

## Watermarks and the ›Order of Things‹

Classification, Digitization and the Grammar of the Sign

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### 1. The order of things

A couple of years ago, when I was working on questions of the classification and terminology of the Piccard-Database I sometimes nearly got desperate over the imperfectness that I discovered and even more over having to systemize a matter which seems to be unsystematic in itself – like watermarks. In these moments I remembered a passage from the introduction to Foucault's *The Order of Things*, where the French post-structuralist philosopher quotes from »a certain Chinese encyclopaedia« where the animals are divided in the following way:

»(a) belonging to the emperor, (b) embalmed, (c) tame, (d) sucking pigs, (e) sirens, (f) fabulous, (g) stray dogs, (h) included in the present classification, (i) frenzied, (k) drawn with a very fine camelhair brush, (l) *et cetera*, (m) having just broken the water pitcher, (n) that from a long way off look like flies.«<sup>1</sup>

This example may illustrate a couple of insights: First, there is no principal structural difference between chaos and order. The difference consists just in the fact, that order provides someone who knows the principles of order with a file to find through the labyrinth. Second, any order is arbitrary. It is, to speak with Foucault, the effect of a discourse, that means, it is a linguistic product. And third, there is no »natural« coherence between the objects of reality and the order in which they are arranged.

Of course, we strongly believe that Linnaean taxonomy is much more natural than the system used in the Chinese encyclopedia quoted. But, in fact, there is not a difference of naturalness on the one hand and arbitrariness on the other, but simply a cultural difference. Even the system of Linnaeus and its modern counterparts turn out to be little more than historical constructions. Since the time of Linnaeus biological nomenclature has changed from the principles of morphology to the principles of phylogenetics. And even though morphology

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<sup>1</sup> Michel FOUCAULT: *The Order of Things. An Archaeology of the Human Sciences*, London 2002, S. xvi.

and phylogenetics correspond in large parts, the method of thinking has changed categorically. So, when we say that any order of things is arbitrary, we have to add that scientific orders at least are correspondent to the current scientific view of the world.

The chaotic-structured, arbitrary and artificial features of order, that the example of the Chinese encyclopedia shows so clearly, can be found again, as exaggerated as it may sound, exactly in the way how watermarks are classified.

I will come back later to the inconsequences of classifying watermarks that occur in a database like Piccard-Online. Let me first explain by only one example how our still limited view of the world of watermarks affects and limits our means of classifying watermarks in general.

When we regard the following examples of watermarks (fig. 1) we notice quickly that we do not know what is meant by their design. We can conclude from the shape, and also from the dates and places of use that the two marks form together one type, and that the second is a variant of the first mark. We can also conclude from statistics—the first mark occurring eight times in Piccard, no. 125903–125910, the second only one time—that the first mark shows the original shape, the second a derivate form. We can describe the shapes as a cube, two rings, a rod, and three circles. So we are able make a lot of statements about this watermark, but we still do not know what it means.



fig. 1: Piccard-Online no. 125907 and 125911

In Piccard-Online this type of watermark is classified in the main group »tower« as »house / above three circles«. Even if we admit that there is a cubic shape, we will agree that this watermark's matter is not really a house and that it is not even a building. I could try a guess

what it is in reality but that would miss my point,<sup>2</sup> because I want to show something rather different: Any system that works with classification implicitly claims universal validity. When the system of classification consists in naming and defining objects then we have to know about any object to classify what it is, otherwise it will not fit into the system or—as in our case—it occurs in a place where it does not belong to. The crucial point is not that the terminology is imprecise, arbitrary or simply wrong, but that in cases like these terminology just does not work, when we try to find an object out of the chaos, because with this mark in your hand you will never search for a house.

In other words: With our limited knowledge we come to the limits of classification, because classification anticipates the unrealistic case that all watermarks are already known and deciphered. But our knowledge is progressive and thus it is at any point of time incomplete, and so is any method of classification.

## 2. Digitization

At this point you could ask, if it had been better to complete our knowledge of watermarks in order to be able to create the ultimate classification system before creating large databases of watermarks? The answer is obvious. We never would have created any database, no matter if a library catalogue or a watermark database, if we had thought this way. On the contrary, digitization of watermarks offers unforeseen opportunities to move forward in understanding watermarks and also in classifying watermarks in less rigid hierarchies.

The advantages of digital collections for retrieval of single objects are obvious. In analogue classification systems the principles of order, as simple as they may be, correspond necessarily to a spatial order that cannot be changed easily, and vice versa (fig. 2). For instance the books in a modern library magazine are placed in the order of entrance, which produces a chaos that has to be managed by a catalogue. But the spatial arrangement of a traditional library catalogue is nearly as unchanging as the arrangement of the magazine itself. Before digitization books could only be found with the help of such a catalogue, normally arranged alphabetically according to the names of the authors. Despite the fact that work titles form part of the catalogue references a work title would never ever help in finding a book

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<sup>2</sup> I suppose the watermark shows an emblem of stonemasonry with models for a block of stone and tracery.

because library catalogues are not arranged by titles. As you all know, the creation of digital library catalogues has changed this situation fundamentally.



fig. 2: The card catalogue of Yale University Library

What is essential here, is that databases consist in structured information and that they can change the order in which hits are given according to the request submitted. The question now is: Do we already make use of this flexibility adequately? And how should we improve our classification systems to make even better use of it in the future?

### 3. The grammar of the sign

The answer is quite simple. The better we know the contents and principles of a language, that is its vocabulary, grammar and syntax, the better we can read and understand the written and spoken language. That is quite the same with watermarks, which are a kind of language that we do not yet understand completely. But what we can do better is trying to read watermarks and understand their grammar.

I would like to illustrate this by an example from Piccard-Online. I have a mark like the one shown in fig. 3 consisting in three elements which are clearly distinctable and which can be

determined and named without difficulty. From top to bottom: a crosier of Basle, a house, and a monogram built out of the letters N, H and a cross (N†H). In this case I have three ways to begin my search in Piccard-Online. Let us assume I am not able to interpret the element above as a crosier (a case that is not so unlikely in researchers less experienced than we are), so I will start with the house. I find house as a distinct rubric under the main group of towers (standing in Piccard's classification for buildings in general).

Please allow me at this point a remark aside: Should this main group not be renamed by »building«. I suppose that is something that the creators of the Bernstein workspace asked themselves too (cf. [http://www.memoryofpaper.eu:8080/BernsteinPortal/appl\\_start\\_disp](http://www.memoryofpaper.eu:8080/BernsteinPortal/appl_start_disp)). But if so, it is not quite understandable why they hid the group under the heading »realities«, and why they called the respective rubric by an incomprehensible term like »structures« (fig. 3)? Who would ever search a house under the rubric »structures«? End of the aside.

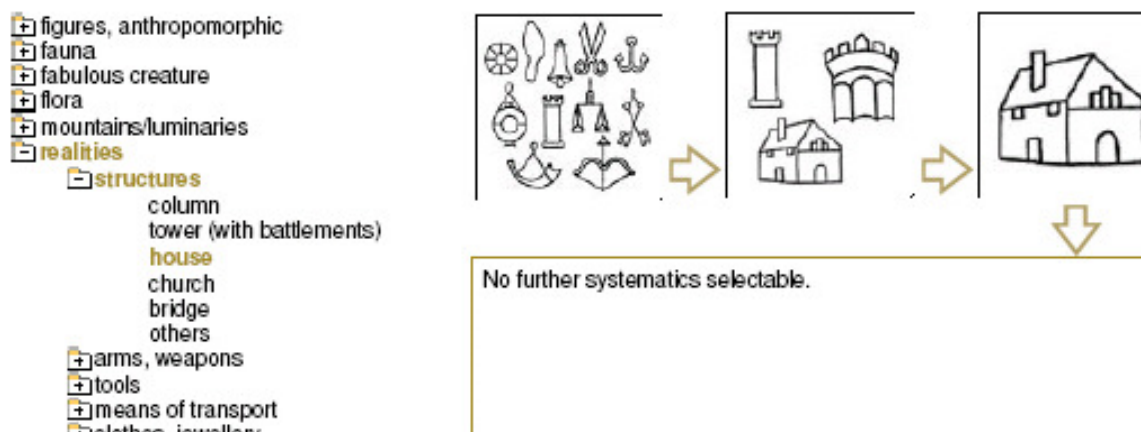


fig. 3: The Bernstein workspace

Thus I start in Piccard-Online with the main group of towers. I will find there the group »house« and I will come very easily and quick to the subdivision »Above staff of basel«. In this group consisting of only four references I will find two exemplars (no. 106002 and 106003) that fit to the type I am looking for.

As Piccard-Online in these cases does not use the letters NH for purposes of description and classification, a search for NH meets three hits in the group of »letters«, subdivision »NH« and meets about 90 hits by a full-text search—but in neither case the watermark in question. Interestingly enough, a search for the crosier of Basle that starts in the main group »stick« and follows the path of »stick/ with additional motif/ staff of Basel/ beneath house« leads to

another 14 entries. Surprisingly under these entries one more exemplar (no. 33467) fits to the one I am looking for.

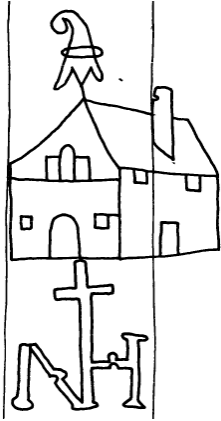


fig. 4

- Search: »Tower / House / Above staff of Basel« → endgroup with 4 entries → 2 hits (no. 106002 & 106003).
- Search: »Letter / NH« → endgroup with 3 entries → No hits. – Alternative: full-text search for exact expression »NH« → List of 90 entries → No hits.
- Search: Stick / With additional motif / Staff of Basel / Beneath house → endgroup with 14 entries → 1 hit (no. 33467).

What do we learn from this? First, as orders dealing with large numbers of references generally tend to be inconsequent, Piccard-Online not surprisingly is a database that is inconsequent in itself: The same type of watermark can be found in different places and not even cross-references are given. Of course, that is my fault and I should have done better work. On the other side, I could say to myself: nothing is wrong! The way the two watermarks of the same type are attributed to different groups, as a matter of fact, is totally correct.

So we learn, second, that watermarks are not unambiguous. Even simple forms can be described differently: under different iconographic and morphological aspects and from different points of view. This is true even more for complex or composite watermarks. It is just a question from which point you start your description—in our case: from the top, from the bottom or from the middle?

So, third, classification by terminology is not enough. The word »house« is a term precise enough for the iconographic description of a watermark, but, in fact, houses can have rather different shapes. When we take »church« as a variant form of »house«, the following two examples (fig. 5) can both be classified as churches and even though both are dating from the 17th century (from 1646 and 1631 respectively), they evidently form quite different types of watermarks.

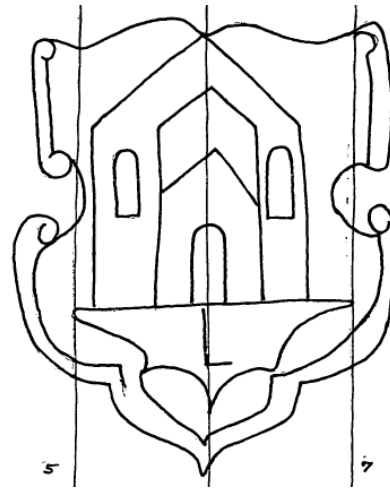
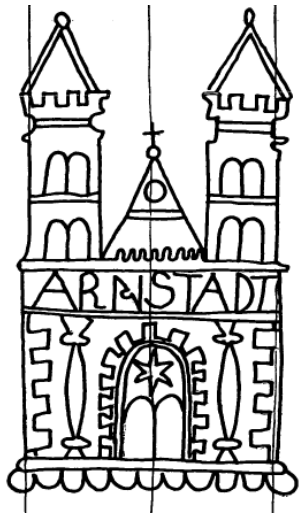


fig. 5: Piccard-Online no. 105987 and 106045

So the classification in Piccard-Online on the one hand puts together different types of watermarks under one heading, and on the other hand distributes related watermarks to distant places of the classification system. This is quite evident in a group of iconographically interrelated types of watermarks with the central motif of a house in perspectively correct depiction, like we already saw it in an example before. Even if we had not external evidence that this type of house is the »telling« emblem of the Basle papermaker family Heusler, notably Niklaus Heusler,<sup>3</sup> we could conclude from the iconographic consistency of the house type the genuine coherence of these watermarks, which is quickly to notice in the table. This coherence is hidden in Piccard-Online, where these watermarks can be found in the main group of »towers« as well as in the main group of »sticks«, as can be noted in the front column of the table.<sup>4</sup>

Having said this we have to ask: How can we ›read‹ watermarks? One thing is to determine as precise as possible the kind of signs that the watermark consists of. The house in our example is as mentioned before an emblem. The additional motifs that occur together with the house in various combinations are monograms, the serpent, the crosier of Basle, the basilisk and others. Apart from the emblem we can classify the additional motifs in two further groups: that is as script on the one hand and as heraldic motifs on the other hand. The serpent and the crosier of

<sup>3</sup> Cf. Piccard-Online no. 33666: Piccard records that his source contains a purchase receipt of Niklas Heusler in Basle. On the Heusler see Walter Friedrich TSCHUDIN: *The Ancient Paper-Mills of Basle and Their Marks*, Hilversum 1968 (*Monumenta Chartae Papyraceae Historiam Illustrantia* 7); Peter F. TSCHUDIN: *Schweizer Papiergeschichte*, Basel 1991.



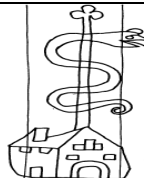
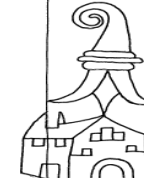





<sup>4</sup> For reasons of convenience I leave out here the references in BRIQUET and those in the literature mentioned in footnote #3.

Basle are common charges (>gemeine Figuren<); the basilisk is a shield supporter (>Schildhalter<).

What do these signs tell us? The monogram is easy to decipher. Monograms are, of course, short forms of names. In this case the name of the papermaker is already indicated by the house label. As the Heusler were a family of several generations of papermakers the initials NH or NCH dating all from the late 16th or early 17th century state more precisely that the papermaker in question is Niklaus Heusler. Though it seems as if so, the function of the heraldic charges is less definite. To be sure, the crosier as charge and the basilisk as supporter of the coat of arms of Basle relate these watermarks to the town of Basle—a relation which is already clear from our knowledge of the papermaker. As the crosier does not occur in a shield I suppose its function could also be to indicate the sort of paper. When we compare the two types of houses with crosier above and with serpent above we can see how similar they are in regard of their measurements, their composition and also their time of use that I suppose that these distinctive elements are given the purpose to indicate different paper sorts or qualities rather than indicating the place of production. But to be sure about that further research is necessary.

One last word on creating order: to analyse watermarks literally means to separate their elements of composition and to use these as distinctive features. To arrange watermarks in an order means to compose the elements again. In hierarchic classification structures this composition is necessarily arbitrary and rigid. As we have seen, the sample of house-watermarks could be arranged at least under five or six distinctive features (like basilisk, crosier, monogram, fool's head and so forth). Thus their genuine coherence would be totally fragmentized. In the digital age this is not a fateful necessity any more, because we are able to avoid hierarchic structures and create our databases as flexible that they are able to answer to a variety of requests as broad as possible.



classification in Piccard-Online		motif house	references in Piccard-Online	places and dates of use
Tower / House / Without additional motif		without additional motif	no. 105990	Mainz 1590
Tower / House / Beneath monogram HN <sup>5</sup>		beneath monogram NH	no. 105992–105996	Ensisheim, Basel, Heitersheim 1592–1597
Tower / House / Above serpent (snake)		above serpent	no. 105998–106000	Rheine, Sulzberg, Hochberg 1595–1600
Stick / With additional motif / Staff of Basel / Beneath house		above crozier of Basle	no. 33473–79	Straßburg, Montbéliard, Oberkirch 1592–1599; Metz, Amsterdam 1603–1608
Stick / With additional motif / Staff of Basel / Beneath house		above crozier of Basle, beneath monogram NH (consisting in one line)	no. 33466, 33468	Freiburg i. Br., Ettenheimmünster 1589–1592
Tower / House / Above staff of Basel <b>and</b> Stick / With additional motif / Staff of Basel / Beneath house		above crozier of Basle, beneath monogram N+H (consisting in double line)	no. 33467, 106002–106003	Freiburg i. Br., Straßburg 1588–1598
Tower / House / Above staff of Basel <b>and</b> Stick / With additional motif / Staff of Basel / Beneath house		above crozier of Basle and monogram NCH in a banner	no. 33469–33472, 106004–106005	Ensisheim, Mömpelgard, Aachen 1587–1596
Tower / House / In circle		above fool's head, beneath monogram NCH, in a round shield	no. 106043	Sulzberg 1601
Stick / With additional motif / Staff of Basel / With house and cockatrice		above crozier of Basle, with basilisk	no. 33480–33485	Neuenburg (Baden), Montbéliard, Zweibrücken, Molzheim 1592–1603; Stromberg 1623; Bergzabern 1649

<sup>5</sup> In the group »house« the letters HN are a mistake for the monogram NH representing the papermaker Niklaus Heusler.

Let me draw some further conclusions from the aforesaid: when we have to create an order of watermark references, it is not enough to put together what fits together terminologically, but what is typologically coherent. In order to bring together what is coherent it may be necessary to provide external evidence. That means we have to connect the references in the databases with research done so far. The integrated bibliography on the Bernstein workspace is a useful instrument and an excellent step in this direction. To come to terms with the interrelations and differences of watermark types it is absolutely necessary to describe precisely and completely any element and feature of the single types. If there are three distinctive features, it is not enough to describe one or two. We should come to an agreement on the standards of watermark description. For this reason we should learn more about the grammar of signs. In order to avoid confusion we should keep apart categories like »type of sign« (heraldic, emblematic, script and so forth), »geometrical composition of watermarks« or »element of design« (in shield or not etc) which are still totally mixed up. Even if any order is arbitrary and incomplete, I am sure, we can do better than the Chinese encyclopedia.