

Silvy Chakkalal. **Die Welt in Bildern: Erfahrungen und Evidenz in Friedrich J. Bertuchs *Bilderbuch für Kinder***. Göttingen: Wallstein, 2014. 454 pp., 71 illus.

Silvy Chakkalal's well-researched analysis of the pictorial as an epistemological category represents the height of interdisciplinary inquiry into the field of European ethnology. Based on her dissertation, *Die Welt in Bildern* examines Friedrich Justin Bertuch's *Bilderbuch für Kinder* in the considerably larger framework of visual culture in the long eighteenth century. Published from 1790 to 1830, the *Bilderbuch für Kinder* not only popularized and disseminated scientific knowledge but also helped define childhood as a temporal, experiential, and cultural category. Bertuch, perhaps better known for the production and reception of the *Journal des Luxus und der Moden* (1786–1827), produced the *Bilderbuch* as an encyclopedic periodical that concentrated on natural history, geography, and ethnology. Chakkalal's concern is primarily with the copperplate reproductions of nature and their ability to structure the transfer of knowledge to a German-speaking and youthful audience, though these images appeal to adults as well. However, this analysis resists any reductive notion of childhood and the view that the *Bilderbuch* was merely a visually entertaining pedagogical project. Departing from Heinrich Steffens's (1773–1845) assertion that "Kinder amüsieren sich mit Bildern" (7), Chakkalal scrutinizes the presumptive nexus between the child and the image; her study reveals the importance of unpacking this idea and its implications for any understanding of early modern epistemology. The centrality of sense perception for cognitive and cultural development comes to the foreground in this sustained interpretation of a homology between scientific knowledge and visual cultures.

The study is divided into three sections, with a compelling introduction and useful summary. Section 1, "Die Entdeckung der Kindheit und die Entdeckung der Sinne," lays the foundation for an anthropological understanding of experience and childhood. This work overall constitutes a unique contribution to the history of science; further, Chakkalal integrates other regimes of knowledge seamlessly into the analysis. The author invokes Koselleck's theory of *Verzeitlichung* and the processes of temporalization to feature the importance of childhood in contemporary thought; she ventures the following: "Ich möchte sogar so weit gehen und behaupten, dass Modelle von Verzeitlichung durch das Modell 'Kindheit' erst anschaulich wurden" (104). The parallels drawn between the physical and the cognitive maturation of the child correspond to dominant ideas about development in the natural world. In this section, Comenius's *Orbis pictus* (1653) figures prominently, establishing an emblematics of images for the Middle Ages. Goethe warrants mention in a note about his own memory of the *Orbis pictus* (122n52). The mnemonic function of images connects to pedagogical and philanthropic theories and theorists. The final chapter in this section, "Der Kind-Bild-Komplex," summarizes the arguments thus far: "Die epistemische Qualität des Bildes ist sehr hoch, wenn es innerhalb eines verzeitlichten Wissenserwerbs eingesetzt wird" (186). Bertuch and his project appear infrequently in this prefatory reading, but Chakkalal lays the necessary scholarly foundation to understand his role in the creation of knowledge about the natural world through the anthropologization of images.

Section 2, "Lebendige Bilder als kunstvolle Wissenschaft," anchors Bertuch in the enterprise of natural history in the latter part of the eighteenth century. Redirecting Barbara Stafford's argument about the decline of the visual in the Enlightenment, Chakkalal claims: "Visuelle Erziehung ist nicht im Niedergang

begriffen, sondern wir haben es mit einer veränderten Käuferschicht von enzyklopädischen Bildprogrammen zu tun" (191); she situates Bertuch's *Bilderbuch für Kinder* in the context of multiple and coinciding visual conventions. The ensuing analysis overcomes the simplistic dichotomies of child and entertainment, adult and knowledge, which tend to dominate presumed habits of consuming visual culture. The evidence for Bertuch's intentionality is provided by his *Ueber die Mittel, Naturgeschichte gemeinnützer zu machen* (194–97). In essence, his work popularizes natural history through the image, which serves as a *Wissensmedium* (209). Much attention is paid to Buffon and Linné, in particular to the copperplates of birds (pheasants) and classification. The ideal of imitating and animating nature segues into a brief consideration of Goethe's "Einfache Nachahmung der Natur, Manier, Stil" (1789; 237–40), in which he calibrates the relationship between nature as model for art through imitation, the shortcomings of simple mimesis, and the final congruence between illustration and knowledge through art: "Kunst kann so auch erkenntnisschaffend sein und erlangt einen epistemischen Status" (239). The closer readings of images and text persuade the reader that Bertuch's endeavors and his copying of copperplates from other works constitute a "Medialisierung der Natur" (257). The practice goes beyond empiricism, the author maintains, and enters the realm of cognition.

The third and final section, "Bilder von Verzeitlichung und Entwicklung als Generatoren eines neuen historischen Wissens," explores archeology, geology, mineralogy, paleontology, and the terrestrial intersections between art and nature, culminating in an ambitious and persuasive reading of images depicting sites in India. Along with a brief mention of Goethe's description of the identity of miners (306), the author cites fictional works that represent some type of travel through space and time, especially Jules Verne's *Voyage au centre de la terre* (1864; 308ff.). Goethe as scientist makes another appearance (*Metamorphose der Pflanzen* considered, 321ff.), but the strengths of this study and its original contribution to scholarship are reflected in the analysis of the India images (1790–1830). Chakkalal connects the reproduction of images to the expanded historical context of colonization, the German association with India and origins, and the selective appropriation of "otherness." The images, ranging from plates of clothing, pagodas, and mosques to plates of tiger and elephant hunts (353), align with Bertuch's own enthusiasm for India and his desire to awaken "Teuschlands Neugierde" (354). Centered on the transformation of the picturesque to fit a colonial enterprise, the argument nonetheless is relevant to the more generalized role of India in the German cultural imaginary.

This ambitious volume delivers on the promise to explicate the relationship between the "Kind" and the "Bild" and to show that it was essential to an understanding of the bourgeois lifeworld amid eighteenth-century debates about sense perception and visual cognition. It is a brilliantly interdisciplinary enterprise—and opens onto territory for further productive reconsiderations of literature and visuality. The subtitle suggests the greater centrality of Bertuch's work (the sustained reading of the India images begins on page 352), but ultimately Chakkalal's argument relies on the wide-angle lens view of visuality and cognition she explicates so brilliantly in the first two sections. The plates (in black and white and in color) are assets, beautifully reproduced and strategically placed, and exemplify the capacity of images to transmit knowledge.