

Affordance as a Method in Visual Cultural Studies Based on Theory and Tools of Vitality Semiotics

A historiographic and comparative study
of Formal Aesthetics, Iconology, and Affordance using the example
of Albrecht Dürer's *Christ Among the Doctors* from 1506

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For Hega Kaiser-Minn,
an inspiring and open-minded
Heidelberg teacher of art history

Abstract

In a historiographical and methodological comparison of Formal Aesthetics and Iconology with the method of Affordance, the latter is to be introduced as a new method in Visual Cultural Studies. In extension of epistemologically relevant aspects related to style and history of the artefacts, communicative and furthermore action and decision relevant aspects of artefacts become important. In this respect, it is the share of artefacts in life that the new method aims to uncover. The basis for this concern is the theory and methodological tools of Visual Semiotics, which I have already presented. A direct comparison of the three methods based on the same example should clarify the points of contact and the respective performance of the methods. For this purpose, the *Christ among the Doctors* of Albrecht Dürer from 1506 will be used, which was already examined in 1905 and indirectly in 1915 by the prominent representative of Formal Aesthetics Heinrich Wölfflin, and in 1914 and finally in 1943 by the founder of Iconology Erwin Panofsky. With the new method the communicative-action and decision relevant aspects and thus their share in life should be shown.

Introduction

It is Formal Aesthetics and Iconology that have dominated art historical methodology from the beginning of the 19th century until today. More recently, however, it is mainly prehistoric and archaeological studies that have dealt with affordances in order to clarify the historical classification, use and meaning of artefacts. This came into their focus because there are hardly any comparable stylistic devices and other e.g. text-historical sources to make them accessible. Thus, the researchers concentrated –and this is really new– on the communicative aspects of the artefacts themselves. The concept of affordances is therefore a materially based approach that includes analyses of handed-down artefacts as well as pictorial and, more recently, aesthetic aspects. In summary, it is the impact of artefacts on life that the new approach in Visual Cultural Studies reveals. Against this promising background, the question arises: Can Affordance be established not only as an approach but also as a method in Visual Cultural Studies?

To this end, the two existing methodological approaches are to be compared and expanded using an analytical instrument of Affordance or Vitality Semiotics that I have already introduced. The latter is based on material and, more importantly, ecological, developmental psychological as well as neuroscientific and cultural anthropological studies and theories by Jakob von Uexküll 1909, Heinz Werner 1926, Ernst Cassirer 1929, 1942, and 1944, James J. Gibson 1966, Susanne K. Langer 1965 and 1972, Daniel N. Stern 1986, Giacomo Rizzolatti et al. 2013 and others.¹ In addition to the scientific comparison, the article will use the example of the famous *Christ among the Doctors* of Albrecht Dürer from 1506 to show what the three methods can ever achieve in comparison. This example was deliberately chosen, since two fundamental representatives of Formal Aesthetics and Iconology, Heinrich Wölfflin in 1905 and indirectly in 1915 and Erwin Panofsky in 1914 and finally in 1943, submitted studies on the subject. Finally, it should be shown that, contrary to the negative assessment of Dürer's work by the two researchers, which has found new approval today², the analytical instrument of Affordance provides a positive view of the work that is in harmony with the countless imitators and admirers to this day. This somewhat different assessment is essentially due precisely to the fact that the new method is able to establish a connection to life.³ As suggested, the present contribution begins with an introduction to the historiography of each method, followed by applied analyses in each case, and ends with a summary in favor of establishing Affordance as a complementary method.

Historiography and Method of Formal Aesthetics

When in 1905 Heinrich Wölfflin wrote his book on Albrecht Dürer, he methodically followed Formal Aesthetics, which was first introduced by Robert Zimmermann in 1854 and 1865, and deepened by his successor Alois Riegl in 1893 and 1901, and finally culminated in his own methodical book *Principles of art history: the problem of the development of style in later art* in 1915. The methodological focus of Formal Aesthetics lies in the analysis of the artefacts' structure. This is the relational logic of their individual abstract forms and the composition they form as a whole. It thus starts with materially realized forms.

Their structure, understood as such, is seen not only as responsible for the arousing of aesthetic experiences of lust and unlust, as Zimmermann already emphasized, but also as the respective preferences of producers and of cultures and societies. Accordingly, the historical differences in styles testify to a specific will to art, a *Kunstwollen* as Riegl said. Later, it was Wölfflin followed by Max Imdahl and Gottfried Boehm, who spoke of preferences for forms that express the different human ways of seeing or viewing the world. These preferences show themselves in linear or painterly dominated effects of design means spread on canvas or paper, carved in copper or wood and realized by modelling wood, clay or stone in sculpture and architecture, etc., by an artist, designer or architect.

They allow to speak of a history of seeing. However, Konrad Fiedler and Hans Sedlmayr proposed, they represent also an adequate or essential representation of the world. In difference to this idea, Boehm said, that these representations are historically selected and expressed views of a world, which have and are always been known to everyone⁴. In summary, it can be said that it is the respective human interest in the world that the analyses of Formal Aesthetics with their materially and empirically oriented methods seek to uncover. It is thus a history of human mentality and its respective historical preferences that are at the center of Formal Aesthetics (cf. Table 1)⁵.

Researcher	Design means	Effect on the beholder	Aesthetic experience	Meaning	Function of Research
Robert Zimmermann 1854, 1862 In all kindred arts	Empirical facts (mathematical) relational logic of forms dominated by e.g. tones in music and colors in pictures	Aesthetic mood of harmony or disharmony	<i>Lust and unlust</i>	Value for things and actions	Aesthetics as science of forms based on the analysis of aesthetic orders
Konrad Fiedler 1876, 1887 In all kindred artefacts	Empirical facts (mathematical) relational logic of forms that follows the logic of the visible by an unconscious movement of the hand	Productive seeing, "productive Anschauung" of the content	Pure, free and independent viewing of the essential content	True, epistemic value of the content	Epistemic knowledge of the essentials of the visible world
Alois Riegl 1898, 1901 In all kindred artefacts	Empirical facts (mathematical) relational logic of forms dominated by haptic or optical effects	Distinguishing between objective and subjective effects organic and crystalline	Experiencing optical or haptic, 'tangible' near-sighted or far-sighted effects	Historical value, preferences of designing <i>Kunstwollen</i>	Distinguishing the <i>Kunstwollen</i> of an epoch; history of human mentality (preference of will)
Heinrich Wölfflin 1915 In all kindred artefacts	Empirical facts (mathematical) relational logic of forms dominated by linear or painterly principles	Distinguishing between linear and painterly; plane and depth; closed and open; multiplicity and unity	Experiencing optical or haptic, 'tangible' unclear or clear far-sighted or near-sighted effects	Historical value, preferences of perception of man in the epoch of Renaissance and Baroque	Distinguishing the history of seeing <i>Geschichte des Sehens</i> as a history of human mentality or taste (<i>Geschmack</i>)
Hans Sedlmayr 1948 In all kindred artefacts	Empirical facts (mathematical) relational logic of forms to reveal the essential content	Recognizing the true or untrue value of the essential content	Experiencing the true or lost truth of the essential content	Historical value of the true vs untrue essentials	Distinguishing the structural form to derive the true/untrue essential of its meaning
Max Imdahl 1963, 1974, 1979, 1987 In all kindred artefacts	Empirical facts (mathematical) relational logic of forms dominated by linear or painterly principles	Distinguishing between a dynamic, formally-oriented, conceptually blind seeing <i>sehendes Sehen</i> and an (normally dominant) object-oriented, intellectually, recognitive seeing <i>wiedererkennendes Sehen</i>	Experiencing abstract, formally oriented and object-oriented, recognitive effects	Historical value of preferences of the perception of man be it of a dynamic, formal-oriented or no object oriented seeing of the world	<i>Ikonik</i> distinguishes between epochal preferences, between linear thinking vs. pictorial feeling; history of human mentality (preference for a concrete or dynamic world view)
Gottfried Boehm 1978, 1980, 1992, 2008 In all kindred artefacts	Empirical facts (mathematical) relational logic of forms without distinguishing between linear and painterly principles	Distinguishing between simultaneity and succession of dynamic and object-oriented processes of perception	Experiencing the iconic, that means dynamic oriented effects and object-oriented effects	Historical value by distinguishing the <i>Kunstwollen</i> or iconic dense (<i>ikonische Dichte</i>) of an epoch or work of art	<i>Iconic turn</i> examines the history of seeing, <i>Geschichte des Sehens Kunstwollen</i> or iconic dense (<i>ikonische Dichte</i>) of the selection of perception from the primordial ground, <i>Ur-Grund</i> , from what everybody knows

Table 1: Historiography of Formal Aesthetics form mid of 19th to 20th Century by Martina Sauer

Heinrich Wölfflin and Dürer

It was Heinrich Wölfflin who pioneered the research of Formal Aesthetics by presenting a first examination of different world views, which are characterized by different preferences in design means. He demonstrated this using the example of the differences between the Renaissance style in the 15th century and the Baroque style in the 16th century. In the former, linear design principles predominate, while the latter are dominated by painterly principles. They bear witness to different modes of imaginative (*der anschaulichen Vorstellung*), and are thus evidence of a history of seeing (*Geschichte des Sehens*) that favors different styles of forming the world. This can be revealed by analyzing the forms, and thus the artefacts can be assigned not only to an artist but also to an epoch in art history and their respective will (*Kunstwollen*), as Riegl described it, or their "taste" (*Geschmack*), as Wölfflin said.⁶

Wölfflin's assessment of the artist Albrecht Dürer (1471-1528), the son of a goldsmith from Nürnberg in Germany, is clear with regard to this differentiation scheme. He is his most prominent example of the art of the Northern Renaissance and thus of the linear style, which found its highest quality in his woodcuts and engravings. This is significant in view of his analysis of Dürer's *Christ among the Doctors* (Fig. 1), which he thus considered to be an inferior oeuvre of the artist as early as 1905. Accordingly, he did not even mention it in his *Principles* of 1915. This assessment not only shaped Panofsky, but continues to have an effect to this day. It is reflected in the assessment by the Dürer specialist Thomas Schauerte, who in 2009 questioned the attribution as a work of Dürer⁷.



Figure 1: Albrecht Dürer, *Christ Among the Doctors* (after Leonardo?), 1506, Oil on panel, 64.3 x 80.3 cm, Museo Nacional Thyssen-Bornemisza, Madrid (PD-US-expired, wiki commons)⁸

Especially in Dürer's woodcuts and engravings the older tradition of late Gothic German art is visible. These artists did not use the line as an isolated line like the Italians, e.g. Leonardo da Vinci, but as a late Gothic painterly knot (*spätgotisch-malerische Knäulwerk*), creating effects of *multiplicity* rather than unity. Thus, the lines in Dürer's engravings also dominate the movement of the plastic forms. Accordingly, even the folds of robes are a linear event, while color and light are subordinate. The shadows are dark and the colors are locally limited. Even planes are interpreted as *tangible, closed forms*. This typology corresponds to the fact that Dürer prepared all his engravings very carefully by preparatory drawings on paper in pen and ink drawing hard lines. A care that Dürer lacked in his *Christ among the Doctors*⁹. Taken together, Dürer's design means are keeping with the style of the 1500s. It is characterized by a will to the plane (*Wille zur Fläche*¹⁰). This effect corresponds to an orientation of the composition towards a stable, tectonically solid anchoring in the horizontal and vertical with full *sharpness* of every detail (*Wille zur geschlossenen Form*¹¹, and *zur Klarheit*¹²) without emphasizing central aspects such as Leonardo da Vinci¹³. Against this background, Dürer's pictures cannot keep up. Wölfflin therefore assumed that even Dürer's attempt during his second trip to Italy from 1505 to 1507

“to create a great painting did not go far. We know expressions of discouragement in Dürer, where he accuses the circumstances and where he sighs about himself. It seemed to him more advisable to continue working in the field of mere drawing.”¹⁴

Correspondingly, Wölfflin was not convinced by the small series of the paintings from this time, and especially not by the *Christ among the Doctors*. They are all just “exercises” (*Übungen*). He considered the latter as unfinished and therefore only as a “curiosum”. The fact that as noted in the painting, it is only performed in five days, confirmed him¹⁵. What irritated Wölfflin the most, however, was the addition of heads one after the other without any relief and legality in the directions on the plane. Only their psychological expressiveness and their interpretation as a discussion among people convinced him, probably inspired by Leonardo's character heads. Moreover, it irritated Wölfflin that the twenty fingers in the center of the picture only reminded him of late Gothic knotted branches, although they had been executed more finely in the preparatory drawings (Fig. 2).¹⁶ On the other hand, the head of Christ is much softer in the painting than in the drawing (Fig. 3). A circumstance that Wölfflin did not mention, but which, as can be shown, only becomes important later in the analysis of Affordance.

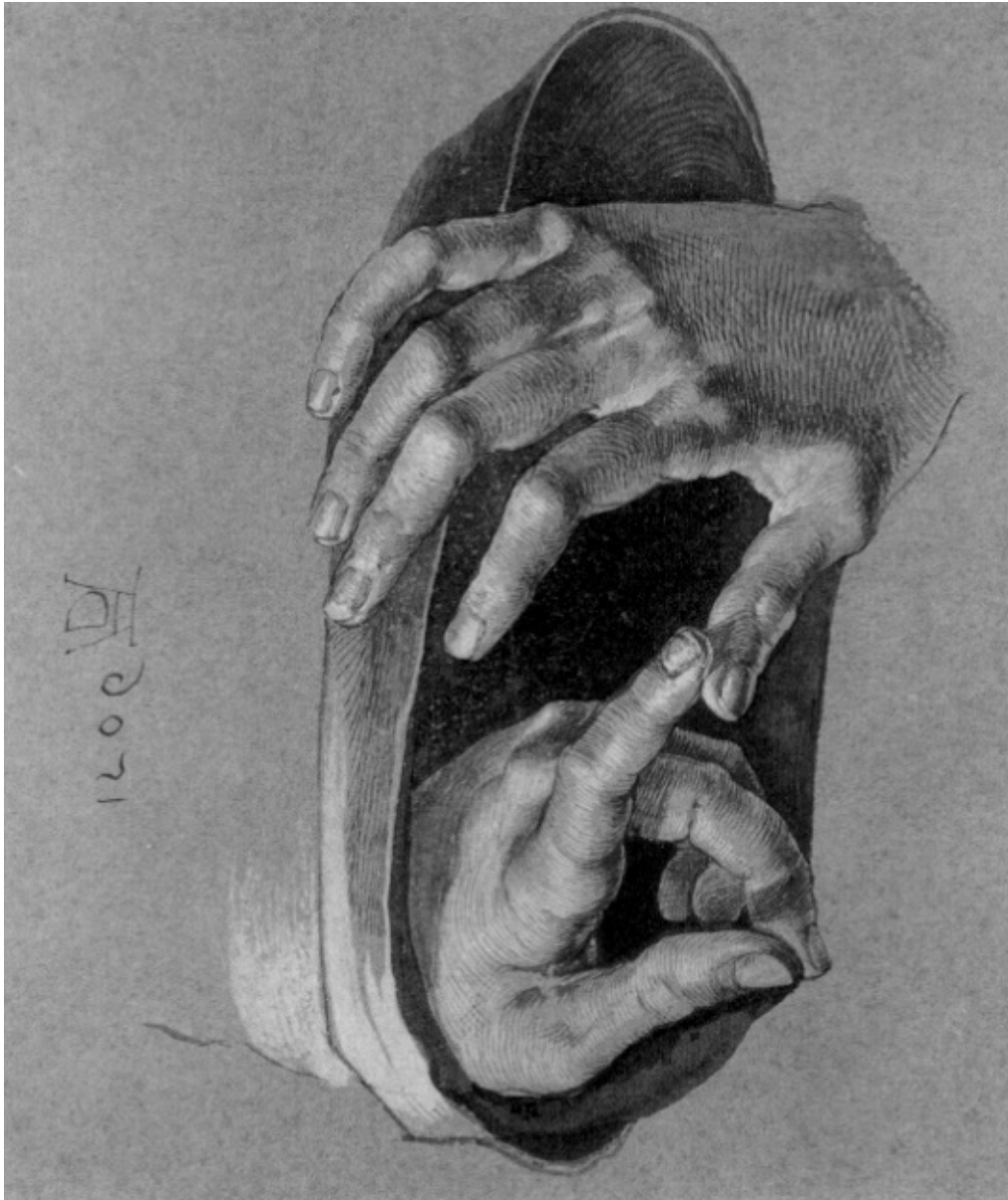


Figure 2: Albrecht Dürer, 1506, *Hands of the twelve years old Christ*, drawing on paper, pencil, 20,6 × 18,5 cm, Nürnberg, Germanisches Nationalmuseum, Graphische Sammlung (Sammlung Bernhard Hausmann), Inv. Hz 5482 (public domain: <http://www.zeno.org>)



Figure 3: Albrecht Dürer, 1506, *Head of Christ* drawing on blue Venetian, paper, pencil, heightened with white, 27,5 × 21,1 cm, Albertina, Wien, Inv. 3106 (public domain: <http://www.zeno.org>)

Historiography and method of Iconology

When Erwin Panofsky presented his research in a final book on Dürer in 1943, he completed his previous research on the artist, which had already begun in 1914 with his doctoral thesis in Freiburg im Breisgau, Germany. This last book on Dürer is of particular interest in this case because it was published after his two well-known methodological essays in which he presented the fundamentals of his so-called Iconology in 1932 and 1939. The first was revised by him in 1964, the second already in 1955. Even though he was familiar with Formal Aesthetics as the dominant art historical method at the time and respected by him in certain aspects¹⁷, he did not consider it a suitable method for the analysis of artefacts¹⁸.

The accent of Iconology as a method is on the analysis of the historical background of artefacts. Instead of a phenomenological, material-based analysis of the empirical relational logic of abstract forms, the focus is on the motifs themselves. Its methodology is in the tradition of 18th century Speculative Aesthetics, especially the empathy theory of Friedrich Theodor Vischer. Her approach is based on a historical analysis of what is considered beautiful and true in culture and time. Following critical objections by Robert Zimmerman in 1854 and 1862¹⁹, Vischer revised his original text in 1866. In the following it was his son Robert who, in his doctoral thesis of 1873, combined his father's theory with Formal Aesthetics by referring to body-bound sensations of formal structures as a starting point. The Vischers' research was productive for Aby M. Warburg in his doctoral thesis of 1893 and was further developed in his famous essay on the snake ritual of the Hopi Indians in North America in 1923. He is said to have been the first to use the term Iconology to establish an atlas with images from different cultures and times. This was to support his thesis of a universal grammar of human expression, the so-called pathos forms (*Pathosformen*). It was his colleague the philosopher Ernst Cassirer, who in 1929, finally summarized these considerations in a conclusive concept that Panofsky followed. Thus, Cassirer also assumed that the essence of man is rooted "im Erleben und Erleiden", that is the experience and suffering of the world. It is the ability of human perception to grasp these experiences through the perception of expression *Ausdruckswahrnehmung*. In an ongoing process of externalization (*Entäußerung*), these expressive perceptions are distanced in symbolic forms, be they mythical, visual and linguistically and/or logically articulated. The manifestations of this process became the basis for Erwin Panofsky, who worked closely with Warburg and Cassirer at the newly founded University of Hamburg in 1919. Thus, it is these manifestations of the externalization process that Panofsky has methodically captured in his three well-known methodologically important categories of *pre-iconographic* (naming of motifs), *iconographic* (differentiation of the typology of motifs in culture and time) and *iconological* (special significance in culture and time) analysis (see Table 2).²⁰

Researcher	Design means	Effect on the beholder	Aesthetic experience	Meaning	Function of Research
Friedrich Theodor Vischer 1866, 1887 In all kindred arts	The outer appearance in analogy to absolute ideas	<i>Anschauung</i> or "phantasy" connected with an "innocent borrowing of unconscious soul sentiments" as an act of looking at absolute ideas	Sensibility as an act of inner experience of absolute ideas	Appearance according to the true and beautiful, of absolute ideas	Distinction the true and beautiful, the "speculative Aesthetics" by a historical analysis theory of empathy or projection, <i>Einfühlungstheorie</i>
Robert Vischer 1873 In all kindred arts	(mathematical) relational logic of forms (of light, color, contour, line, planes) guided by ideas of humanity	External sensation as sensitive and motoric effects in combination with sensitive and motoric empathy (<i>Zufühlung</i>)	Sensitive-motoric and empathic effects of harmonies between the beholder and the object	Sensitive-motoric and empathic awareness in the arts as humanity, objectifying itself in harmonious forms	Distinction of harmony as a process of sensation and empathy (theory of sensation and empathy)
Aby M. Warburg 1893, 1923 In all kindred artefacts	Sensation of affective-vital energies of "pathetic forms" (<i>Pathosformen</i>), e.g. gestures, rituals, equipment and human actions	Reaction to the interferences between affective-vital energies and cultural processing patterns as an effect of relaxing or taking fear	Compensation of phobic effects: "You live and do nothing to me" (<i>Du lebst und tust mir nichts</i>)	Means of control of pathetic effects	Establishing a pragmatic language of expression (<i>pragmatische Ausdruckskunde</i>), of universal anthropological pathetic forms (<i>Pathosformen</i>) culturally diversified in different styles, collection of it in an atlas of pictures (<i>Bilderatlas</i>)
Ernst Cassirer 1929, 1942, 1944 In all kindred arts	(mathematical) relational logic of physiognomic characters, of moving and spatial forms, e.g. colors, lines, of light and shadow)	<i>Erleben und Erleiden</i> by the <i>Ausdruckswahrnehmung</i> , experiencing and suffering by the perception of expression	Of real and virtual "living forms" in nature and the arts	Appearance of the living world as symbolic forms of a mythical, read and known world, a world that is generated by the self	Distinction of the <i>Prägnanz</i> , the conciseness of symbolic forms in mythical, visual and linguistically and/or logically articulated forms
Erwin Panofsky 1932, 1939 In all kindred artefacts	Figures and their specific forms experienced and known as symbolical meaningful	Knowledge of inner experience about a culture in time symbolized in artefacts	Inner experience of the self-created, symbolic meaning of a culture in time	Manifestations or documents of symbolic forms of a culture in time (Cassirer)	Distinction between pre-iconographic, iconographic, and iconological meaning; historical analysis

Table 2: Historiography of Iconology form mid of 19th to 20th Century by Martina Sauer

Erwin Panofsky and Dürer

It is the historical analysis of Panofsky's view of Dürer that contrasts with Wölfflin's. Nevertheless, like Wölfflin, he considered the woodcuts and the engravings to be Dürer's most important works. To these belongs the woodcut series of 15 of the *Apocalypse* of 1498 which is, like Leonardo's *Last Supper*, one of the most important and "inescapable works of art."²¹ Summarizing it is the period from 1495 to 1500, Panofsky evaluated "as the most distinctive "maximum" phase of Dürer's career". He established himself as an independent master whose works "represent a first synthesis between Flemish and German traditions and the *maniera moderna* of the Italians and lay the foundation of a Northern Renaissance."²² This raises the question of how Panofsky assessed *Christ among the Doctors* of 1506. Just like the *Feast of Rosary* (Fig. 4) it dates from 1506 during his stay in Venice. Both belong to the *iconographic scheme* of the cult of the Rosary, which took on concrete forms with the founding of the Confraternity in Germany in Cologne by the Dominican inquisitor Jakob Sprenger in 1475. This cult is based on 15 promises which the Blessed Virgin Mary transmitted to St. Dominic. It is known to all as a special form of daily prayer in which Hail Marys and Our Fathers alternate (165 in all), and as a necklace of white and red beads or roses that allows these invocations to be counted, since each Hail Mary is represented by smaller white beads and each Our Father by a larger red bead. It expresses the idea of a Christian community united by Roman Catholic beliefs, victorious in its struggle against all forms of heresy, and which worships Christ and the Virgin Mary with equal devotion and, as Panofsky expressly pointed out, "is very Dominican," encompassing both the clerical and the lay elements.



Figure 4: Albrecht Dürer, *Feast of Rosary*, 1506, Oil on panel, 162 x 192 cm, National Gallery Prague, ID 1552 (PD-US-expired, wiki commons)

However, the attribution of the *Feast of Rosary* to the iconography of the cult of the Rosary is not clear. Rather, it belongs to the iconography of the brotherhood itself. Thus, Panofsky called it accordingly in contrast to the original title *Rosary Brotherhood*. This is for Panofsky of importance because the actual “feast” of the Rosary, was not invented until 1573, when Gregory XIII wanted to commemorate Lepanto's victory over the Ottoman Empire.²³ With regard to the motifs and the composition, however, Panofsky's *iconological* interpretation does not go far enough, for precisely this picture is to be understood rather as a declaration of the German Empire to the Roman Catholic Church, which differs from those of other faiths. This is supported by the location behind the Alps and the naturalized portraits, and thus the individualized view of clergy and laity according to the monumental conception of the foreground. The latter is made clear by the positioning of the Pope in his Fanon and the German Emperor Maximilian I in a knightly amor in devotion before Mary as Queen of Heaven with the Child Jesus.

Together they crown the Christian and the secular leader as defenders of the “true” doctrine. Dominic himself, the guardian of the Christian faith, is relegated in the background by Dürer, contrary to iconographic tradition. The fact that the altarpiece was ordered by German merchants from Dürer for the Confraternity in Venice and their church of S. Bartolommeo also speaks for this interpretation, which is much clearer in political and religious terms.

In contrast, but ultimately in accordance with the commission given to Dürer for Venice, it is the *Christ among the Doctors* that belongs to the iconographic tradition of the cult of the Rosary itself. In accordance with it, it shows the fifth and last station of the Joyful Mysteries of the Virgin²⁴, supplemented by the five Sorrowful Mysteries. A letter in which Dürer mentioned “a *quar* (that is a *quadro*, a painting) the like of which I have never done before”, proves –if it was this work– that it was not completed before September 23, 1506. The assumption that it was realized in five days, as the inscription said, can be doubted, as Panofsky made already clear, because it can be assumed that Dürer neither counted the underdrawing nor the careful preparatory studies. However, it was “in spite of its careful preparation executed in an almost impromptu fashion”, in contrast to his otherwise meticulous brushwork. Here he meets with Wölfflin’s negative judgement.²⁵ And although the influence of the Italian tradition did not surprise him, as the composition of the motif, the technique and the *iconographic* typology showed, it is precisely this rapprochement with the Italians that Panofsky criticised²⁶. It is based on the assumption that Dürer worked from a “lost cartoon” by Leonardo, for which he was commissioned by Isabella d’Este in May 1504. It is mainly a version by Bernadino Luini (Fig. 5) around 1512 and several copies of this “lost cartoon,” that suggest that a work by Leonardo actually exists. Since 1968, when a painting study attributed to Leonardo appeared in America (Fig. 6), the discussion has flared up again.²⁷ But regardless of this, Panofsky insinuated that Dürer’s *Christ among the Doctors* could certainly only be regarded as a “Gothic version” of it. The twenty fingers of Christ and the wicked doctor led him to this.

[They] “give the impression of entangled roots or tendrils rather than of articulated human hands, so that the whole composition is not built up from clearly defined and fully developed plastic units but from fragmentary shapes, floating in space, crowding one another, and yet arranging themselves into a kind of ornamental patten: a magic ring with the four hands in the center.”²⁸

Again, he meets with Wölfflin in this assessment.²⁹



Figure 5: Bernardino Luini, *Christ among the Doctors* (attributed after Leonardo), 1515-1530, oil on panel, 74,2 x 85,7 cm, National Gallery, London (CC BY-SA 3.0, wiki commons, nl).



Figure 6: Leonardo da Vinci (attributed), *Christ among the Doctors*, c.1472-95 or c.1500-05, a painting study, oil on canvas, 59,5 x 89,5 cm, private collection, © part of the comparative study by Jeffrey A. Dering and Joseph A. Polizzi (2001-2009)

Historiography and method of Affordance based on Vitality Semiotics

Formal Aesthetics and Iconology provide, as the chosen example already showed, methodologically relevant procedures for the analysis of artefacts, which allow insights into culturally relevant findings, whether on the a-historical, human mentality or on historically determined preconditions. Their results show either formal aesthetical effects or cultural-historically relevant backgrounds of the artefacts. Stylistically and historically relevant meanings can be pointed out. Both, thus provide insights in epistemologically relevant knowledge.

However, particularly with regard to prehistoric, early historical and archaeological studies, both methods have reached their natural limits. The study of affordances originally introduced by James L. Gibson in *The Senses Considered as Perceptual System*, in 1966, proved to be an adequate approach to fill this gap by reconstructing the possible use and the situation of the find. The respective appeal of the find to a possible human usability with regard to the preconditions to the human senses thus became important. The situation, material, form and/or color of the find, thus provide the researcher with information about the technical possibilities, the possible use and cultural meaning of the find for the people of the time.³⁰

However, with respect to the claim to introduce and establish Affordance not only as an approach but also as a method, Formal Aesthetics and Iconology prove to be valuable and connectable. On the one hand, it is the a-historical precondition which was pointed out by Formal Aesthetics that is of interest for Affordance as a method. It can be related to Gibson who indicated that the human senses are a perceptual system which is not to be understood as an entrance for sensations, but actively feels and discovers the world.³¹ On the other hand, it is the cultural-historical background uncovered by Iconology which is of interest for developing an understanding of situations in life that are formed or even dominated by the rules of use and meaning i.e. the affordances of artefacts. In the *Theory of Frames* originally invented by Gregory Bateson 1955 and conceptually elaborated by Erwin Goffman 1974, these effects are now discussed. However, these two aspects can be connected also to the concept of *Vitality Semiotics* which I introduced in earlier research. For it is also based on an a-modal (multi-modal) concept of human perception that is responsible for human reactions and responses. Not Gibson or Bateson, who were introduced to me by the archaeologist Elisabeth Günther, but

the researchers in Hamburg and subsequently with the emigration in the USA on ecology (*Umwelt*), on questions of developmental psychology, cultural-anthropological and neuroscientific contexts, such as those by Jakob von Uexküll in 1909, Aby Warburg in 1893 and 1926, Heinz Werner in 1926 and Ernst Cassirer in 1929, 1942, 1944, and also by Susanne K. Langer 1965, 1972, Daniel N. Stern 1986, and, connected to the latter, the research group around Giacomo Rizzolatti 2013, form the original basis of my research on the theory of Vitality Semiotics (Table 3).³²

In terms of methodology, research on Formal Aesthetics can be considered relevant. This means that it is the abstract formal design means or affordances that arouse feelings or rather so-called vitality-affects³³, actions, and decisions. In relation to artefacts, these means of design depend on the producers, i.e. on the choice of materials, techniques, and other means of design by the designer, architect or artist, with which they create, for example, the painters a composition of virtual "realistic" or abstract forms, with or without volume, in space or not. So, it is these abstract formal design means that appeal to our human perception. Simultaneously, dynamic- and thus also feeling-oriented processes and processes of succession that are object-, or form-oriented are evoked. With regard to the methodological analysis, however, it is important to first concentrate on the process of forming that the means of design trigger. This means, that it must first be analysed with which design means forms (objects), volume, and space were realized. In a second step, their aesthetic potential as "virtual living forms" and insofar their vitality affects should be analyzed. Their effects must be related to the situation and culture in time and later and confronted with possible effects on foreign situations and cultures in time and later.³⁴

For example, in paintings, the analyst must focus on the use and effects of colors or non-colors and the effects how they give form or not, how they give volume or not, and how they give space or not. The way how they are distributed on the surface, as planes or lines, coherent or broken, pasty or thin, is important for this evaluation process. Thus, the results of forming and what emerges from them, whether realistic or not, and the feelings or rather vitality-affects they arouse, are important not only in terms of composition as an effect of lust or unlust, but also in terms of the forms and objects that become more or less concrete.

With regard to the relevance of action, it is not the object itself that becomes important, which can or cannot be recognized, but the feelings or rather vitality-affects it arouses in relation to our situation and culture. Thus, it is not iconological aspects with the intention of gaining insights that become important, but those

that have a relation to the situation in life, as the Theory of Frames as such investigates.³⁵ Actions and decisions depend on what the artefact of the producer or the client behind it “says.” Aesthetic feelings or vitality-affects are thus not only a reaction to a decoration, and thus more or less dependent on the taste of the beholder, but are relevant to action, and thus to decision-making³⁶. They are important in relation to our situation and culture, and can be evaluated as important for further actions and decisions that affect our situation but also of others.

In summary, it can be said that this is Vitality Semiotics, which is of central importance for *Affordance* as a method. Conversely, the concept of *Affordance* as a method is based on Vitality Semiotics. Its value is not only relevant for knowledge, as Formal Aesthetics and Iconology show, but also for action, and thus for life.

Preconditions in “vitality Semiotics”	Design means	Effect on the beholder	Aesthetic experience	Meaning	Function of Research
This is an a-modal (multi-modal) concept of human perception (cf. my research on Werner, Gibson, Langer and Stern, Rizzolatti et al.) that is responsible for human reactions and responses (cf. my research on Cassirer, Warburg and Langer)	Design means or affordances that appeal to human perception (cf. Sauer 2014a, 130-156, and Sauer 2018a, 155-190)	Reactions and responses to design means or affordances (cf. my research on Cassirer, Warburg and Langer)	Triggering of evaluation processes or <i>Wertbildungsprozessen</i> by design means or affordances (results in Sauer 2014a,130-156, and 2018a, 155-190)	Affordances or design means which arouse vitality-affects, which are responsible to feelings, actions, and decisions which are important to one’s own or foreign cultural background in time or later (results in Sauer 2014a, 157-209, 2018a, 191-269)	Analysis of affordances or design means and their cultural relevant effects to feelings, actions, and decision of the own or foreign cultures in time or later (Sauer 2014a, 2018a and 2020b, forthc.)
analysis of anthropological constants of human perception that are addressed by abstract formal design means (understood as affordances) to arouse affective-vital visual, tangible, audible, smelling and/or physical balance effects which trigger feelings, actions, and decisions respectively to one’s cultural background	(mathematical) relational logic of structures that address the different senses or human possibilities of perception which are evaluated with regard to colors (Sauer) forms, rhythms, intensities (Stern), and thus to vitality- affects (Stern 1986, cf. Langer 1972)	Design means or affordances that stimulate simultaneously dynamic-, and thus also feeling-oriented processes and processes of succession that are object-, or form-oriented	“Aesthetic Feelings” of virtual or real “living forms” which are critically evaluated in respect to lust and unlust, and to good or bad, and thus become important for one’s own well-being, actions, and decisions	Feelings, decisions, and actions in time or later which (can) have influence to one’s own situation and culture and/or to the foreign situation and culture in time, and/or even later	Methodical procedure: 1. analysis of what is given and how the composition was realized respectively to our senses: e.g. with colors or non-colors to create virtual or real <i>forms</i> , with or without <i>volume</i> , in space or not 2. analysis of the cultural relevant effects to feelings, actions, and decisions with regard to the own or foreign cultures in time and later

Table 3: Method of Affordance based on Vitality Semiotics by Martina Sauer

Affordance as a method and Dürer

Finally, it is now time to present once again Dürer's *Christ among the Doctors* using the new procedure of Affordance as a methodological tool of analysis. In doing so, the design means, and thus their visual vitality-affects on the realization as "virtual living forms" as well as their effects on the process of evaluating are to be shown as relevant for action. As Wölfflin has already turned out, the painting is based less on a linear system than on colored "planes" which are primary and equivalent in intensity and brightness to those used by Italian artists of the Renaissance. Thus, against a black uniform background, it is the unison of colors in orange, green, red or blue plane forms with more or less differentiated substructures that dominate the design of clothes, and thus of the figures. Only the form/dress in the middle is more expanded and more differentiated and is equipped with two colors, blue and red, and thus creating complementarity effects in orange and green to the foreground figures on the left and right, which are larger in size and extension. In sum, however, the designed forms evoke less volume but help to distinguish one form from the other. In conclusion, this is a system of forms arranged one behind the other, with reduced depth. There is more on the surface than in a room. Even a more detailed differentiation of lights and shadows are missing here to realise "real" space or at least convincing volume effects. Moreover, these effects also correspond to the heads, which are bound to the plane surface by a geometrical, tectonic system with different orientations on the surface: four parallel heads, given in frontal and half-profile, in an ascending line from left to right with the Christ's head, and three diagonal ones, given in three-quarter view, with two are in the left background and one in the right foreground. In this way, a dominant flat arrangement is realized as a closed circle line around the figure of Christ. Flatness combined with a geometric tectonic order, simple colors and forms evoke not only monumentality but proximity, both aspects of a linear system, as Wölfflin emphasized, but less of a Northern Renaissance but rather a Southern Renaissance, Italian typology. This is a result that was also confirmed by Panofsky. Moreover, as with Leonardo, these effects are emphasized by caricature-like heads, which again open a system of contrasts to the central figure. This can be seen in a differentiation of the heads, in very old and a childlike-young one, in grim and suspicious expressions and an angelic one, and thus –without knowing anything about the story behind it–in six more or less angry and one peaceful one. Against this flat, monumental and cartoon-like background, the gestures of the fingers gain in importance. Like the figures themselves, they are arranged as a double circle. Three in an outer zone and a double pair of fingers in the middle thus form a second ornamental, and thus flat pattern.

However, it is precisely this flatness and close-up vision and also the monumental, pattern-like arrangement in contrast to the cartoon-like effects, that leads the beholder. It is the special arrangement of the design means, through which the gaze is focused without any real distance to the situation, to the childlike angelically larger figure, differentiated in color, volume and space, and the entangled fingers in the center of the picture. In this way, the beholder is bounded to a figure that is directly threatened and at the same time seems completely untouched by it. Rather, she appears transcended into another world and yet concentrated on the confrontation, into which she carefully introduces her aspects. Experienced as "virtual living forms" or figures, the beholder thus "feels" affected by the situation as if it were happening to him. At the same time, she or he is aware of the phenomenon that it is just a painting. It is the affordances of the design means, which lead the beholder. Their felt effects form a sense that can be grasped by her or him. It is the beholder's dynamic-, and object-oriented ability of perception that follows the composition of the design means and opens up the meaning to her or him. In addition, a much deeper meaning opens up when the scene depicted is related to the story in the Bible. This is about the stand of the god-like Child against every old-fashioned and near-sighted views.

Thus, an insight, or beyond that, a possible path, as a reaction to the world, with the hope of help on that path, can evoke feelings of happiness and unity in a higher idea. In contemplating the painting, this can give a feeling of power and calmness to the beholder with regard to all that what happens and has to be done normally in everyday situations. It is therefore a new testamentary Christian view that can be formed and thus have an effect on the beholder that is probably different from that of other religions with different traditions and knowledge. The original connection to the cult of the Rosary, as worked out by Panofsky, does therefore not lose its meaning. Through Dominic, the *Feast of Rosary* emphasizes above all the connection between clergy and laity. However, already the effect of this image can be estimated higher than that originally seen by Panofsky, since it speaks of a concrete alliance of power against the heresy of the German Empire and the Roman Catholic Pope. Certainly, this meaning cannot be directly transferred to the *Christ among the Doctors*, since it belongs much more to the iconographic scheme of the cult of Rosary itself than to the feast of *Rosary*. In summary, it has a much more general meaning concerning man and her or his feeling and being in the world.

Conclusion

In comparison to the results of Wölfflin and Panofsky, the analysis presented here, which was specifically oriented on the materiality of the image, opens up other, more far-reaching aspects. It is neither a mere stylistic investigation as Formal Aesthetics, nor a pure historical reflection as Iconology, and thus of two positions in which Dürer's *Christ among the Doctors* apparently failed according to the researchers. In contrast, the presented procedure of Affordance as a method showed that there is a direct connection to the beholder. It is the affective-vital felt effects of the means of design that "forms" a further meaning, which affects the beholder and her or his feelings, and affects her or his possibilities of action and decision, and which probably differs from people of other faiths because of the Christian background. It is this far-reaching result that should be presented with the tools of Affordance as a method. The method conveys a meaning –as it was the initially declared goal– that concerns one's own life, and thus reveals a meaning that is based on the effect or communication of the picture with the viewer. The method thus shows far-reaching consequences, allowing a new, different way of reading artefacts of all materials and techniques that emphasizes the relevance of them for life. It is precisely this expanded meaning that has probably made *Christ among the Doctor* such a popular and often reproduced image from the past to the present. Its possible similarity to Leonardo's version, which incidentally opens up a completely different meaning in terms of its affordances –a theme from another paper– does not cloud the result. On the contrary, accepting it as a "copy" with an ultimately different meaning can be seen as a strong reason to actually consider it an original from Dürer's hand.

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Notes

¹ Cf. explicitly, Sauer 2020, 2021 (forthc.) and my previous research since the doctoral thesis in Bale, Switzerland, with Gottfried Boehm, Sauer 1999/2000 and among others, *ibid.* 2011, 2018a [2012], 2018b, 2016a, 2016b and cf. in this context, the preceding research and planned contributions to *the Glossary für Bildphilosophie* under the heading Formal Aesthetics (forthc. 2021) and to *Speculative Ästhetik versus Ästhetik als Formwissenschaft (1830-1870)* for the *Grundriss der Geschichte der Philosophie*, vol. 1/1-3, *Die Philosophie des 19. Jahrhunderts: Deutschland*, edited by Gerald Hartung, Schwabe: Basel (forthc. 2021).

² Cf. Schauerte 2009.

³ For a theoretical discussion of the relevance of art for life, cf. Sauer 2018b.

⁴ First criticism of Formal Aesthetics on a-historical premises came already from Vischer 1866, 85-86, Wind 1931, 163-178, cf. 164-165 and Panofsky 1984 [1955/1932], 187, cf. in addition the criticism from Visual Cultural Studies on the interpretations oriented on the essentials in Formal Aesthetics, Frank 2008, 477-487; Schade, Wenk 2011, 35-53; Elkins et al. 2015, 81-108. Cf. summary to both aspects Sauer 2018b, 241-248.

⁵ Cf. to the historiography of Formal Aesthetics from 19th century until today my previous research in Sauer 1999/2000, *ibid.* 2018 [2012], *ibid.* 2016a, *ibid.* 2020, cf. as well to the historiography from Zimmermann to Wölfflin, Wiesing 2008 [1987].

⁶ Wölfflin 1923 [1915], preface to the 6th edition, IX-XI, quotes cf. IX. Cf. English edition: <https://archive.org/details/princarth00wlff/26.11.2020>.

⁷ Cf. Schauerte 2009, 232-233 and 243.

⁸ Cf. on provinciality, state of preservation and preparatory drawings Thausing 1884, 357-358, and Schauerte 2009.

⁹ Cf. Wölfflin 1915, 36-55, cf. 36-42. This incoherence of the preparatory drawings to the painting, as opposed to their coherent use in engravings, also irritated him. Especially because Dürer saw them as premises for an artist, as he explained in his Theory of Proportion of 1528. This is also seen as a reason why *Christ among the Doctors* probably originate from Dürer, cf. Schauerte 2009, 244, and cf. also Dürer 1969 [1528].

¹⁰ *Ibid.*, 106.

¹¹ *Ibid.*, 145.

¹² *Ibid.*, 219-220.

¹³ *Ibid.*, 106-245, cf. to Leonardo 106.

¹⁴ Cf. Wölfflin 1905, *Lebensgeschichte*: In woodcuts and above all in engravings, Dürer created "seine feinsten Dinge" (his finest things), while painting was left behind. Only after his second trip to Italy (until 1507), according to Wölfflin, did it begin to become important for him. But, so the author summarized: (original in German, translation MS) "der Anlauf, eine große Malerei zu schaffen, führte nicht weit. Wir kennen Äußerungen der Entmutigung bei Dürer, wo er die Umstände anklagt und wo er über sich selbst seufzt. Es schien ihm geratener, auf dem Gebiet der bloßen Zeichnung weiterzuarbeiten."

¹⁵ Cf. *ibid.*, *Italien und die großen Gemälde*, 2.

¹⁶ Cf. *ibid.* Cf. with regard to the drawings also note vii.

¹⁷ Whereby for Panofsky the question of the preference of will in arts, the "Kunstwollen" (Riegl) and especially the haptic and optical as a priori conditions were of great importance (cf. Panofsky 1920 and 1925) and subsequently echoed especially in the third iconological analysis as Lorenz and Jaś in 2008 showed.

¹⁸ Thus, Panofsky said, that a formal analysis "cannot occupy us here any further", cf. *ibid.*, 1984 [1964/1932], 187 (translation MS).

¹⁹ After the approach of Speculative Aesthetics, it is later also the approach of Iconology which were critically reviewed by formal aesthetical researchers. This is because the research interest on which both of them are based on, be it the experience of the beautiful (speculative Aesthetics) or the experience of the world (Iconology), which were originally seen as the motor for the formative processes, are losing ground by interpreting them both only as political, social and religious

motivated conventions. The prompt criticism, first by Zimmermann and much later by Max Imdahl and Gottfried Boehm, is primarily ignited by this. For it is precisely the Formal Aesthetics that, in contrast, holds on to the moment of experience, cf. Zimmermann 1854, 39, column 2/3, and *ibid.*, 1862, 309, 355, cf. as well Imdahl 1979, 14-15 and Boehm 1985 [1978], 452-453. Cf. in summary Sauer 2018b.

²⁰ Cf. explicitly, Sauer 2018a, 2018b, and my previous research since my second book 2018 [2012], 2016a, 2016b, and cf. in this context, the preceding research and planned contributions to *Speculative Ästhetik versus Ästhetik als Formwissenschaft (1830-1870) for the Grundriss der Geschichte der Philosophie*, vol. 1/1-3, *Die Philosophie des 19. Jahrhunderts: Deutschland*, edited by Gerald Hartung, Schwabe: Basel (forthc. 2021).

²¹ Cf. Panofsky 1955 [1943], 50-59, 59.

²² *Ibid.*, 39.

²³ Cf. *ibid.*, 107-113, cf. 110.

²⁴ Cf. Gospel according to Luke in prehistory, in Bibel 1980, Lk 2,41-52 and the extra-biblical passage on the childhood stories of Thomas in the Apocrypha in Hennecke 1959, 290-291 and 298, 19, 1-5.

²⁵ Cf. note xiii.

²⁶ In particular, Panofsky mentioned, in agreement with Wölfflin (cf. *ibid.* 1905, *Italien und die großen Gemälde*, 2), the representations of teaching or debating scholars and the emphasis on the gesture of arguing by counting fingers and the extreme contrast between extreme beauty and extreme ugliness, which are part of this tradition. The former had predecessors in Mantegna, the latter in Leonardo and his "Trattato della Pittura" and his so-called "caricatures". Dürer's later theoretical explanations already suggest that he was familiar with these traditions as well as a special trip to Bologna during his stay. Cf. Panofsky 1955 [1943], 114-115, 118, cf. as well 213.

²⁷ Cf. in summary the comments of art historians and scientists in Tampa Bay Times, Archive, Oct. 10, 2005, "Collector claims \$3,500 painting is da Vinci original":

<https://www.tampabay.com/archive/1992/01/26/collector-claims-3500-painting-is-da-vinci-original/>.

Cf. also the comparative design analysis by Jeffrey A. Dering and Joseph A. Polizzi 2005, which has been revised in 2009: <https://www.deringconsultants.com/portfolio/leonardos-christ-among-doctors/> (26.11.2020): "Historical research indicates Christ Among The Doctors, a Painting Study (c.1472-95 or c.1500-05) by Leonardo da Vinci, not only pre-dates the copy variations of Christ Among The Doctors by Giovanni Battista Cima da Conegliano (c.1504-05), Albrecht Durer (1506), and Bernardino Luini (c.1515-30), but, scientific forensic analysis by Dr. Walter C. McCrone, Ph.D., McCrone Research Institute indicates the dating time frames and evidence of Walnut Oil Binder support the conclusion that Christ Among The Doctors, a Painting Study was painted by Leonardo, and, by virtue of scientifically established chronology, predates the subsequent copy variations by Cima, Durer and Luini." In June of 1996 the painting study attributed to Leonardo hung for one day side-by-side. In this context, we would like to express our sincere gratitude to Jeffery A. Dering for sending us additional material and for granting us the rights to reproduce in part and in whole the comparative study of Leonardo da Vinci's painting study "Christ among the Doctors."

²⁸ Cf. Panofsky 1955 [1943], 116.

²⁹ Cf. note xv.

³⁰ Gibson 1973 [1966], cf. to the research in archaeological studies, Fox et al. 2015.

³¹ Cf. Gibson 1973 [1966], 18-19, cf. also for similar research results: Uexküll 1909, Werner 1959 [1926], Stern 1986 [1992], Rizzolatti et al. 2013, and the process-philosophical and the cultural-anthropological research of Whitehead 2000 [1927], Cassirer 1964 [1929] and Langer 1986 [1965] and Langer 1972, cf. for this Sauer 2011 and *ibid.*, 2014.

³² Cf. note i.

³³ Stern 1986, Rizzolatti et al. 2013, cf. Langer 1972, Sauer 2011 and *ibid.* 2014.

³⁴ Cf. methodology and results regarding the genesis of abstraction in Sauer 2014a, 9-14, 110-209, and with respect to the *Deutschlandbilder* of Anselm Kiefer in Sauer 2018a, 19-30, 107-190.

³⁵ Cf. the project with Elisabeth Günther, Sauer 2021, forthc.

³⁶ Cf. explicit methodical extension in this sense in Sauer 2018a, 155-190.