

FROM MYTHICAL TO MATHEMATICAL ORIENTATION: THE “COSMOLOGICON” OF THE HAMBURG PLANETARIUM AS A BRANCH OF THE KULTURWISSENSCHAFTLICHE BIBLIOTHEK WARBURG

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ABSTRACT

Aby Warburg's "Collection of images on the history of astronomy and astrology", opened 1930 in the Hamburg planetarium as a permanent exhibition, was the only completed project of his famous "image series" (the Atlas Mnemosyne included). Considered as a didactic tool for the citizens of Hamburg to understand the cultural history of astrology and astronomy, it assembled a wide range of reproductions of stars, constellations and superstitious as well as scientific images depicted

in the arts from "primitive" peoples to the era of Dürer, Luther and Kepler. Warburg's ambition was to create a reflexive distance (*Denkraum*) between men and the threatening phenomena experienced while looking into the sky: "The history of astronomy shows the manifold forms of human views of the world. Setting out from fear of demons and magic, humanity always has to travel afresh the path to the abstract logic of scientific observation".

Keywords: History of astrology and astronomy. Cultural education. Art and reproduction. Artworks as media of reflection.

Only very little material testimony to Aby Warburg's work and impact has survived in his native city. Yet one of the art historian's series of images, designed and installed as a permanent exhibition for the Hamburg Planetarium, could have been part of this testimony, alongside the residential and library building in Heilwigstrasse – had a merciless fate not prevented this over and over again, right up to the present day. Assembled in the closing months of Warburg's life and only opened on 15 April 1930, after his death, the *Collection of images on the history of astronomy and astrology* in the former water tower in Hamburg's city park amazingly survived the 'Third Reich' almost intact (Fig. 1). In 1941 it was placed in storage because of the war, and in 1945 it was reconstructed in new premises on the former site, although inadequately. Finally, in 1966, the exhibition was presented in Hamburg to mark the centenary of Warburg's birth, at the Patriotic Society (a long-standing association of Hamburg citizens that promotes local culture); and two years later it was reassembled in the water tower in its original form.¹



Fig. 1. Water tower in Hamburg's city park, picture postcard, Knackstedt & Co., 1930, archive of the author

¹ See Arthur Beer, *Vom Sternglauben zur Sternkunde: Wanderweg durch die Warburg-Ausstellung des Hamburger Planetariums*, Hamburg, 1968. For more on the history of the collection of images, see Uwe Fleckner et al. (eds), *Aby Warburg: Bildersammlung zur Geschichte von Sternglaube und Sternkunde im Hamburger Planetarium*, Hamburg, 1993, pp. 38 ff.; for more on Beer, see *ibid.*, pp. 177 ff. From 1939 onwards an anti-aircraft regiment was stationed in and on the water tower, but a document dated 20 November 1940 strongly suggests that the collection was on display in the still operating Planetarium; see *ibid.*, pp. 97 f.

The false sense of progress in the 1970s very nearly led to the final disappearance of the exhibition, for it was unable to follow Warburg's doctrine of the necessary polar complementarity between astrology and astronomy. In the period following its reconstruction in 1968 by Arthur Beer, who had already been involved as an astronomer in the original assembly of the collection, it was evidently reduced further and further in size, so that by the 1980s only a most pitiful remnant survived in the Planetarium along with the addition some current astronomical photographs and models – but still with the original, and now misleading, title. In June 1987 the author, together with Christoph Schlieder (now of the University of Bamberg), discovered almost the entire contents of the 1930 exhibition in wretched condition on the deserted 'catchment floor' of the disused water tower: unbeknown to the then director and staff of the Planetarium, the 'obsolete' pictorial and text plates and some plaster casts had been thrown onto a pile of ordinary garbage, but were rescued just in time and assembled for a temporary presentation *in situ*.² The contents and history of the exhibition were then reviewed in full detail, together with Claudia Naber (Berlin, d. 2014), and returned to the public initially in book form.³ After being put on show first in Vienna (at the Academy of Fine Arts) from January to March 1993 and in Berlin (at the Zeiss-Grossplanetarium) a year later, the restored collection of images could again be presented as a permanent exhibition in specially converted rooms in the Planetarium; but in summer 2002 it was again dismantled during extensive renovation work, and it has since been kept in storage in various places at the University of Hamburg. Together with the author, the Hamburg Planetarium is currently planning a complete new presentation of the collection that would – hopefully – finally restore to the art historian's pictorial treasures the radiance that Warburg had in mind when he donated the *Collection of images on the history of astronomy and astrology* to the city of Hamburg.

In a letter dated 3 October 1928 to the editor-in-chief of the daily newspaper *Hamburger Fremdenblatt*, Felix von Eckardt, a manifestly emotional Aby Warburg explained the choice of the water tower as the exhibition site for his long-planned collection of images as follows: 'Anyone who calmly absorbs the interior spaces of the water tower and can gaze out onto the North German plain from the top of it must sense that an improvement in transport facilities (which would surely be easy to achieve) is all that is needed in order for people not to enter the Planetarium as if it were some show in St. Pauli [Hamburg's entertainment district] but to allow it the dignity and potency of a 'Lynceus tower'.⁴ Here the art historian was alluding to the

² See Karin Schulze, 'Entdeckung: das gewaltsam verdunkelte Leuchten', in *Szene Hamburg* 9/1990, pp. 104-106; Uwe Fleckner, "'... von kultischer Praktik zur mathematischen Kontemplation – und zurück'": Aby Warburgs Bildersammlung zur Geschichte von Sterngläubigkeit und Sternkunde im Hamburger Planetarium', in Horst Bredekamp, Michael Diers and Charlotte Schoell-Glass (eds): *Akten des internationalen Aby Warburg-Symposiums Hamburg 1990*, Weinheim, 1991, pp. 313-334.

³ See Fleckner *et al.* 1993.

⁴ Letter from Aby Warburg to Felix von Eckardt, 3 October 1928, Hamburger Staatsarchiv, Bestand Staatliche Pressestelle I-IV, No. 5061; printed in Fleckner *et al.* 1993, pp. 58-59, p. 59. For extensive details on Warburg's concept, the structure and the didactic design of the collection, see Uwe Fleckner, *Warburg als Erzieher: Bemerkungen zu einem 'Erziehungsmittel für Gebildete und Ungebildete'*, *ibid.*, pp. 316-341 (with additional literature).

verses in which, in the fifth act of *Faust, Part Two*, Goethe described the penetrating vision of the watchman Lynceus, who was able to perceive not only distant cosmic relationships but also nearby details of the world: *Zum Schauengeboren / Zum Schauenbestellt / Dem Turmegeschworen / Gefälltmir die Welt / Ich blick' in die Ferne / Ich seh' in de rNäh' / Den Mond und die Sterne / Den Wald und das Reh* ('Born to be seeing / Employed for my sight / Sworn to the tower / In the world I delight/ I view what is far / I see what is near / The moon and the stars / The woods and the deer'). And in autumn 1928 Warburg also told his friend the philosopher Ernst Cassirer that the exhibition he had so urgently called for was finally about to be realized: 'Probably – if the legislature so grants – I can expect from the state a fine site for my cosmogicon, i.e. for the series of images that seeks to illustrate the development of astral symbolism: the Zeiss Planetarium is to be built into the currently unused water tower and, in accordance with my doggedly pursued idea, will be accompanied by an introduction into the pre-Keplerian way of thinking through this very exhibition, which will be displayed on all the lower-floor walls. Even a reading room on the upper floor and an auditorium (which I admittedly will have to share with the Planetarium, but even at worst has room for 350 people and also has Zeiss photographic equipment) will be part of it. This is the selfsame exhibition that we did not grant Mr von Miller [from the German Museum in Munich] a year ago, because we were not given the right place near the observatory. All this now seems to be merging into a Lynceus tower that will retain its unreality precisely because it will not be a real observatory, but a receptive mirror reflecting rearward-looking views.'⁵

On 24 August 1928, just as Lynceus had climbed up to the watchtower, Warburg and representatives of the city of Hamburg had ascended the viewing platform of the water tower to assess whether the future Planetarium building was also suitable to house the planned astrological/astronomical collection.⁶ Warburg, whose similar exhibition plans for the German Museum in Munich the previous year had not met with success, euphorically summed up the impression the building had made on him in the following terms: 'The water tower in the city park seems to me to possess entirely unknown, and hitherto forcibly eclipsed, luminosity.'⁷ This striking rhetoric, with its metaphors from the semantic fields of vision and light, conjures up the cognition-guiding function that Warburg ascribed to the link between the Planetarium and the collection of images in the Hamburg tower building. As early as 1927 he had used the allusion to the lynx-eyed watchman to characterize Jacob Burckhardt as the type of historian who – unlike

⁵ Letter from Aby Warburg to Ernst Cassirer, 6 September 1928, London, Warburg Institute Archive (WIA, GC). Warburg negotiated with the director of the German Museum in Munich, Oskar von Miller, the organization of an astrological/astronomic exhibition, the pictorial material for which he presented at the KBW in September 1927; see Aby Warburg, *Ausstellungen und Bilderreihen* (Uwe Fleckner and Isabella Woldt, eds), Berlin, 2012 (Gesammelte Schriften: Studienausgabe, Vol. II.2), pp. 191 ff.

⁶ See Aby Warburg, *Tagebuch der Kulturwissenschaftlichen Bibliothek Warburg* (Karen Michels and Charlotte Schoell-Glass, eds), Berlin, 2001 (Gesammelte Schriften, Vol. VII), p. 335 (entry dated 24 August 1928).

⁷ Letter from Aby Warburg to Felix von Eckardt, 3 October 1928, in Fleckner *et al.* 1993, pp. 58-59, p. 58.

Nietzsche – had experienced the ‘dangerous shocks’ of a tragic cultural fate without having his distance from scientific rationality curtailed: ‘Burckhardt was a fully conscious necromancer; and the forms that arose within him were a very serious menace to him. He escaped them by building his watchtower. And his watchmanships that of Lynceus, sitting in his tower and speaking ...’.⁸ This ‘watchmanship/watchtower’ image hence symbolizes that very reflexive distance from the menacing subject of research that Nietzsche – just like Warburg – had failed to preserve.

The water tower in the Hamburg city park was built to plans by the Dresden architect Oscar Menzel, under the supervision of Fritz Schumacher from 1913 to 1915, but by 1924 it was no longer being used as a water tower. Having lost its original function, the building, as part of the city park’s public education programme of sculptures and sports and leisure centres, had to be given a new task, and Warburg trusted that his intended combination of astronomical demonstration and exhibition on the history of astrology and astronomy would fit the bill. As early as autumn 1928 he agreed in principle to the proposed premises, and promised the city’s school board to organize the permanent exhibition as an ‘offshoot of the KBW [Kulturwissenschaftliche Bibliothek Warburg]’ and to donate it permanently to the city and its people.⁹ As he wrote to school inspector Karl Umlauf on 13 October 1928, the *Collection of images on the history of astronomy and astrology* was thus an ‘educational resource for the schooled and the unschooled... the like of which has not previously been seen in European human society’.¹⁰ How extraordinarily important the now revived exhibition project was to Warburg (who in early September 1928 had also visited Albert Einstein at his summer home in Scharbeutz, where he improvised for the physicist a series of images on the history of astrology along with a lecture lasting several hours, in order to show him ‘the momentum of pictorial/astral symbolism as a primal stratum in his own thought process’) is apparent from a small but eloquent entry in the institution’s diary, in which the art historian summed up as follows his intellectual struggle with the bipolarity and distance of cultural/scientific attempts at orientation: ‘Address to assembled team: Cassirer – water tower – Einstein.’¹¹

⁸ Quoted from Ernst H. Gombrich, *Aby Warburg: eine intellektuelle Biographie* [1970], Frankfurt am Main 1981, p. 345.

⁹ Letter from Aby Warburg to Felix von Eckardt, 3 October 1928, in Fleckner *et al.*, 1993, pp. 58-59, p. 58; see also letter from Aby Warburg to Karl Umlauf, 13 October 1928, Hamburger Staatsarchiv, Bestand Oberschulbehörde V, No. 725a; *ibid.*, pp. 60-62; *Mitteilung des Senats an die Bürgerschaft: Einbau des Planetariums in den Wasserturm*, Drucksache für die Senatssitzung, No. 144, 14 March 1929, Hamburger Staatsarchiv, Bestand Staatliche Pressestelle I-IV, No. 5061.

¹⁰ Letter from Aby Warburg to Karl Umlauf, 13 October 1928, in Fleckner *et al.*, 1993, pp. 60-62, p. 61.

¹¹ Warburg, 2001, p. 339 (entry dated 4 September 1928); see *ibid.*, p. 336 (entry dated 25 August 1928): ‘As we walked through the park to the tower I told Umlauf the circle-ellipse-Warburg-Cassirer story’. For more on Warburg’s visit to Einstein, see Horst Bredekamp, ‘4 Stunden Fahrt. 4 Stunden Rede’: Aby Warburg besucht Albert Einstein’, in Michael Hagner (ed.): *Einstein on the Beach: der Physiker als Phänomen*, Frankfurt am Main, 2005, pp. 165-182; the quote ‘momentum of pictorial/astral symbolism’ comes from Aby Warburg’s letter to Ernst Cassirer, 6 September 1928, London, Warburg Institute Archive (WIA, GC).

In the months that followed, including during his long trip to Italy from autumn 1928 to spring 1929, the correspondence as well as the institution's diary repeatedly document Warburg's individual ideas not only on the planned collection of images, but also more generally on questions of the history of astrology; yet after he returned from Rome there were only a few comments on the progress of the work, whose materials Warburg had evidently, for reasons of space, stored outside his library and whose practical execution he had delegated to his colleagues. Despite the relatively meagre state of the files, and the fact that the exhibition was unable to open until after Warburg's death, it may safely be assumed that the founder of the Kulturwissenschaftliche Bibliothek was himself responsible for the exhibition concept and at least the provisional selection of the exhibits – as is emphasized in all the first-hand essays and reviews on the opening of the collection.¹² Moreover, he had already arranged many of the relevant reproductions on plates for the planned exhibition in Munich (**Fig. 2**). In August 1929, two months before he died, Warburg noted that he had been awaiting the transfer 'of the astrological material from [storage in] Wolterstrasse... which required me to make a selection from all the "planetarium material" that will be able, using "selected examples", to shed light on the path from fetish to Kepler.'¹³ On the other hand, the untypical wording of the explanations which were eventually added to the individual plates in the water tower suggests that after Warburg's death his colleagues had to finish off something that had in fact 'only been partly completed.'¹⁴



Fig. 2. Aby Warburg: *Human parable in the sky*, Hamburg, Kunstwissenschaftliche Bibliothek Warburg, 1927, pl. 5, photography, London, Warburg Institute Archive

¹² A selection of these texts can be found in Fleckner *et al.*, 1993, pp. 112 ff. and pp. 162 ff. Materials, drafts and reviews on the Hamburg collection of images can be found in London, Warburg Institute Archive (WIA IV, 25.2.1-9).

¹³ See Warburg 2001, p. 511 (entry dated 29 August 1929).

¹⁴ Fritz Saxl, 'Eröffnungsrede: die "Bildersammlung zur Geschichte von Sternglaube und Sternkunde" im Hamburger Planetarium', 15 April 1930, in Fleckner *et al.*, 1993, pp. 112-114, p. 112.

Once visitors had walked through the city park and absorbed the architecture of the water tower after 15 April 1930, the day on which the collection opened, they entered an exhibition hall whose ground plan on a segment of a circle was divided by pillars into a regular succession of niches (**Fig. 3-5**). The exhibits, mainly photographic reproductions and plaster casts, were displayed in seventeen sections, mostly arranged on plates, and most of them in historical succession from primitive peoples, Babylonia and Egypt, via Graeco-Roman antiquity and the Arabs and their influence on the mediaeval and Renaissance Christian world, to Dürer, Luther and Kepler, together forming a circuit that was intended to show ‘how humanity has to this day attempted to interpret and explain the heavenly bodies and their mysterious movements.’¹⁵ Not all the plates followed the consistent compositional structure found in Warburg’s other plate works such as the famous *Mnemosyne* atlas; some exhibits, especially the plaster casts and spatial models, were detached from the planar arrangement and, for technical as well as aesthetic reasons, stood freely in the exhibition space. Thus the depiction of the sky goddess Nut in the lid of the Tenthapi sarcophagus was located in the central axis of the circular building as an attractive eye-catching feature that could be seen by visitors on entering the Planetarium (**fig. 6**).



Fig. 3. Aby Warburg: *Collection of images on the history of astronomy and astrology*, Hamburg, Planetarium, 1930, photography, archive of the author

¹⁵ Anon. [Gertrud Bing and Fritz Saxl], ‘Die Bildersammlung zur Geschichte von Sternglaube und Sternkunde’, in *Planetarium: ein Führer* (publication commissioned by the school board from the directors of the Hamburg Planetarium), Hamburg, 1930, pp. 15-19, p. 16; see Warburg, 2012, pp. 15-19, p. 16. For more on the authorship of the anonymously published text, see Gertrud Bing’s note in London, Warburg Institute Archive (WIA IV, 25.2.3): ‘gemeinsam von Saxl und mir’.



Fig. 4. Aby Warburg: *Collection of images on the history of astronomy and astrology*, Hamburg, Planetarium, 1930, photography, archive of the author



Fig. 5. Aby Warburg: *Collection of images on the history of astronomy and astrology*, Hamburg, Planetarium, 1930, photography, archive of the author



Fig. 6. *Tenthapi sarcophagus*, exhibited in the “Collection of images on the history of astronomy and astrology” (c. 663-525 BC, Paris, Musée du Louvre), plaster cast, Hamburg University (photo: Arvid Mentz)

Apart from this, Warburg adapted the structure and order of the exhibition and the arrangement of the individual plates to the possibilities provided by the ground plan of the building: one side of each pillar was chosen to accommodate a plate or group of images and accompanying exhibits, and visitors were led along the rear wall of the entrance area to the end of the circuit, which they could follow up with a visit to the reference library on questions of astronomy and the history of astrology on a mezzanine floor of the water tower. Warburg had already presented a draft of this division of the exhibition spaces in his letter of 13 October 1928 to Karl Umlauf: ‘Assuming that the form of the exhibition is in line with the previous discussions and the plan presented to me by the director Mr Holthusen and the architect Mr Loop, I would like, without committing myself in detail, to outline the whole thing as follows as an *Exhibition of series of images on the history and psychology of human orientation in the cosmos* with reference to the arrangement in the water tower: booths 1, 2 and 3 on the *lower* floor are intended as study areas or conference rooms, while on the *upper* floor 10, 11 and 12 are planned as *library areas*; the other areas are intended for the series of images... In the booths the reproductions would now perform the task of simultaneously illustrating the path from the pictorial/mythical to the symbolic/mathematical orientation in the universe through the various centuries and in the various parts of the world in developmental-psychology and historical terms.’¹⁶

¹⁶ Letter from Aby Warburg to Karl Umlauf, 13 October 1928, in Fleckner *et al.*, 1993, pp. 60-62, p. 60.

As a kind of prologue, the journey through the history of astrology was preceded by a large diptych accompanied by three ‘hiking maps’, a painting that Warburg commissioned from his son Max Adolph for the exhibition (**Fig. 7**).¹⁷ The left-hand side of the diptych shows contemplative man engrossed in calm observation of the mathematical system of planetary orbits; the right-hand side shows terrified man who feels threatened by anthropomorphic planetary gods. The in any case programmatic painting was accompanied by a motto which – entirely in Warburg’s linguistic style – reflected a curious hybrid view of development-theoretical and cyclical depictions of history: ‘The history of astronomy shows the manifold forms of human views of the world. Setting out from fear of demons and magic, humanity always has to travel afresh the path to the abstract logic of scientific observation.’¹⁸ The painting and the motto, which were both presented as a pictorial/textual emblem above the beginning of the exhibition, thus used the notions of ‘fear of demons’ and ‘abstract logic’, of ‘magic’ and ‘scientific observation’ to present the two poles between which the series of images had spanned the problematic field of astrological and astronomical questions, as Warburg had already emphasized in his letter to school inspector Umlauf in October 1928: ‘For the point is that the very path from pictorial/religious to conceptual/mathematical causality can be embedded in the whole tragedy or, if you will, the infinite capacity for development of its regular cycle, in order to create a bulwark above all against pseudo-mystical arbitrariness which, especially if the water tower still allows us to familiarize ourselves with the fundamentals of astronomical observation, can no longer be erased from the consciousness of people who are willing to take responsibility.’¹⁹



Fig. 7. Max Adolph Warburg: *Man between abstract logic and fear of demons*, c. 1929-1930, oil on canvas, Hamburg University (photo: Arvid Mentz)

¹⁷ For more on the use of ‘hiking maps’ in Warburg’s work, see Claudia Wedepohl, ‘Ideengeographie: ein Versuch zu Aby Warburgs “Wanderstrassen der Kultur”’, in Helga Mitterbauer and Katharina Scherke (eds), *Entgrenzte Räume: kulturelle Transfers um 1900 und in der Gegenwart*, Vienna, 2005 (Studien zur Moderne, Vol. 22), pp. 227-254; Dorothea McEwan, ‘Aby Warburg’s (1866-1929) dots and lines: mapping the diffusion of astrological motifs in art history’, in *German Studies Review* 29-2/2006, pp. 243-268.

¹⁸ See Warburg, 2012, fig. p. 398.

¹⁹ Letter from Aby Warburg to Karl Umlauf, 13, October 1928, in Fleckner *et al.*, 1993, pp. 60-62, p. 61.

The cyclical element in Warburg's views of cultural history, the notion that in the course of its history humanity must travel through this cycle 'always afresh', was reflected architecturally in the ground plan of the Hamburg collection. Having viewed the individual exhibits in their historical sequence, visitors finally arrived, at the end of the cycle, at the arrangement of images devoted to Johannes Kepler, a person whose work concerned both astronomy and astrology. The exhibition thus sought to make clear that, even at a high level of scientific abstraction, the researcher's rational distance from his subject could be entirely threatened. As the tension between polar opposites was essential even to Kepler's thinking, Warburg turned the scholar into a 'symbolic form of the forces that create the conceptual space [*Denkraum*]'.²⁰ Even though the circuit ended with the Kepler section and so returned to Max Adolph Warburg's programmatic painting, visitors could still break out of the fatal cycle and visit the collection library, via a staircase passing beneath Warburg's words that 'humanity always has to travel afresh the path to the abstract logic of scientific observation' to the mezzanine floor of the exhibition hall (**Fig. 8**). Here, besides portraits of great astronomers from Galileo to Herschel and facsimiles of their letters, they could also find prints of relevant subjects, a small public collection of astronomical instruments and – above all – a reference library which included a card index of thematically related excerpts from the catalogues of the Kulturwissenschaftliche Bibliothek and the Hamburg State Library and served the informative purpose of the exhibition: a 'self-acquired orientation'.²¹



Fig. 8. Library of the "Collection of images on the history of astronomy and astrology", Hamburg, Planetarium, 1930, photography, archive of the author

²⁰ Fritz Saxl, 'Warburgs Mnemosyne-Atlas' [1930], in Warburg, 1979, pp. 313-315, p. 315.

²¹ Anon. [Bing and Saxl], 1930, p. 19; see Warburg, 2012, p. 397.

The structural design and educational intention of the collection of images were thus very closely connected, the visual presentation echoing the historical/philosophical reflection: visitors were brought into a kind of orbit in a large model of astrological ideas, in order to travel, in an almost physical reenactment, humanity's path from primitive notions to the scientific rationality of the modern age and so, with reference to individual exhibits, experience the simultaneous juxtaposition of myth and abstraction; train of thought and exhibition circuit were merged into one, the ground plan of the collection was likewise the ground plan of a cultural/scientific conceptual building. Individuals' need to break free from this cycle through knowledge and reflection was metaphorically expressed in the ascent to the library, the instrument of independent enlightenment. In its meaningful architectural structure, the exhibition was thus basically similar to the 'problem building' (Fritz Saxl) of the Kulturwissenschaftliche Bibliothek.²² Whereas the collection in the Planetarium singled out one of the main thematic elements in the work of the library, its organizational structure followed Warburg's idea that his collection of books in Heilwigstrasse was a design for an intellectual topography consisting of the floors 'image', 'orientation', 'word' and 'action' in ascending order, and hence the central focus of his research, which reenacted humanity's step-by-step orientation in the cosmos, including through architectural stratification.²³

Warburg always described his series of images on astrological history in the Planetarium as a 'collection of teaching resources' whose educational purpose was to be achieved by a sequence of reproductions and a small attached specialist library.²⁴ In October 1928 he explained his intended donation as follows to the editor-in-chief of the *Hamburger Fremdenblatt*, when he felt compelled to correct some erroneous information in the daily press: 'First of all I note that in the preliminary discussions with the decision-makers there has *never* been any question of *donating* the *library*, but only a series of enlarged photographs of pictorial depictions which show the development from the fantastic/monstrous to the mathematical/numerical orientation in the universe, so that the collection I would make available is a purely scientific offshoot of the KBW and will certainly not contain any materially valuable treasures. The value of our collection thus lies solely in the link between the Planetarium and rearward-looking demonstration of the intellectual orientation.'²⁵ In fact Warburg used every conceivable kind of reproduction technique to produce his series of images: photographs, prints of Babylonian cylinder seals, plaster casts of works from antiquity, drawn archaeological records, architectural models, facsimile prints used to reproduce miniatures, woodcuts or copper engravings, and – in the library – original sixteenth- to nineteenth-century prints on loan from various Hamburg collections.

²² Fritz Saxl, 'Die Kulturwissenschaftliche Bibliothek Warburg in Hamburg'[1930], in Aby M. Warburg, *Ausgewählte Schriften und Würdigungen* (Dieter Wuttke, ed.), Baden-Baden, 1979 (*Saecula spiritalia*, Vol. 1), pp. 331-334, p. 334.

²³ For more on the complex thematic sequence of the floors, see Tilmann von Stockhausen, *Die Kulturwissenschaftliche Bibliothek Warburg: Architektur, Einrichtung und Organisation*, Hamburg, 1992, pp. 86 ff.

²⁴ Letter from Warburg to Felix von Eckardt, 3 Oct. 1928, in Fleckner *et al.* 1993, pp. 58-59, p. 58.

²⁵ *Ibid.*, p. 58; see anon., 'Wohin mit dem Planetarium? Verbindung mit einer astronomischen Bibliothek', in *Hamburger Fremdenblatt*, N. 270, 28 September 1928.

The didactic value of copies and reproductions, which had recently been the subject of controversy in the ‘Hamburg Facsimile Debate’, nevertheless (as in previously compiled exhibitions at the Kulturwissenschaftliche Bibliothek) allowed a synthesis of chronologically and geographically very distant documents through direct comparison of images – yet, unlike in his earlier plate works, Warburg had now provided brief written commentary instead of personal lecture annotations.²⁶ Selection and assembly, details and changes of scale also gave the displayed pictorial material a voice beyond mere documentation, and allowed historical processes to be visually reenacted, chains of motifs to be identified, individual works and genres to be defined in terms of their functional history, and cultural-history contexts to be clarified. The fifteenth section of the exhibition thus followed the ‘migration of planet images from Italy to the north’: the example of the archaic stock character Hermes Sphenopogon was used to demonstrate the motivic adoption of the divine figure from a Greek stone relief from the fifth century BC, its replication by Ciriaco d’Ancona and its graphic distribution in Italy and Germany, culminating in North-German carvings on half-timbered houses and calendar woodcuts from the sixteenth century (**Fig. 9**).²⁷



Fig. 9. Aby Warburg: *Collection of images on the history of astronomy and astrology (sect. 15)*, Hamburg, Planetarium, 1930, photography, London, Warburg Institute Archive

²⁶ For the discussion of the didactic use of copies in Warburg’s circles, see Michael Diers, ‘Kunst und Reproduktion: der Hamburger Faksimile-Streit’, in *Idea: Jahrbuch der Hamburger Kunsthalle V/1986*, pp. 124-137; Fleckner *et al.*, 1993, pp. 322 ff.

²⁷ See Aby Warburg, ‘Die antike Götterwelt und die Frührenaissance im Süden und im Norden’ [1908], in *ibid.*, *Die Erneuerung der heidnischen Antike: kulturwissenschaftliche Beiträge zur Geschichte der europäischen Renaissance* (Horst Bredekamp and Michael Diers, eds.), Berlin, 1998 (Gesammelte Schriften, Vol. I.1-2), Vol. I.2, pp. 451-454; *ibid.*, *Über Planetengötterbilder im niederdeutschen Kalender von 1519*[1908], *ibid.*, pp. 483-486; *ibid.*: *Kirchliche und höfische Kunst in Landshut* [1909], *ibid.*, pp. 455-457.

The choice of details (thus the shape of Mercury in the Panticapaeum relief was detached from its scenic context), the assimilations in scale between the individual photographic reproductions and their assembly on the plate allowed the historical reconstruction of the migration of motifs and the functional-history role of printed matter as ‘image vehicles’ to be understood.²⁸ Yet it was not just the reenactment of historical processes but also the clearly contrasting juxtaposition that could be achieved through the possibilities of assembly. For example, in the last plate, devoted to Johannes Kepler, the polarity of astrological superstition and astronomical science, which Warburg had identified as a defining element of Kepler’s personality, was already evident in the combination of pictorial material: the portrait of the scholar – as in Max Adolph Warburg’s painting – was fringed by an early fifteenth-century miniature showing the planet god Mars and a schematic drawing of the orbit of Mars as calculated by Kepler (**Fig. 10**).



Fig. 10. Aby Warburg: *Collection of images on the history of astronomy and astrology (sect. 17)*, Hamburg, Planetarium, 1930, photography, London, Warburg Institute Archive

When designing his collection of images in the Hamburg Planetarium, Warburg had to reckon with a completely different group of visitors than in his Kulturwissenschaftliche Bibliothek, which drew an intellectual clientele of students and highly qualified colleagues in his own and related disciplines. He accordingly designed his astronomic-history plates in a far less complex manner. The accompanying captions, evidently written by different authors, sought to convey the difficult cultural/historical questions in simple, readily comprehensible language – after all, the whole enterprise was ultimately intended as an educational resource for the general public.²⁹ The collection, its architectural and technical presentation, the selection and arrangement of the visual

²⁸ Aby Warburg, ‘Einleitung’, in *ibid.*, *Der Bilderatlas Mnemosyne* (Martin Warnke, ed.), Berlin, 3rd edition, 2008 (Gesammelte Schriften, Vol. II.1), pp. 3-6, p. 5.

²⁹ The introductory texts to the various plates, or the individual working texts, cannot be ascribed with certainty to specific authors. In contrast, the detailed explanatory texts on Dürer’s *Melencolia I* (Plate 13.2), which also aim at a higher linguistic level, can with a degree of likelihood be attributed to Fritz Saxl; see Warburg, 2012, p. 446.

exhibits, the explanatory text plates and – not least – the adjoining library challenged Hamburg’s citizens to deal with attempts to interpret a cultural history of astrological ideas. This called for a high degree of attention on the part of visitors if they were to put the display reproductions to successful educational use: ‘Obviously,’ wrote Gertrud Bing and Fritz Saxl in 1930 on the hoped-for reception of the exhibition, ‘such a collection of images cannot be viewed in the same way as pictures in an art gallery. City folk know practically nothing of the facts of the starry sky, let alone of humanity’s efforts to grasp them. The images that illustrate the history of astronomy will remain incomprehensible to any visitor who is unwilling to consider *detailed explanations* of them... Each plate, model and individual illustration is thus accompanied by explanations that must be read by anyone who wishes to learn anything from the collection. The same purpose of a ‘self-acquired orientation’ is to be served by the small *collection of books* in an adjoining room.’³⁰ A purely aesthetic approach to the presented artworks was therefore explicitly rejected, and indeed rendered physically impossible by the use of reproductions rather than originals. On the contrary, visitors were expected to cooperate actively in combining texts and images into actual statements and independently pursuing the questions raised in the library.

‘Orientation’ and ‘self-education’ were key concepts to Aby Warburg. When on 21 August 1929, i. e. during the preparations for the collection, the art historian wanted to give the appointed board of trustees a basic description of the significance of his Kulturwissenschaftliche Bibliothek, he made clear that he saw the educational premise of these concepts as the basis for the work of the institution. On this occasion he assessed his library in the following terms: ‘In the as yet unwritten manual of self-education of the human race, it forms a chapter that could be entitled “From the mythical/fearful to the scientific/calculating orientation of humanity towards itself and the cosmos.”’³¹ Yet it was not only the universal historical/philosophical draft, as reflected in the allusion to Gotthold Ephraim Lessing’s *The education of the human race*, that determined Warburg’s cultural/scientific impact in his later years as education for self-education, but also his personal experience of loss of reflective distance in the years of his threatening psychotic illness and his recovery ‘by his own efforts’ (Carl Georg Heise).³² It is therefore no accident that the task he had set himself in his famous lecture at the Kreuzlingen sanatorium in 1923 –that of recovering his personal mental equilibrium in the work of preparation as well as in conceptually grasping a subject that encompassed his own illness no less than the announced theme of the ‘snake ritual’ – was identical to the task of the Hamburg collection of images: ‘The images and words are intended to help future generations in their attempts at self-reflection in order to avert the tragedy of the tension between instinctive magic and analytical logic.’³³

³⁰ Anon. [Bing and Saxl], 1930, p. 19; see Warburg, 2012, p. 397.

³¹ Aby Warburg, *Kulturwissenschaftliche Bibliothek Warburg* [1929], in Warburg, 1979, pp. 307-309, p. 307.

³² Carl Georg Heise, *Persönliche Erinnerungen an Aby Warburg*, Hamburg, 2nd edition, 1959, p. 49.

³³ Quoted from Gombrich, 1981, p. 304.

The afterlife of predetermined motifs, the pictorial world of astrology, cultural exchange between northern and southern Europe, the polarity of pictorial and abstract perceptions of the world – in short, the whole basic cycle of cultural/scientific problems and the methodical principles for tackling them – were mapped out in the exhibition. The presentation in the Hamburg Planetarium was marked not only by its theoretical and educational character, but also by the chosen institutional form as a subtotal of its founder's scientific lifetime achievements: the *Collection of images on the history of astronomy and astrology* was conceived not only as a mere permanent exhibition, but was also to be a veritable branch of the Kulturwissenschaftliche Bibliothek. In 1928 Warburg expressly reserved for himself, or for his deputy Fritz Saxl, the management of the new establishment, and was already thinking about its extension and events to be held there: 'I or my deputy would at first assume directorship on an honorary basis, on condition that, if a director of the Planetarium is appointed, he will form a committee with us and maintain contact with us on all matters of realization. Competences should of course be individually determined later on, especially with regard to the projected library, which should be both astronomical and historical/astrological. The KBW will be prepared to help expand the library through occasional donations, even if it is not in a position, for example, to assume regular duties in this respect. On the other hand, I request that the planned conference areas be kept at my free disposal, and would also wish to be able to use the second-floor auditorium with the epidioscope for occasional lectures.'³⁴ The intended institutional organizational structure was also discussed in the official negotiations with the school board and the Hamburg state government and legislature, and was eventually reflected in the specific building plans, which explicitly aspired to an 'astrological/astronomical department of the Kulturwissenschaftliche Bibliothek Warburg'.³⁵

The ground plans and elevations submitted in autumn 1928 by the Hamburg architect Hans Loop for the incorporation of the Planetarium into the water tower eventually included, in addition to the aforementioned conference areas, a personal office for Aby Warburg.³⁶ After the collection of images was opened, cultural/scientific lectures were indeed given in the Planetarium – in December 1930, for instance, Fritz Saxl addressed the Religious Studies Association there – and the abilities of the Zeiss projector to reconstruct historical constellations were put to use.³⁷ However, the notion of an institution vanished with Warburg's death, and the areas initially designated as his work and conference rooms had to make way for a modern astronomy department that was put together by Arthur Beer (**Fig. 11**).³⁸

³⁴ Letter from Aby Warburg to Karl Umlauf, 13 Oct. 1928, in Fleckner *et al.*, 1993, pp. 60-62, p. 61.

³⁵ Letter from Karl Umlauf to the Hamburger building authority, 28 November 1928, Hamburger Staatsarchiv, Bestand Baudep. B. 1914.

³⁶ See the ground plan of Hans Loop's Planetarium installation, in Fleckner, 1991, p. 317, fig. 3; *ibid. et al.*, 1993, p. 330, fig. 9.

³⁷ See Arthur Beer, 'Neues vom "Himmel auf Erden": kulturwissenschaftliche Versuche im Hamburger Planetarium', in *Hamburger Fremdenblatt*, No. 350 (evening edition), 18 December 1930.

³⁸ For more on Beer, see P. Beer and Hilmar W. Duerbeck, 'Arthur Beer and his relations with Einstein and the Warburg Institute', in *Journal of Astronomical History and Heritage*, 1/2006, pp. 93-98.



Fig. 11. *Modern astronomy department of the “Collection of images on the history of astronomy and astrology”, curated by Arthur Beer, Hamburg, Planetarium, 1930, photography, archive of the author*

After his Kulturwissenschaftliche Bibliothek had gradually evolved from a private scholar’s book collection into a semi-public research establishment, Warburg accordingly set about founding the Hamburg exhibition as a ‘second cultural research station’.³⁹ In this way he evidently wanted to get closer to his ideal of a republic of letters of independent scientific institutions, and this in a city whose university had not been founded until relatively late, in 1919, and – despite his tireless commitment – was often the butt of Warburg’s resolute scepticism.⁴⁰ Although the institution was set up without any obligation to teach, with the didactic capabilities of its series of images and its library, its call for self-study and its disparately larger circle of users it was from the outset a training establishment and hence not only a scientific but also an educational branch of the Kulturwissenschaftliche Bibliothek: ‘All that mattered to the KBW was to create this collection of teaching resources in a place where it would have a direct educational impact: near the Planetarium and its modern optical observation equipment.’⁴¹

Just as Warburg had occasionally worked together with the Hamburg Observatory in order to date the fresco in the Old Sacristy in Florence’s San Lorenzo church or to determine the year of Agostino Chigi’s birth from the personified conjunctions in the ceiling painting in the Villa Farnesina, natural and cultural science were also to overlap in the astrological-history exhibition, but now for a larger audience.⁴² Warburg’s

³⁹ Letter from Aby Warburg to Gustav Pauli, 25 May 1929, London, Warburg Institute Archive (WIA, GC).

⁴⁰ For more on Warburg’s attitude to university policy, see Fleckner *et al.*, 1993, pp. 330 ff.

⁴¹ Letter from Aby Warburg to Felix von Eckardt, 3 October 1928, *ibid.*, pp. 58-59, p. 58.

⁴² See Aby Warburg, ‘Eine astronomische Himmelsdarstellung in der alten Sakristei von S. Lorenzo in Florenz’ [1911], in *Mitteilungen des Kunsthistorischen Instituts in Florenz*, 2/1912, pp. 34-36, reprinted in Warburg, 1998, Vol. I.1, pp. 169-172; *id.*, ‘Orientalisierende Astrologie’ [1926], in *Wissenschaftlicher Bericht über den Deutschen Orientalistentag Hamburg vom 28. Sept. bis 2. Okt. 1926, veranstaltet von der Deutschen Morgenländischen Gesellschaft*, Leipzig, 1927, reprinted in Warburg, 1998, Vol. I.2., pp. 559-565, p. 563.

educational approach was comprehensive, and included schoolchildren and students equally in the circle of target visitors. His letter of 13 October 1928 to school inspector Umlauf therefore stated that his institution should be seen as a ‘contribution to the spiritual guidance of young people ... which is to be incorporated into a light-bringing display, but not a treasure house of curiosities.’⁴³The light imagery at this point in the letter once again – as in the reference to the ‘forcibly eclipsed luminosity’ of the water tower – reflected the educational goals of the *Collection of images on the history of astronomy and astrology*, whose universal claim and didactic function can be summed up as ‘an education resource for the schooled and the unschooled ... the like of which has not previously been seen in European human society.’⁴⁴

Main references

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⁴³ Letter from Aby Warburg to Karl Umlauf, 13 October 1928, in Fleckner et al., 1993, pp. 60-62, p. 62.

⁴⁴ See Note 10.