal (\textit{Allgemeine Geographische Ephemeriden}), a collection of the most recent and most significant travel accounts (\textit{Bibliothek der neuesten und wichtigsten Reisebeschreibungen}), a variety of maps, atlases (Espenhorst 2003: 94–176) as well as terrestrial and celestial globes (Christoph 2011: 135–148).

This paper investigates the theoretical and practical background of the most important geographical periodical of circa 1800 in the German-speaking area—the \textit{Allgemeine Geographische Ephemeriden}. The presentation of texts, images and maps was the main subject of this periodical. However, travel, as a part of geography, played an important role in the history of earth science. In this context, a collection of the most recent and significant travel accounts, the \textit{Bibliothek der neuesten und wichtigsten Reisebeschreibungen und geographischen Nachrichten zur Erweiterung der Erdkunde}, comes into focus. These two multifaceted geocartographic serials are analyzed as interfaces between geography and cartography, as they depicted the landscape of earth sciences literature, from the late eighteenth to the middle of the nineteenth centuries. Different aspects of geography, cartography, astronomy, geology, meteorology, ethnography, and also itineraries and expedition reports were mixed together and annotated with biographical notes and news to ‘appropriate’ the Earth and the sky in all its dimensions.

\section{Geographical Serials}

\subsection{The Geo-Cartographic Periodical}

In the second half of the eighteenth century, after the epoch of cosmographies and Enlightenment encyclopaedias, dealing with all kinds of popular and scientific knowledge, a new type of miscellanies became established. A pioneer in the development of geographical periodicals was the German theologian and geographer Anton Friedrich Büsching (1724–1793). He was the editor of the first geographical journal in Germany, the \textit{Magazin für die neue Historie und Geographie [Magazine for the New History and Geography]} which was published in Hamburg and Halle from 1767 to 1788. It was accompanied by Büsching’s \textit{Wöchentliche Nachrichten von neuen Landkarten, geographischen, statistischen und historischen Büchern und Sachen [Weekly news on new maps, and of geographical, statistical, and historical books and things]} (Berlin 1773–1788). A couple of other geographical journals were unsuccessful in keeping pace with this publishing trend (see Hohmann 1959). After Büsching’s death a long overdue revival of the form and substance of a geographical periodical became necessary.
The local employment and organisation of qualified scientific staff, skilled craftsmen, and advanced machinery—aided by an enlightened government—facilitated a new quality of astronomical/geographical/cartographical periodicals in Weimar, the centre of the Classical Period in Germany. Furthermore, the capital of the (Great) Duchy of Saxe-Weimar-Eisenach was the seat of the “Landes-Industrie-Comptoir” and the “Geographisches Institut”. In cooperation with the owner, Friedrich Justin Bertuch, the astronomer Franz Xaver von Zach (1754–1832) from Gotha was successful in issuing an unprecedented form of synthesized spatial knowledge: namely, the journal Allgemeine Geographische Ephemeriden (AGE). The first issue appeared in 1798, followed by 50 volumes until 1816. Volume 51 was a cumulative index which listed geographical coordinates, gave a general register of keywords and people, and supplied a catalogue of maps, plans, portraits and interesting copperplate prints. In 1817 the title changed to Neue Allgemeine Geographische Ephemeriden (NAGE, 10 volumes) until 1821, and changed again from 1822 to 1831 to Neue Allgemeine Geographische und Statistische Ephemeriden (NAGSE, 20 volumes) (Fig. 1). Between 1798 and 1831 a total of 81 volumes of the Ephemeriden were published. The retro-digitized Ephemeriden as well as the Bibliothek der neuesten und wichtigsten Reisebeschreibungen can be found in the Universal Multimedia Electronic Library (UrMEL) at Thüringer Universitäts- und Landesbibliothek Jena (ThULB). The publishing company was taken over by the “Landes-Industrie-Comptoir”, while the “Geographisches Institut” managed the accompanying related maps.

The plural term ‘ephemerides’ is used to mean an almanac giving the positions of celestial bodies. This indicates the astronomical background of the first editor.

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**Fig. 1** Title-pages of the Ephemeriden (1798–1832) (ThULB Jena)
of the *Ephemeriden*. The astronomer von Zach was famous for his science policy. His observatory (founded in 1792) on the Seeberg near Gotha was an educational establishment for astronomers. Whereas Zach was keener on publishing about astronomy and geodesy, his organizational abilities were better than his theoretical works (Gore 1889: 784–785). In 1798 Zach organized the first international astronomers’ conference in Gotha (Brosche et al. 1998: 63–72). Because Zach wished to bring together scientists of distinction, the preparatory correspondence for this event was enormous. Therefore, the list of participants could be read as a *Who’s Who* of contemporary astronomers: Jérôme Lalande (1732–1807) from Paris; the director of the Berlin observatory, Johann Elert Bode (1747–1826); or the professor of astronomy at Göttingen University, Karl Felix Seyffer (1762–1821) (Brosche 2009: 94–107).

For some time past, Zach had been working on the concept for a journal “to undertake the presentation of the latest scientific achievements for astronomers and geographers on a regular basis” (Vargha 2005: 46). Furthermore, Zach and his staff were in contact with Bertuch in Weimar as they revised the most recent maps for the “Landes-Industrie-Comptoir”. The personal and scientific interchange between Gotha and Weimar encouraged the publication of the *Ephemeriden*. The first volume appeared in January 1798. Zach’s preface ran to more than 50 pages. After a historical sketch he propounded the journal’s aspiration regarding the development of geography, astronomy and statistics: “… zur Fortrückung und Verbreitung dieser Wissenschaften möglichst beyzutragen und durch neue und eigene Arbeiten die Gränzen derselben zu erweitern” [“to contribute as much as possible to the progress and propagation of these sciences and to extend their frontiers through new and particular papers”] (AGE 1 1798: 4). The *Ephemeriden* were separated into different categories (treatises, book and map reviews, correspondence and *miscellanea*). Articles were supplemented by tables and figures, portraits, illustrations and hand-coloured maps. A table of contents and an index was a good way to keep track of this agglomerated information. The spectrum of themes included *Geographica*, *Cartographica* and *Ethnographica* from all over the world. Original works, as well as translated articles from foreign journals, were combined with extracts from private correspondence.

The concentration on geo-cartographic topics, by the repression of astronomy within the *Ephemeriden*, was the cause of Zach’s retirement as editor in 1799. His successor on the journal’s editorial board was the geographer and educationalist Adam Christian Gaspari (1752–1830). Due to Gaspari’s appointment to Dorpat University in 1803, he was superseded by Christian Gottlieb Reichard, a lawyer with a great interest in drawing maps. From early 1806 Bertuch was the sole editor and publisher, supported by an undefined “Gesellschaft von Gelehrten” [Society of Learned Gentlemen]. After Bertuch’s death in 1822 no editor was explicitly mentioned by name. In late 1830, with no explanation, the NAGE came to a sudden end.

From 1800 to 1806, Zach became the editor of a separate periodical, the *Monatliche Correspondenz zur Beförderung der Erd- und Himmels-Kunde* [“Monthly Correspondence for the promotion of Geography and Astronomy”],
published in Gotha. The astronomer Bernhard von Lindenau (1779–1854) took over Zach’s task until 1813. While the Ephemeriden was a popular scientific periodical, the Correspondenz was created for a more sophisticated scientific community. Zach continued to persevere with his publishing career in the 1820s by editing the Correspondance astronomique, géographique, hydrographique et statistique (Geneva 1818–1826). As can be seen, Zach was not able to relinquish the complex of cartographic themes.

2.2 Excursion I: Alexander von Humboldt, Johann Wolfgang von Goethe and the Ephemeriden

From 1799 to 1804 Alexander von Humboldt (1769–1859) collected empirical data on his journeys to, and through, Central and South America. After his return to Europe, he committed to paper his descriptions of plants, animals, rocks, as well as peoples. His œuvre culminated in the Kosmos [Cosmos], an amalgamated work about natural science, published in five volumes from Stuttgart from 1845 to 1862. Between 1805 and 1807 the French publisher Schoell in Paris and Cotta in Tübingen had published Humboldt’s Ideen zu einer Geographie der Pflanzen [“Ideas towards a geography of plants”]. In addition to a short essay about climate and the distribution of plants, a geo-biological tableau converts textual knowledge into pictorial knowledge (Bourguet 2002). The publication was dedicated to Johann Wolfgang von Goethe, bearing in mind his Metamorphose der Pflanzen [“Metamorphosis of plants”], the first edition was published in Gotha in 1790. Humboldt sent a copy to Goethe but the illustrative chart was missing. Goethe, therefore, designed his own tableau, called “Höhen der alten und neuen Welt bildlich verglichen” [“Heights of the Old and the New World compared pictorially”]. In May 1813 an aquatint print of Goethe’s sketch was published in the AGE (Fig. 2).

In a short explanation Goethe amplified the idea and the circumstances of the sketch’s origin. Amongst other things, Goethe directed attention to a crocodile that marked mean sea level. Small human figures depicted the heights reached by Horace-Bénédict de Saussure (1740–1799) on the top of Mont Blanc (1787), by Alexander von Humboldt below the peak of the Chimboraizo (1803), and by the hot-air-balloon of Joseph Louis Gay Lussac (1778–1850) in 1804. A new version of this comparative tableau appeared in 1821, in volume 10 of the Bilderbuch für Kinder [“Children’s picture book”]: when the Himalaya, for example, were added.

Lacking original works from Humboldt, Bertuch and his staff provided themselves with reprints from news and articles, either prepared by Humboldt for foreign journals and publishers such as the Journal de Physique (see for example AGE 9 1802: 310–329, 389–420 and AGE 31 1810: 241–291), or they used excerpts from Humboldt’s own publications like the Essay politique sur la Nouvelle Espagne (Paris 1808–1811). Exceptional were narrations of correspondence between Humboldt and Zach and an annotated pictorial supplement,
depicting a night on the Orinoco River (Fig. 3). The copperplate print illustrated a typical bivouac in the tropics with vexations like constant rain and panthers, in addition to mosquitoes and crocodiles: “Das Geschrei der Waldtiere ist dann unbeschreiblich und gießt der Scene einen Charakter romantischer Wildheit.” (AGE 22 1807: 107–112, here 111: “After that the clamour of the rainforest animals is incredible and conveys a character of romantic savageness.”). No subsequent original correspondence from Humboldt was published within the Ephemeriden.

### 3 Geographical Serials: Travel Literature

In Weimar, between 1800 and 1814, a multi-volume collection was issued that discussed the most recent and most significant travel accounts and news about the advancement of geography. Hitherto this collection of travel literature, the Bibliothek der neuesten und wichtigsten Reisebeschreibungen und geographischen Nachrichten zur Erweiterung der Erdkunde (BdR) totalling 115 volumes, has awaited a sustained examination. To get an idea of the variety of the BdR, there were three index volumes in 1806 (vol. 1–24), 1808 (vol. 25–36) and in 1814 (vol. 37–50).
The publishers of the BdR were Matthias Christian Sprengel (1746–1803) and his successor, Theophil Friedrich Ehrmann (1762–1811). Sprengel was Professor of History at Halle University and head of the University Library. Before his cooperation with Bertuch, he was the publisher of several geographical journals. Co-authors in these journals had been Sprengel’s father-in-law, Jacob Reinhold Forster, and his brother-in-law, Georg Forster. In 1794 he began a collection of translated travel literature. By 1800 he had finished 14 volumes of the *Auswahl der besten ausländischen geographischen und statistischen Nachrichten zur Aufklärung der Länder- und Völkerkunde* [“Selection of the best foreign geographical and statistical notices for the explanation of geography and ethnography”]. Sprengel had an open mind regarding geographical literature and liaised with Bertuch to publish a discerning collection of travel literature. Apart from reviewing the latest foreign publications, the Sprengel and Bertuch publishing duo accomplished the perusal of literary magazines and the compilation of maps. Since the BdR deals only with transcriptions, the content was translated almost without commentary; editorial notes appeared in the form of an introduction. The world’s geographic image was imparted by the combination of texts, pictures and maps.

The first volume of the BdR deals with the *Travels in Africa, Egypt, and Syria, from 1792 to 1798* of William George Browne (1768–1813). Browne was the first European to visit Darfur. The first edition of this travelogue was published by Cadell and Davies in London in 1799; the German translation came out in 1800.
Two maps made from Browne’s own observations accompanied the original, whereas the Weimar edition was illustrated by a “New map of North-Africa” for the revision of geography and for the illustration of the endeavours made by Mungo Park and Browne a decade before. Sprengel foregoes Browne’s detailed itineraries, the meteorological tables as well as country-specific indications of weights and measures. The hasty translation and, moreover, mutual English and Arabian speech intelligibility, was reflected in the misspelling of Browne’s name. At about the same time a Leipzig edition of Browne’s travels was published. This pressure of competition made Sprengel and Bertuch optimize their publication performance. The next volumes were published in rapid succession; at peak periods there were more than ten volumes per annum. To guarantee the frequency of publication Bertuch depends on his commission agents in England and France. In Paris, Friedrich Theophil Winckler (1771–1807) was Bertuch’s contact person. In London, the commission agent’s job, from 1795 until at least 1819, was taken by Johann Christian Hüttner (1766–1847). Nevertheless, this dependency was complicated by the political situation, especially until 1814 by the Continental System.

From 1815 to 1822 Bertuch became the sole publisher of the publication’s sequel. Under the name of Neue Bibliothek der wichtigsten Reisebeschreibungen zur Erweiterung der Erd- und Völkerkunde (NBdR) 65 additional volumes were issued until 1835. Furthermore, from 1806 to 1827, the “Geographisches Institut” enlarged the travel literature section by an additional serial. Under the title Neueste Länder- und Völkerkunde (NLV) [“Latest Geography and Ethnography”] a ‘geographical reading book’ in 24 volumes was published. In the early 1820s single volumes were re-issued. Every volume contained copperplate maps and figures. It was the publisher’s aspiration to give educational diversion and to meet the demands of inquisitiveness in a popular scientific way. Until his death in 1811 Ehrmann was the main author; he was succeeded by Georg Hassel (1770–1829) and Heinrich Schorch (1777–1822). In the highly competitive book market, complete reprints of single publications were not unusual. Therefore, a plagiarised copy, accompanied by copperplates copied from the original maps of Weimar’s NLV, was issued by the Prague publisher, Diesbach. As a representative of German publishers and booksellers at the Congress of Vienna (1815), Bertuch’s son, Carl, took a firm stand against plagiarism to prevent this insupportable state of affairs.

3.1 Excursion II: Hüttner’s Visualising of China Within the “Geographisches Institut”

During the eighteenth century Enlightenment, Europe was prejudiced by conventional stereotypes of China. Such biased opinions stemmed from the Chinese refusal to allow strangers to travel through the Chinese Empire. In Europe, around 1800, the most famous travels across China were those from 1793 to 1794, carried out by Aeneas Anderson (~1800), Macartney’s deputy, George Leonard Staunton (1737–1801), and John Barrow (1764–1848). Staunton was named secretary to the British
diplomatic and trade mission to the Chinese imperial court, a mission headed by Lord George Macartney (1737–1806). Barrow was comptroller of Macartney’s household and Staunton’s librarian, Anderson was his valet. The mission attempted to remove the tensions due to the trade monopolies of Chinese business houses. Nevertheless, the embassy returned to London without obtaining any concession from China. Intercultural animosities aside, the mission can be considered as a success since it brought back detailed botanical, zoological and ethnological observations.

In 1797 the official legation report by Staunton appeared in two volumes. In addition to five different German editions, there were also French, Dutch, Italian and Russian translations. The German translation of Staunton’s and Barrow’s reports was penned by Johann Christian Hüttner who was a travel companion of Staunton and tutor to his son, George Thomas. In the first volume of the AGE (1798), Hüttner had already devoted 20 pages to the latest statistical news of China, as an extract of the Macartney travelogue. In 1804 and 1805, 10 years after the end of the Macartney embassy, John Barrow’s descriptions, observations, and comparisons appeared as volumes 14 and 16 in the BdR. Unfortunately, these editions offered only uncritical reflections of the English originals. Even the copperplates were the same, black and white, but reverse-imaged, copies of the original coloured illustrations (Fig. 4). However, Bertuch’s company literary newspaper, the Allgemeine Literatur-Zeitung, pronounced Hüttner’s translation up-to-date and detailed.

Hüttner had experiences in providing fragments of travelogues and anecdotes taken from many London journals; his inquiries on travel literature had an effect on Goethe in his role as director of the Duchy Library in Weimar. Hüttner’s impact on the advancement of German literature in the Classical Period was recognised very recently (Guthke 2011: 161–189).

![Fig. 4](image.png) A Chinese and a Hottentot, illustrations to Hüttner’s *Reise nach China* (ThULB Jena)
To close a circle, it is important to demonstrate an illustration, published as a supplement to Alexander von Humboldt’s *Kosmos*, appearing in the famous *Physikalischer Atlas* of Heinrich Berghaus (1797–1884). The copperplate of “Anthropographie No. 1” from 1848 pictured the geographical spread of the human race with the nature of its foodstuffs, population density, and something about Man’s physical characteristics. Astonishingly, with minimal variation, we find Barrow/Hüttner’s aforementioned illustrations on the right of the Berghaus map (Fig. 5). This is not surprising, because Berghaus had spent stages of his education in Weimar. The media-related re-utilisation of geographical knowledge by the Bertuch enterprises thus becomes evident and is hereby exemplified.

4 The Later History of the Bertuch Enterprises

Bertuch’s working methods and the “Geographisches Institut’s” sphere of influence dominated and shaped the geographical knowledge produced in Germany from the early 1790s to the 1830s. Although the company ran smoothly, there were family setbacks. Following the death of Bertuch’s son, Carl (1777–1815), the management of
the firm lacked a direct successor. Albeit reluctantly, Bertuch’s son-in-law, Ludwig Friedrich von Froriep (1779–1847) and, subsequently, his son Robert Froriep (1804–1861), took over the responsibility. In 1815, moreover, a crucial break occurred in the production processes of the “Geographisches Institut”. It was decided that a chief cartographer was to administer the map and globe plant. This role was assumed by a former military cartographer, Carl Ferdinand Weiland (1782–1847). Adolf Stieler (1775–1836) was also a potential candidate: after all, he had already worked for 15 years for Bertuch and his distinctive style had contributed to the recognised value of the maps from Weimar. Stieler, however, went to work for Johann Georg Justus Perthes (1749–1816) in Gotha and established the success of his own hand-atlas. Hence there were now two companies in Thuringia that produced maps, atlases and globes.

Over the following years technical innovations concerning manufacturing methods were non-existent in Weimar. As the variety of products became too confusing and too costly to upgrade, the quality of maps, atlases and globes inevitably fluctuated. Thus, the firm admitted that it was unable to react as rapidly as possible to changes, especially those affecting political maps. There was a ray of hope in the 1840s when Heinrich Kiepert (1818–1899) took over the cartographic department. Unfortunately, this rising cartographer stayed only briefly in Weimar as the Berlin publisher Reimer’s proposal was too alluring. Neither did the sale of the family business through Robert Froriep satisfactorily resolve the situation, as the firm’s management changed frequently over decades. How was one to revise the product programme and to adapt it to contemporary circumstances, not to mention make it economically sustainable and assert oneself in the geo-cartographic information marketplace? It is reasonable to ask why the Weimar publishing company fell out of favour after Bertuch’s death in 1822. On the one hand, we can find in the history of the Weimar “Geographisches Institut” all the famous actors who have marked the pre-disciplinary period of German geography and cartography: Heinrich Berghaus, Adolf Stieler or Heinrich Kiepert, all of whom received technical training in Weimar. On the other hand, most of them had considered and used the Bertuch business empire only as a stepping-stone for future opportunities within the firms of Justus Perthes in Gotha or in publishing companies in Leipzig or Berlin. Nevertheless, in the context of the Industrial Revolution, production-related procedures were not sufficiently developed by Bertuch’s firm, which, indeed, never went beyond the status of a workshop. Moreover, the multiple changes in ownership contributed to the demise of the name of the “Geographisches Institut” within the scientific world. High expectations always remained but were insufficient to encourage a revaluation of the Weimar trademark. Due to those circumstances the eventual insolvency of the “Geographisches Institut” was foreseeable, and the fate of this traditional knowledge factory was sealed by 1908.

5 Summary

Because of the use of available materials and social structures, Bertuch was able to combine innovation and tradition in order to revitalise German geography and cartography. He exploited the potential of the literature market, while adding to
contemporary knowledge about the physical world through critical reviews and the compilation of domestic and foreign publications. The continuation of printing travellers’ reports was improved by the addition of maps, which were drafted to a high standard of stylistic elements and convincing symbolism. Prospective clients were attracted by advertising, exceptional offers and preprints of forthcoming projects. Aside from staff migration (with the implicit transfer of their accumulated knowledge), the initial, highly original, concept of Geographica and Cartographica stagnated in the second half of the nineteenth century. Multidisciplinary periodicals had to make room for topically-oriented professional journals linked to their scientific fields. The holistic concept of the Ephemeriden was not accomplished until the mid-1850s by Petermanns Geographische Mitteilungen, whereas the period of collections of travel literature peters out. The title-genealogy shows the further development of the periodicals from Gotha: Geographisches Jahrbuch zur Mittheilung aller wichtigen neuen Erforschungen (1850–1852); Mittheilungen aus Justus Perthes’ Geographischer Anstalt über wichtige neue Erforschungen auf dem Gesammtgebiete der Geographie (1855–1878); Dr. A. Petermann’s Mitteilungen aus Justus Perthes’ Geographischer Anstalt (1879–1937); Petermanns geographische Mitteilungen (1938–2004); also the Ergänzungs-Hefte/Ergänzungs-Bände (1860–1939).

References


Author Biography

Andreas Christoph studied Biology, Physical Anthropology and History of Science at the University of Jena. His PhD study within the “Sonderforschungsbereich 482” focuses on the history of cartography around 1800 in context of the “Landes-Industrie-Comptoir” and “Geographisches Institut” from Friedrich Justin Bertuch at Weimar. Since the second quarter of 2012, Andreas Christoph works at the “Ernst-Haeckel-Haus” in Jena.