

18 “God Is in the Details,” or The Filing Box Answers

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The title of this essay refers to two eminent scholars. The first quote stems from Aby Warburg, who was born in 1866 and died in 1929, the son of the owner of a bank, who sold his status and his rights of a firstborn to his brother—like Esau did at one time. The brother is called Max and not Jakob, and the price was not a plate of lentils but every book he, Aby, wanted. The deal became dearer than Max thought when he took over the Warburg Bank and promised to buy the desired literature.

Aby Warburg became one of the first and one of the most famous *Kulturwissenschaftler*, scholar in the field of cultural studies, and he built the Kulturwissenschaftliche Bibliothek Warburg in Hamburg, whose stock emigrated in 1933 to the Warburg Institute in London.

Warburg deserves to be called the inventor of iconology. Art history defines iconology as “description and classification of image content aiming to understand the significance of this content.”¹ In a way this is the key problem of all scientific use of images.

My other patron is Niklas Luhmann, one of the greatest sons of my town Lüneburg, born 1927, died 1998, sociologist and constructor of modern systems theory, who started his “filing box because of the simple consideration that” his “memory was bad” already at the age of 25.² He communicated with his filing box; it was an eminent source of his productivity and he treated it so well that in the end it answered him, surprised him, and gave back more than he had put into it. In other words: The concern is that of media of knowledge.

On the shoulders of these two giants stands my humble contribution, the attempt to combine the sharp-eyed gaze at the details of an image with a comfortable filing box by an implementation in software.

God Is in the Details—A Science of the Sharp-Eyed Gaze—Thinking in Images

Images have a poor scientific reputation. They count only little, if exact conclusions have to be drawn. Since modern times precise thinking is done with text, because

images are reigned by the category of similarity, which is, secondo Foucault, since the beginning of the seventeenth century “no longer the form of knowledge but rather the occasion of error, the danger to which one exposes oneself when one does not examine the obscure region of confusions.”³

In spite of this, great thinkers also after the seventeenth century have thought in images. My favorite example is one by Charles Darwin, who on December 7, 1856, jotted into his notebook⁴ “I think,” and then afterward expressed what came to his mind by means of an image, with a diagram.

It took until now to understand why thinking in images is not offensive but fruitful. The new science that emerged from that is the reason of this book: *Bildwissenschaft*. I refrain from translating it in English.

Gottfried Boehm wrote: “the notion ‘image’ concerns a different type of thinking that is capable of clarifying the long-underestimated cognitive techniques that do not use verbal representations. . . . It is an ‘iconic difference’ with which significance can be expressed without reverting to linguistic models, e.g., syntax or rhetorical figures, because the intelligence of images lies in their respective visual order.”⁵

I’d like to point to this extralinguistic aspect of images, to the fact that images and their interrelations could not be totally exhausted by speech and for that very reason could not be explained and described verbally without leaving a residuum.

In very much the same way as language uses words and notions to form reasonable propositions, thinking in images is done using “image atoms,” signifying entities. Contrary to language it is all but clear which these are.⁶ Language has brought about the dictionary. Image atoms have to be discovered, negotiated, described every time anew.

Aby Warburg was deeply convinced that the cultural historic significance of images lies precisely in these image atoms and their interrelations. On November 25, 1925, he found the following word for this: “Der liebe Gott steckt im Detail.”⁷ God is in the details. With the full seriousness of scientific endeavor he stated: “Wir suchen unsere Ignoranz auf und schlagen die, wo wir sie finden.”⁸ We search for our ignorance and beat it where we find it.

One of his endeavors I will have you recall.

Warburg’s methodology of cultural historic analysis of image motifs, his iconography and iconology, as we would call it nowadays, traced the path of tradition of image content from the ancients up to now. A famous example of this technique of thorough tracing is written down in his paper about the frescoes in the Hall of the Months at Palazzo Schifanoia in Ferrara.⁹ It is a veritable riddle, which he solved with the exactness of an investigator.

The question is: Who is the man in white clothes girdled with a rope?¹⁰

The answer is: A certain Perseus, who often changed his appearance significantly, which, however, could not irritate the Warburgian serendipity.

Here comes the chain of evidence: The most important information comes from the context of the quested: astrology. The figure is part of the month of March, so the image tradition of the zodiacal sign Aries helped a lot to trace down the personnel under suspicion.

Perseus, from the Greek sky of fixed stars, holds in one hand the gorgon's head and the harp, the scimitar, in the other. He becomes the first Egyptian dean of Aries, the one who rules the first ten days, from *deka*, "ten." He carries an Egyptian double axe. He mutates more and more into an Arabic executioner and hangman, immediately after having done his duty. Recall: he cut off the gorgon's head. A Spanish lapidary showed him that way, the double axe is still there, black skin has been added.

According to an Indian tradition, this means:

The Indians say that in this dean a black man rises with red eyes, of big figure, strong courage and great attitude; he wears a big white costume and is girdled with a rope. . . .¹¹

Thus we find an Ethiopian hangman in white, using his rope as a belt, showing his service weapon to everybody, as could be observed in Ferrara.

Since all the relevant literature was known to the principal of the Palazzo Schifanoia, we have a complete chain of evidence. The person is convicted of being Perseus.

Aby Warburg also argued visually using images in his *Mnemosyne-Atlas*,¹² and this is indeed utterly necessary to be able to follow the chain of reasoning in his paper. He used arrangements of images, frames, photographs pinned to black canvases, to relate images from distant times and places.

Wordless image next to image, his iconology began to blossom. Horst Bredekamp and Michael Diers as editors of Warburg's research stressed that the significance of images in the process of civilization lies somewhere between magic and logos.¹³ Philippe-Alain Michaud calls it "a mute language, freed from the constraints of discourse."¹⁴

Warburg's frames served as means and media of reasoning and of presentation. They were relatively easy to carry out but set limits to arbitrary recombination of the contents. So Warburg wrote in his scientific diary:¹⁵

The regrouping of the photo-plates is tedious. . . . mass displacement within the photo plates. . . . Pushing around frames with Freund. . . . Difficulty: the placement of Duccio. . . . The arrangement of plates in the hall causes unforeseen inner difficulties. . . . Begun to cut out all the gods. . . .

It must have been extremely difficult to relate image details with one another, despite the fact that exactly this was of such importance to Warburg. Peter van Huisstede reports of chains of argumentation like filaments consisting of 15 or 20 images. Whether Warburg actually used a ball of woolen thread is unknown to me, but I am convinced he would have gone a similar way we did.

HyperImage: Working Close to the Digital Image

Our software is a digital filing box for image details. References between these details can be coded without verbalization. Its name is HyperImage,¹⁶ and it is the result of a collaboration between the Humboldt University in Berlin and the Leuphana University of Lüneburg; the German Ministry for Research and Education (bmbf) gave the money.

Images are uploaded from repositories to the editor. There these images are put into groups, metadata are added, image details are marked and linked to one another. With light tables, arrangements of the Warburg frame type can be done, albeit a bit more comfortably. The images can be referred to in multiple contexts and interrelationships at the same time, which Warburg definitely would have liked. And because everything is digital, image indexes and concordances are compiled automatically.

All this results in Flash-based Web pages, which can be put in operation without further ado on any conventional server or even from a local drive. Pilot users tested our application for their own research purposes. A stable final version is online as open-source software.

The editor is programmed in Java, as platform-independent open source software, its architecture strictly following the principles of Web services. After authentication, images are uploaded from the local drive or any repository with a proper interface. The material is grouped, metadata are added, material is decomposed into image atoms, which are then linked together, and all of it exported as an XML file.

Figure 18.1 shows how it looks to link a region that has been marked in the editor to another marked region. The figure in the upper half of the window is linked to the rectangular region with a drag-and-drop mouse gesture. The linkage is stored in the database, indexed, and at the end exported within the XML file.

Regions are marked independent of resolution. This means that they could be of any size and precision; their coordinates are relative to the image's edges, in contrast to pixels. External repositories have to have a WSDL-interface to be connected to the editor. Such an interface could be developed in one or two weeks' programming effort. The editor produces an XML file that is interpreted by a Flash-based reader. A Flash plugin to the browser suffices; the material can be delivered by any Web server or locally from a disc.

Figures 18.2 through 18.9 (see also plate 33) show how the Warburg example from the Schifanoia Palazzo looks in the reader—clicking the mouse over the appropriate highlighted region carries the viewer to the next image, where the chain of image links can be carried out. This chain exactly maps the linear argument in the Warburg paper, revitalizing the image frames. Annotations explain the significance of each link. These notes are entered within the editor when specifying the links.

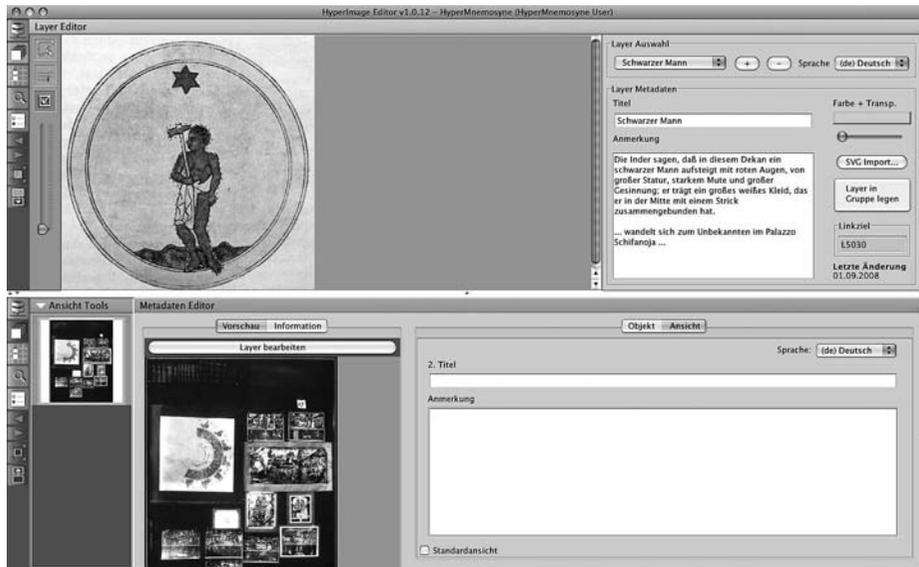


Figure 18.1

Linking the black man to the corresponding detail of the Warburg frame (as all others, from the Mnemosyne-Atlas) with the HyperImage Editor. © Martin Warnke.

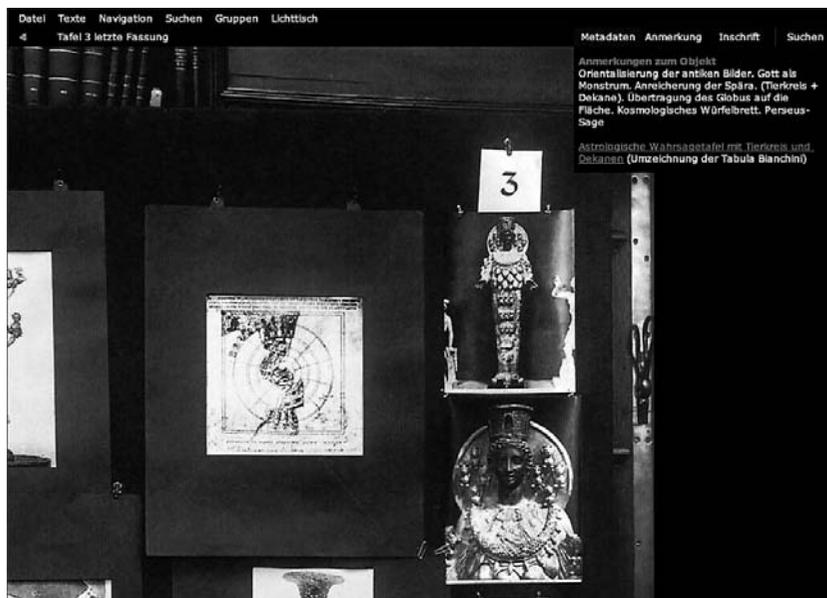
Figure 8.10 shows how an arrangement of images looks in a prepared light table. This is a technical realization of Johann Gottfried von Herder’s observation that “All notions hang in the chain of truth with one another; the tiniest may not only serve the biggest, but could itself become indispensable.”¹⁷ Or: God is in the details!

When the Filing Box Answers

We now arrive at the last section of this essay, at the filing box, which, if properly taken care of, answers its operator.

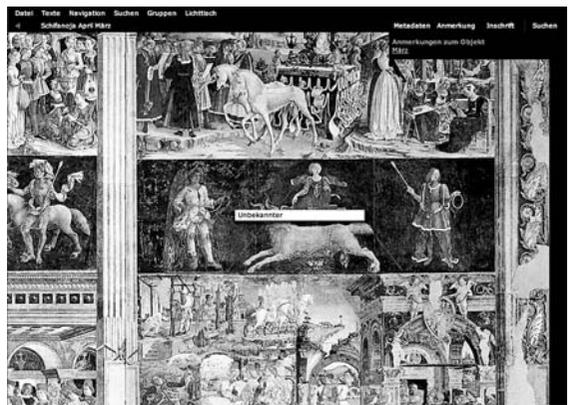
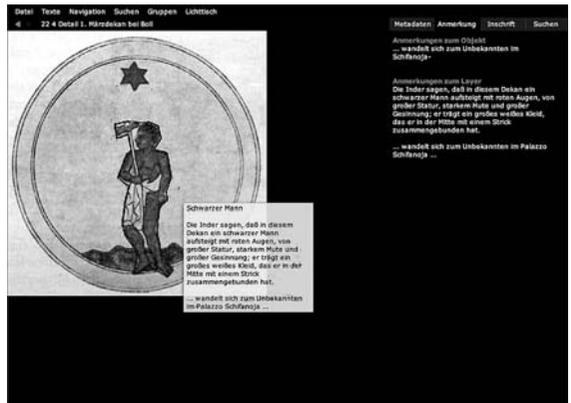
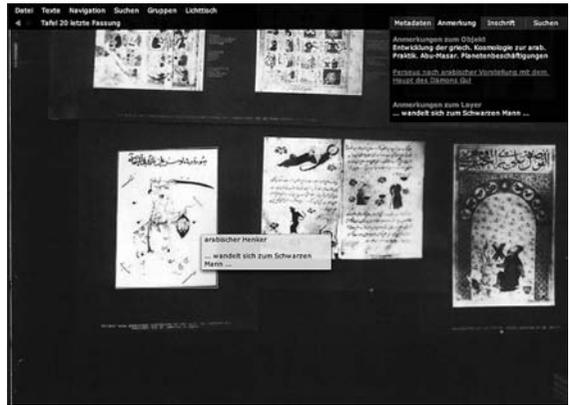
Luhmann’s biggest problem with his box was to correctly move notes back to their proper location after use.¹⁸ At least this is something computer technology has freed us from. Storage and retrieval are the easiest duties for computers.

But: How does the filing box become intellectually productive? This stems from the same sources as the difficulty with rearranging notes: from complexity. The need for a filing box always evolves from the problem of complexity, to the possibility of having much more than could be overlooked. Computers help to govern the masses, but to select the relevant parts, a human brain is necessary.



Figures 18.2–18.9

The Warburg argument, followed from within the HyperImage Reader, from image detail to corresponding image detail. See plate 33. © Martin Warnke.



Figures 18.2–18.9
 Continued

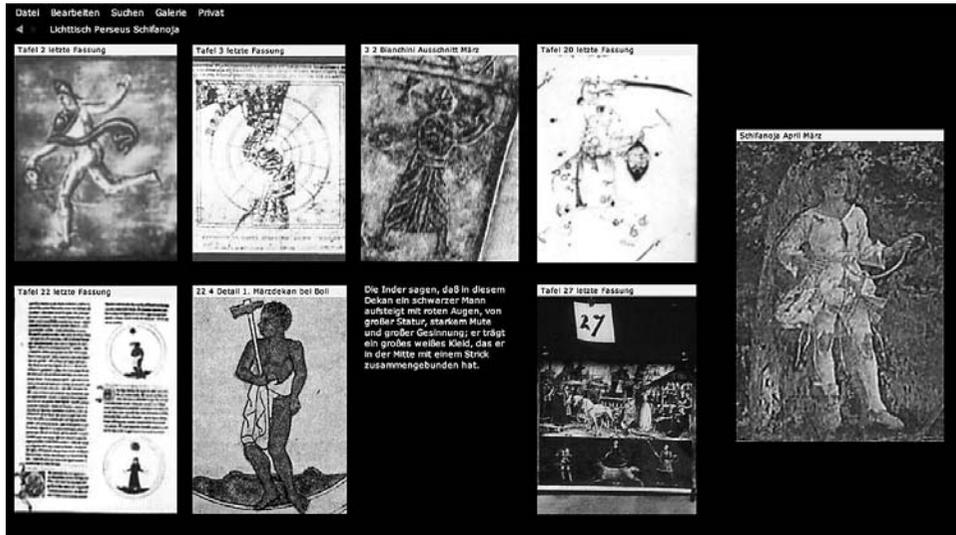


Figure 18.10

The light table, compiling all the visual evidence. © Martin Warnke.

What, then, is a good filing box? Does its quality come from the wisdom of its individual notes? Somebody trained in ontology might think so. Luhmann, as usual, takes a totally different approach: “Contrary to the structure of updatable references, the importance of what is noted concretely is small. . . . The communication with the filing box only becomes fruitful at a higher level of generalization, at the level of communicatively connecting the relations.”¹⁹

To put it differently: by cross-referencing and the mashup that follows from it. *The net is the filing box*. By cross-referencing, the spider-like net system²⁰ of entries emerges. “Every note is an element that gains its qualities only by virtue of the net of reference and cross-reference in the system.”²¹ It is not just the chain, as Herder thought; in postmodern times, it is the net of atoms of knowledge mutually backing up one another.

But does our filing box called Hyperimage actually give answers to its operators? Some years of use will certainly be necessary before any surprising results occur. As Luhmann states, his “filing box on occasion provides for combinatorial possibilities that have never been planned, thought of, prepared for in advance.”²²

I asked our pilot users, and a very exciting answer came from the biologists and their biodiversity project at the Museum für Naturkunde in Berlin. Prof. Hannelore Hoch and her group search for the inner workings of the evolution of species and can report that the use of images, in this case tomography data, maps, and localizations,

brought about insights that were not possible before, without this kind of media. Additionally, there are new insights concerning the evolutionary status of species that can be gained by locating them on maps and backtracking the findings to their origins, that is, by using the image index. In this way it became clear that one species always occurs “sympatrically,” that is, together with another one. This suggests evolutionary dependencies that were not known before.²³

Final Questions

There are two final questions: What comes after, and a crucial question, following Faust: the so-called *Gretchenfrage*.

First: What comes after. The Deutsche Forschungsgemeinschaft provided financing to build HyperImage into prometheus, the German distributed image database for research and academic education.²⁴ This should bring in the required masses of pictorial references to allow the net of images to grow.

Now the *Gretchenfrage*. Aby Warburg, finding God in the details, obviously stayed with the almighty. But what about the second giant on whose shoulders my other foot rests?

Talking to Alexander Kluge about which character from Faust Luhmann found the most interesting, Luhmann answered: “Probably Mephistopheles. My part is always with the devil. He discriminates the sharpest and sees the most.” And being asked about his major character attribute, and whether it may be curiosity, Luhmann, always ready for a surprise, answered: “Stubbornness”—in German: *Bockigkeit*.²⁵

I don’t know what your interpretation might be of this confusing statement, but I thank you for your attention anyway.

Notes

1. Aby Warburg, “Nachwort des Herausgebers,” in *Ausgewählte Schriften und Würdigungen*, ed. Dieter Wuttke (Baden-Baden: Verlag V. Koerner, 1980), pp. 601–602. Translation by the author.
2. Niklas Luhmann, “Biographie, Attitüden, Zettelkasten,” in *Niklas Luhmann—Short Cuts*, ed. Peter Gente et al. (Frankfurt: Zweitausendeins, 2000), 33.
3. Michel Foucault, *The Order of Things* (New York: Random House, 1994), 50.
4. See <http://darwin-online.org.uk/content/frameset?viewtype=side&itemID=CUL-DAR121.-&pageseq=38> from Complete Work of Charles Darwin Online.
5. Gottfried Boehm, “Iconic Turn: Ein Brief,” in *Bilderfragen*, ed. Hans Belting (Munich: Fink Verlag, 2007), 27. Translation by the author.
6. See Martin Warnke, “Bilder und Worte,” in *Suchbilder*, ed. Wolfgang Ernst et al. (Berlin: Kulturverlag Kadmos, 2003), 57–60.

7. Aby Warburg, "Nachwort des Herausgebers," 619.
8. Ibid.
9. Aby Warburg, "Italienische Kunst und internationale Astrologie im Palazzo Schifanoja zu Ferrara," in *Ausgewählte Schriften und Würdigungen*, 173–198.
10. For the image material see figures 18.1–18.9.
11. Franz Boll, *Sphaera* (Leipzig: Akademie-Verlag, 1903), 497.
12. Aby Warburg, "Der Bilderatlas Mnemosyne," *Gesammelte Schriften*, Book. 2, vol. 1, ed. Martin Warnke and Claudia Brink (Berlin: Akademie-Verlag, 2000).
13. Preface to Aby Warburg, "Die Erneuerung der heidnischen Antike: kulturwissenschaftliche Beiträge zur Geschichte der europäischen Renaissance," Horst Bredekamp, and Michael Diers, *Gesammelte Schriften*, Book. 1, vol. 1 (Berlin: Akademie-Verlag, 1998), 9.
14. Philippe-Alain Michaud, "Zwischenreich," *Trivium* 1 (2008), par. 30, <<http://trivium.revues.org/index373.html>>.
15. Quoted in Peter van Huisstede, "Der Mnemosyne-Atlas. Ein Laboratorium der Bildgeschichte," in Aby Warburg, *Ekstatische Nymphe . . . trauernder Flußgott; Portrait eines Gelehrten*, ed. Robert Galitz and Brita Reimers (Hamburg: Dölling und Galitz Verlag, 1955), 130–171. Translation by the author.
16. Key: 01DS004B. See <<http://www.hyperimage.eu>>.
17. Quoted in Aby Warburg, *Ausgewählte Schriften und Würdigungen*, 604. Translation by the author.
18. We can watch the master himself at work: <<http://www.youtube.com/watch?v=7gxXkbEag6k>>.
19. Niklas Luhmann, "Kommunikation mit Zettelkästen: Ein Erfahrungsbericht," in *Öffentliche Meinung und sozialer Wandel*, ed. Horst Baier et al. (Opladen: Westdeutscher Verlag, 1981), 227. Translation by the author.
20. Niklas Luhmann, "Biographie, Attitüden, Zettelkasten," in *Niklas Luhmann—Short Cuts*, ed. Peter Gente, et al. (Frankfurt: Zweitausendeins, 2000),
21. Luhmann, "Kommunikation mit Zettelkästen," 225.
22. Ibid., 226.
23. Hannelore Hoch (2008), pers. comm.
24. See <<http://www.prometheus-bildarchiv.de>> and <<http://meta-image.de>>.
25. Niklas Luhmann and Alexander Kluge, "Vorsicht vor zu raschem Verstehen," in *Warum haben Sie keinen Fernseher, Herr Luhmann?—Letzte Gespräche mit Niklas Luhmann*, ed. Wolfgang Hagen (Berlin: Kadmos, 2004), 77. Translation by the author.