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The Concept of Crisis in Art and Science

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Abstract

The concept of crisis in art and science is to be investigated through two approaches: a historical-sociological and a philosophical-ontological one. In the framework of the historical-sociological approach, the crisis that has been affecting both the scientific and the artistic community, has been due to external sociological causes or to the psychological inabilities and personal ambitions of their members. The traditional notions of pure science and high value-laden art have been often neglected, as both scientists and artists deviated from the ideal principles of their working codes. This approach reveals common structures and behaviors in human communities, independent from the differences in subjects, methodologies and purposes they serve. The philosophical-ontological approach to art and science and to the course of their development leads, however, to the opposite conclusion: both art and science as rational systems are incompatible with the concept of crisis due to different reasons in each case.

[**Keywords:** crisis, art, science, Kuhnian and the Lakatian Models; Art Historical Narratives; Value-based Crisis]

Crisis, as an unstable period or as the turning point in the course of a period, appears in art as well as in science in the framework of historical - sociological or ontological - philosophical approaches. Particularly, the concept of crisis in science has been established by T. S. Kuhn, who attempted a socio-psychological explanation of the development of empirical sciences. Lakatos tried to reconstruct the Kuhnian model by moving the interest from the social structures and the psychological behaviors of the scientific community to the scientific subject itself and presented as a kind of crisis the potential phase of degeneration of knowledge and information in a scientific program. A critical examination of both approaches is the subject of the first part of this essay, while emphasis is given to the concept of crisis which appears connected to social behavior as well as to the scientific subject itself.

On the other hand, crisis in art appears either in teleological historical narratives or in value-based and sociological approaches. In the second part, there are presented the narratives of the historicist program which, unlike the explanative and the hermeneutic programs, perceives art history as a progressive phenomenon that goes through phases in order to reach certain goals. In the third part, the concept of crisis in art criticism is investigated, as in recent years there has been considerable discussion about it.

In the fourth part, crisis in art is approached in the framework of a crisis of values. A basic difference between art and science should be made clear: art is a carrier of values and the artist works with subjective motives, while science aims at the objective truth and the scientist ought to be free from personal values that distract him/her from his/her

purpose. However, the notion of the neutrality of science must be understood in an ontological manner, as in the framework of sociological approaches scientists may be influenced by external factors. The same applies to art, as artists may be influenced by external tendencies, but artworks will always have the potentiality to transform subjective (even corrupted) values to ideal ones that are eternal, universal and unchangeable, and to force people of all contemporary and future eras to think in diverse and multiple directions. The above statements are to be analyzed in the framework of the concept of crisis in art and science, especially in the last part of this essay.

Crisis in the Empirical Sciences: The Kuhnian and the Lakatian Models

The concept of crisis in science appears in the writingsⁱ of T. S. Kuhn, a theoretical physicist and science historian of the 20th century, who tried to overturn the optimistic idea about the course of science as an accumulative process of continuous increase of knowledge. By his historical investigations Kuhn was led to the relativistic position that each era's knowledge was integrated into an autonomous system, which it is impossible to judge by modern scientific criteria. He distinguishes two forms of scientific activity, the normal and the extraordinary science. Normal science refers to activities in the framework of an already formed scientific tradition, while extraordinary science disrupts the tradition by creating a new one.

The existence of a paradigm is a fundamental feature of normal science. According to Kuhn, a paradigm is the basic way for scientists to look at the world and also constitutes the fundamental structure of all individual hypotheses and theories. It is the common intuitive basis of the scientific community towards a set of phenomena that determines both the nature of the problems that can rightly be entered and also their permissible solutions. The normal scientist works within the framework of a certain paradigm by solving puzzles and using the means offered by this. There can't be a contrast between experience and theory, but if something like that appears, it is not the theory that is to be rejected, but the scientist himself/herself as not being capable of using correctly the offered scientific means.

The accumulation of a large number of contrasts creating abnormalities constitutes the extraordinary science, which leads to the replacement of the current paradigm by a new one. This phase is described by Kuhn as a crisis of the normal science that provokes concern and distress amongst scientists. At the beginning they try to adjust the abnormalities to the old system, but as the suggested solutions don't seem satisfactory, a request for alternative ways appears. The period of crisis may last for a long time until scientists learn to look at the world from another perspective. They don't, though, easily abandon the paradigm, even if they generate thoughts of alternative approaches.

There is no *experimentum crucis* as a base for choices between alternative approaches: paradigms are "incommensurable" and not comparable, as each one of them has its own concepts, criteria and methodological rules. According to Kuhn, the new

paradigm prevails not because it is better and closer to the truth than the previous one, but because it is the work of younger people, who seek to socially ascend. They have the courage and the power to prevent the rational objections of the representatives of the former generations who usually understand the new paradigm as creating more problems than the former one. In the end, nature is meant to give the solution: the older scientists have to die and disappear from the world.

Kuhnian analysis of normal and extraordinary science has a sociological character much resembling analyses of political or religious institutions. The replacement of the old by a new paradigm is described with categories, such as faith, persuasion, propaganda, proselytizing and death. The concept of crisis is not connected with the development of knowledge in the framework of a teleological course, but with the activities of the scientific community concerning much more its social structure and its functional (or dysfunctional) changes.

The course and the development of sciences has been a fundamental subject of many epistemologists and philosophers since antiquity, as is clearly shown in the following schemaⁱⁱ:

- Plato, Aristotle, Descartes: Discovery of eternal and irrefutable truths.
- Bacon, Mill: Inductive knowledge based on the source- and foundation-data of experience.
- Hume: Science is based on induction that has no rational foundation. It develops in an inductive but not in a rational manner.
- Carnap: Science is grounded on a probabilistic foundation of hypotheses, which means that it develops in an inductive and rational manner.
- Popper: Induction is impossible, but science is a rational procedure, which means that it develops in a non inductive but rational way.
- Kuhn: Science is neither inductive nor rational.

The above schema clearly shows how iconoclastic Kuhn's position is: science that always was perceived as the perfect model of human rationality, was now defined as a non rational activity. This provocative notion could not but create an intensive discussion, mainly among Popper and his disciples who on the one hand forced Kuhn to partly modify his former positions and on the other hand led the attempts of a rational reconstruction of the Kuhnian contribution, so that its worthwhile core could be saved.

In the framework of this paper, it is important to refer to the objective rational reconstruction of the socio-psychological Kuhnian paradigm by Popper's disciple, I. Lakatosⁱⁱⁱ, as it addresses a similar situation in scientific development as the Kuhnian crisis. Lakatos claimed that the central elements of science are not individual hypotheses, but whole scientific research-programs. These programs include an irrefutable hard core due to methodological decision and also a protective belt containing revisable auxiliary hypotheses. Lakatos declared that the concept of the scientific program can be perceived

as an objective – in the framework of the Popperian objective rationality – rational reconstruction of the socio-psychological notion of the Kuhnian paradigm^{iv}. It is, though, in no case a kind of a “Weltanschauung”, as the Kuhnian paradigm aimed to be. Science develops, according to Lakatos, as a critical competition between scientific programs (no one of them gaining absolute dominance, as opposed to the Kuhnian paradigms that contain a dominant one each time).

The critical competition between a large number of scientific programs leads in the long run to a closer approximation to truth. Scientific progress occurs when in the framework of a program there is an increase of information about reality by a gradual theoretical or empirical shift of problems that is if the auxiliary hypotheses in the protective belt have been replaced in a manner that has increased their theoretical or empirical cognitive value. Otherwise there is a degenerative evolution of the scientific program. Progress, however, appears also due to the abandonment of one program for another, since the rejection of the old program is based on objective and not socio-psychological reasons, and also since it leads to the increase of cognitive resources. This transitory situation is a kind of crisis, which is, though, connected to the progress of science as a rational activity due to the replacement of one program by another according to rational criteria.

The Concept of Crisis in Art Historical Narratives

More than in the history of science, the concept of crisis is to be found in art history, especially in teleological narratives that classify the development of art in cultural periods with a beginning and an ending, or in repeated cyclical models in analogy to biological organisms^v. Before modernism, art was aiming at beauty understood either in an ideal manner or in more subjective and emotional ways. Based on this criterion of interpreting artworks, many art historians wrote teleological narratives with crisis appearing as the last and degenerative phase of the ideal of beauty. There was however, as most narratives derived from art historians of classic-platonic backgrounds state, a trend towards neglectful periods, such as Mannerism and Baroque, which were understood as times of crisis and degenerative taste.

Petrarch was the first to create the idea of a cyclical cultural development, according to which culture reached its peak in antiquity, then fell into a thousand-year crisis and was reborn in the mid fourteenth century^{vi}. Lorenzo Ghiberti applied Petrarch's model to art history and claimed that the destruction of all ideal ancient artworks led to the end of art, which, though, started again with Giotto^{vii}. Giorgio Vasari's^{viii} method was also influenced by Petrarch and Ghiberti. He used the biological analogies of rise, maturity and decay to characterize the cultural periods of antiquity from its beginnings, the golden ages of Athens and Rome, to the crisis of the fourth and fifth centuries A.D. The cycle was repeated in his own age. Vasari labelled its cultural periods “childhood” with Giotto in the thirteenth century, “youth” with Masaccio, Piero della Francesca and Mantegna in the fifteenth century and “maturity” with Leonardo da Vinci, Rafael and

Michelangelo in the sixteenth century. He avoided speaking about the crisis of art in his own era, probably for psychological or diplomatic reasons, though he mentioned that there was a possibility of its appearance, if artists and patrons were not careful enough.

J. J. Winckelmann^{ix} applied Vasari's model to show the origin, progress, change and fall in the development of art. Art appeared because of the human need to understand beauty and ended with the decline into the unnecessary and excessive. He believed that the art of his time was lower than that of the ancients: as a pure Platonian he was looking for the ideal beauty and rejected naturalistic or emotional art. Periods like the Gothic and Baroque that produced art that was not based on the classic principles of symmetry, balance, order and clarity, were understood as phases of crisis.

In the twentieth century, though, the revolution of modernism transferred the general telos of art from the expression of beauty to a redefinition of the nature and essence of art. In this framework A. Danto distinguished two historical narratives^x. The first one, with art aiming at verisimilitude, started in antiquity and ended in the 19th century when photography offered the appropriate means for an exact remake of reality. The second one covered the first half of the twentieth century and conceived art's development as a course to its self-definition. The end of this narrative came with the creation of Pop Art in the 1960s, when art was transformed into a kind of philosophy.

Danto's argumentation regards Andy Warhol's Brillo Boxes that were exhibited in 1963 in the Stable Gallery of New York as works of artistic and commercial value, while their visual equivalents Brillo Boxes of Procter and Gamble had a minimal price and were in no case recognized as artistic works. According to Danto, this fact raises the fundamental ontological question of "what is art", which may be answered only at a philosophical level. The end of art, though, means for Danto just a kind of crisis and not the stopping of its production. It is rather connected to the end of its progressive course in the framework of his second narrative. He mentions that after 1963 art was produced in an uncontrolled manner without certain aims and orientations. Its course couldn't be described as a narrative but only as a chronicle without temporal succession. In the same way that the first narrative was completed by passing on its aim, the conquest of verisimilitude, to photography and cinema, the second one bestowed its purpose and duty, the definition of art, on philosophy.

All the above mentioned historical narratives from Petrarch to Danto form for art history a methodological framework that could be defined – according to the Lacatian example – as a historicist program^{xi}. It has its roots in the fourteenth century and exists until our days. Its main concept is that art history follows teleological progressive courses depending on the goals established by its historical era. Crisis is understood as the last phase of each narrative, in which the aims and ideals degenerate.

The historicist program is not the only approach to the history and development of art. Explanatory and hermeneutical programs approach art from other and different points of view. In the first half of the twentieth century the explanatory program dominated, which included theories based on combined historical and philosophical

methodology. They aimed at explaining artworks according to their historical and cultural backgrounds and also at incorporating them into the overall system of art history. The common purpose of the explanatory program was the explanation of the phenomenon of art and its development with objective terms, as far as that was possible. Its roots, even in a derivative manner, are to be found in Hegel's philosophy, as it combines essentialist and historical explanations of the development of art, integrated within a general metaphysical approach^{xii}.

In the twentieth century one of the most important manifestations of the explanatory program was the iconological theory by Erwin Panofsky^{xiii}, who first constructed rational general principles for the perception of artworks, independent of historical and local prerequisites. He faced artworks as the products of their culture as well as the result of certain procedures of the human brain. Panofsky claimed that complete interpretations approach artworks as parts of historical and cultural periods and as timeless entities.^{xiv}

To the explanatory program belong also the formalistic theories of H. Wölfflin^{xv} and A. Riegl^{xvi}, as well as the Marxist art historical writings by Fr. Antal^{xvii} and A. Hauser^{xviii}, as they all attempt to find explanations to problems concerning the principles that create the development of art. Formalists understood it as the result of the development of visual perception that is simpler at the beginning and becomes more complicated with the passage of time. On the other hand Marxist art historians understand art as a superstructural phenomenon supposed to be read off as a reflection of economic circumstances. In all the above theories there dominates the common goal of finding objective principles that explain the development of art and reduce the subjectivity of interpretation. As the development of art is not understood as a course to a certain point (as in the narratives of the historicist program), art historical periods are not evaluated by the criterion of the completion of their aim, but only described on an explanatory base. Thus the concepts of the crisis, the decline or the end of art are not of the same importance.

More intensive is the absence of crises in the third contemporary program that can be called hermeneutical. Its fundamental parameters are the determinant role of subjective and polysemous interpretations and the weakness in constructing developmental historical narratives. Truth is relativized and artworks are accepted as dynamic entities that are impossible to be included in a one-causal system of development. Feminism, Psychoanalysis, Semiotics and Postcolonialism provide the appropriate theories for the creation of complete interpretations^{xix}.

The Contemporary Shift of Art Criticism

Contemporary art criticism belongs to the postmodern hermeneutical program. The majority of art critics have ceased to use standards for evaluations referring either to past authorities or to aesthetic absolutes^{xx}. Historical continuity and theoretical judgments prevailing in the past, are not the central axis of contemporary art writing anymore. An opinion poll conducted by Columbia University amongst art critics^{xxi}, showed that most

popular aims of criticism are the description of artworks, the provision of historical context and the creation of nice literary pieces, while the two bottom statements were “theorizing about the meaning, associations, and implications of the works being reviewed” (39 percent), and “rendering a personal judgment or opinion about the works being reviewed” (27 percent).

The above results reveal a new landscape of art criticism: the trend in writing is not in a scientific / theoretical manner, but in an artistic one. Critics who work in that direction are not only interested in the aesthetic form of their texts, but also in giving a new character to their writings as hybrid constructions of many different parameters. Chris Kraus, winner in 2008 of the Frank Jewett Mather Award^{xxii}, combines in her writings fiction with biography, autobiography, criticism, theory, history and journalism. Fiction and art theory are also closely connected in Saul Anton’s book “Warhol’s Dream” (2007). It reveals the way of thinking of Warhol and Smithson during their fictive walk through New York.

This new fictive and eclectic style of art criticism, the absolute opposite to the style of the previews power critics like Clement Greenberg and Harold Rosenberg, is mainly promoted through art blogs and art journals, like Cabinet. Art writing appears as a mix of different forms^{xxiii}. As it indicates a tremendous turn and shift, there is a wide discussion about a crisis in the art critic’s world^{xxiv}.

However, if we define the concept of crisis as a deep deviation from the initiative purpose that art criticism has to serve, it is necessary to think more clearly about the real parameters of this purpose. In the course of history, art criticism has many times changed its character and aims, influenced by the prevailing theoretical framework and the trends dominating in the artistic world. It is of great interest to notice that its origins in the Paris of the eighteenth century and especially in the writings of its “father”, Denis Diderot, had an eclectic and artistic style similar to the postmodern ones^{xxv}. Thus, the much discussed contemporary crisis of art criticism concerning mainly the shift in the style of writing has not necessarily a negative connotation, but indicates the adjustment of art critics to the new hermeneutical program.

However, in a sociological approach there is a crisis in art criticism that arises from the value based degeneration of the art world. As the best known critic, Dave Hickey, claimed by turning his back on the contemporary art scene^{xxvi} a great number of art critics are hostage to rich collectors who are above all interested in their profit and not in art itself. Money, marketing and personal interest determine art writing, which seems to be one of the victims of the decline of values in postmodern society.

The Crisis in Art and Science as the Result of a Value-based Crisis

Value-based crises definitely influence all members of social groups. They obviously affect the members of the artistic and the scientific communities. However, neither art nor science as rational activities can be ontologically affected by such a crisis, for totally

different reasons in each case. To support this position it is important to clarify the relation of values to art and science.

Up to this point the concept of crisis in art and science has been conceived as a phase of their historical development. In the course of science, crisis appears either when anomalies accumulate leading to the replacement of the current paradigm by a new one (Kuhn), or when knowledge provides a degenerative development (Lakatos). On the other hand, crisis in art appears as the last phase of teleological historical narratives, when artists begin to imitate or outreach the classic prototype by an exaggerated manner. Thus, crisis is connected to the behaviors of scientists and artists.

Science, as the rational activity aiming at truth by systematic rational and empirical controls, can include values as normative principles only in a metatheoretical base. The choice of subjects as well as the methodological rules of research are norm-dependent in a way that is deeply different from ethic, aesthetic, cognitive or cultural evaluations. Scientific values are in fact technological rules^{xxvii} of a successful scientific investigation, while ethic, aesthetic, cognitive and cultural values constitute fundamental principles of the content and the quality of human life.

However, scientific laboratories are not “the clinical and passionless places they might aspire to be”^{xxviii}, but small communities where persons spend together many hours of their days in cooperating, agreeing, disagreeing, even fighting each other. Scientists are still humans with values and emotions, which may play a negative role by causing the delay of scientific investigation or by blurring scientific objectivity. Sexists behaviors e.g. of the past might have left out of the scientific arena charismatic women-scientists, with whose contributions science might have taken another course^{xxix}. Those are speculations that anyway concern psychological behaviors and not rational scientific procedures. The accumulation of negative incidents might lead to a crisis concerning the scientific community in a social and behavioral manner, but definitely not concerning the scientific subject itself.

In contrast to science that is value-free (in an ontological approach), artworks are to be understood as carriers of values. Values are connected either to the content or the form^{xxx} of visual artworks. The content of an artwork is shaped by depicted facts and objects that correspond to reality, are potentially true, or are totally imaginative^{xxxi}. However in all three cases the world of an artwork is a virtual world of sentiments, thoughts and values. Even if depicted facts / objects seem at first glance evaluatively neutral, they still have a symbolic character and provide values. In Heidegger’s analysis of Van Gogh’s painting “A pair of Shoes” (1886)^{xxxii}, the image is to be understood in an analogical manner: the damaged shoes reflect both, the cruel world of the farmer, who was wearing them, as well as his/her dark bond to the earth. Thus, the artwork doesn’t show a form in a realistic and imitative manner, an object closed in its outline or its function, but rather reveals the implied truth of it that has been hidden by its daily use. Art is not connected to personal values, or even to the values of a certain community. It is the carrier of the ideal-ontological values that have a general character and express

humanity as a whole. Under this aspect, art can never fall to a crisis, as the concept of the ideal is a priori unique and unchangeable.

Crisis might appear to art, as a value-carrier, only in a sociological - historical approach. As also mentioned above, the collective mimicking or exaggerating of the classic prototype definitely indicates an aesthetic crisis that derives from the artistic community and especially from the artists themselves. Through in the course of history, artists have often been directly or indirectly manipulated to produce artworks of low artistic value. Such cases are artists, who worked in authoritarian regimes, forced to propagandize their reputed virtues, as well as the contemporary ones, who have often been described as the hostages of the market.

In our days very often art is judged unfortunately not by its aesthetic values, but much more by commercial ones. Marketing and commercialization often precede the aesthetic evaluation of artworks, which are promoted for the benefit of several art-institutions. Even artists are accused of being interested only in their temporary reputation and in the acquisition of property. Donald Kuspit^{xxxiii} recognizes as the starting point of this evil situation the movement of Pop Art, which produced friendly-to-the-consumer works that means standardized art. According also to its chief representative, Andy Warhol, good business is the best art of all. Kuspit describes the contemporary art world as a corrupted institution, in which gaining money is the first motive of all, while the public image of the artist counts much more than the objects he/she presents as artworks; he/she only has to claim that something is art, and immediately it becomes reliable and of great importance, merely because of his/her public image.

All these facts articulate an institutional crisis concerning the behavior of the members of the art world and not art itself. The artworks created during such periods will continue to live afterwards and will have an impact on future audiences. Even if we accept that they are of low aesthetic value, they will still motivate people to think in other directions in order to renew art and refresh its goals. By that, they will have fulfilled their purpose, which is to remind us of the ideal values and the real reasons of our existence. Thus, a crisis of the art world is self reflected, it might cause a temporary art-crisis as it is produced and perceived by subjects of low aesthetic and ethic values, but in the long run the same artworks created during the crisis will give incentives for thought to the next generations: that is the ontological nature and telos of art.

Concluding Remarks: Crises are Sociological and not Ontological Periods of Rational Systems

Neither science nor art, as rational systems that serve certain aims (the conquest of objective truth and the fulfillment of values, respectively), include the concept of crisis in their ontological development. Science in its analytical form as an information seeking mental activity is free from ethical and aesthetical values. It has a generally accepted and progress supporting methodology: it proceeds by creating hypotheses and theories with possibly great information content, by submitting them to a logical and empirical control

procedure and by using them to explain and predict concrete events. Scientific hypotheses cannot be verified, they can only be falsified, which means that absolute and irrevocable truth, as was the dream of most ancient philosophers, is impossible. Even probability calculus, often used as a replacement for inductive reasoning^{xxxiv}, cannot ensure the degrees of validity of a scientific hypothesis. Science develops by rejecting falsified hypotheses and collecting corroborated ones, leading in the long run to a satisfactory and crises free approximation of truth.

On the other hand, there is no such thing as a unique progressive development in art, from the prehistoric era to our days. The only element that has progressed are the media used by the artists: with the development of technology artists could use increasingly better materials that allowed them to express themselves in more sufficient and completed ways. Each period establishes its goals and creates a development that ends up in a crisis. Crisis is the following phase after the one in which the aim has been achieved. Artists begin to imitate or to exaggerate the classic prototype: media and artistic virtuosity, by becoming the aim of art, are used to impress audiences rather than to express real artistic goals^{xxxv}.

All reasons that cause a crisis in art are external and socio-psychological ones. They are connected to the artists as members of an artistic community and an historical era. Artists may be influenced by certain tendencies, degenerated values, historical facts and general behaviors, which – in a collective base - could lead to an art crisis. However, this is a sociological statement and not one that refers to the ontological status of art and its development. Artworks, after their creation, gain their own life by the impact they are able to have on their perceivers. Even those which show degenerated aesthetical or even ethical values will force audiences to rethink matters in diverse and multiple directions. Thus, in an ontological approach, artworks always fulfill their goal, and art, as the rational system that awakens us by reminding us of ideal values, can never suffer under a crisis.

Notes

ⁱ T. S. Kuhn, *The Structure of Scientific Revolutions*, (Chicago/London, 1962).

ⁱⁱ For a more analytical approach, see W. Stegmüller, *Neue Wege der Wissenschaftsphilosophie* (Berlin/Heidelberg/N.York, 1980) 27.

ⁱⁱⁱ See mostly, “Falsification and the Methodology of Scientific Research Programs” in: Lakatos / Musgrave, *Criticism and the Growth of Knowledge* (Cambridge, 1970) 91-196.

^{iv} Lakatos / Musgrave, *Criticism and the Growth of Knowledge*, 179, footnote 1.

^v Eric Fernie (ed.), *Art History and its Methods. A Critical Anthology*, (London, 1995), 333

^{vi} Fernie (1995), 10

^{vii} Fernie (1995), 10.

^{viii} Giorgio Vasari, *The Lives of the Artists*, trans. George Bull, 2 vols, (Harmondsworth 1987 [1568]).

^{ix} Johann Joachim Winckelmann, *The History of Ancient Art*, (1764) in: Fernie (1995), 68-71.

^x Arthur Danto, "The End of Art", in: *The Philosophical Disenfranchisement of Art*, (New York 1986) 81-115. See also: Noel Carroll, "The End of Art?", *History and Theory*, Vol. 37, No. 4, Theme Issue 37: Danto and his Critics: Art History, Historiography and After the End of Art, (Dec. 1998), 17-29.

^{xi} I avoid to use the Kuhnian term "paradigm", as the investigation in this part of my essay concerns mostly the subject of art history, which is the development and the interpretation of art, and not the social and psychological behaviors of the scientific community that play the decisive role in the structure of a paradigm.

^{xii} For a detailed overview of the Hegelian model of the development of art, and also of the methods of art history, see Michael Hatt and Charlotte Klonk, *Art History. A Critical Introduction to its Methods*, (Manchester and New York 2006).

^{xiii} Erwin Panofsky, *Studies in Iconology: Humanistic Themes in the Art of Renaissance*, (Oxford 1972[1939]).

^{xiv} For a further analysis of Panofsky's method see, Hatt & Klonk (2006), 96-119.

^{xv} Heinrich Wölfflin, (1932[1915]). *Principles of Art History: The Problem of the Development of Style in Later Art*, trans. M. D. Hottinger, (London 1932[1915]). For a further analysis and bibliography, see Hatt & Klonk (2006), 65-95.

^{xvi} Alois Riegl, *Late Roman Art Industry*, trans. Rolf Winkes, (Rome 1985[1901]); *Problems of Style: Foundations for the History of Ornament*, trans. Evelyn M. Kain, (Princeton 1992[1893]); *The Group Portraiture of Holland*, trans. Evelyn M. Kain & David Britt, (Los Angeles (1999[1902])).

^{xvii} Frederick Antal, *Florentine Painting and its Social Background*, (London 1948)

^{xviii} Arnold Hauser, *The Social History of Art*, new edn, 4 vols. in 1, (London 1962[1951]).

^{xix} See also Hatt & Klonk (2006), 145-240.

^{xx} See for a comparative analysis of art history and art criticism, Eleni Gemtou, "Subjectivity in Art History and Art Criticism", *Rupkatha. Journal on Interdisciplinary Studies in Humanities*. Vol.2, no 1 (special issue on visual arts), 2010, 2-15.

^{xxi} James Elkins, *What happened to Art Criticism?* (Chicago 2003), 49-50.

^{xxii} The Frank Jewett Mather Award is a prize given by the College Art Association that in the past has been awarded to art critics belonging to the historic or the explanatory program (Greenberg, Rosenberg, Danto etc.)

^{xxiii} Martha Schwendener, "What Crisis? Some Promising Futures for Art Criticism", *The Village Voice* (7 Jan 2009)

^{xxiv} James Elkins, *The State of Art Criticism* (New York/London 2007) ; Elkins, *What happened to Art Criticism?* ; Maurice Berger, *The Crisis of Criticism* (New York 1998) ; Raphael Rubinstein, *Critical mess: Art Critics on the State of their Practice* (Stockbridge MA 2006)

^{xxv} Schwendener, "What Crisis? Some Promising Futures for Art Criticism".

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- ^{xxvi} Edward Helmer & Paul Gallagher, Article in the Observer (Sunday 28 October 2012)
- ^{xxvii} H. Albert, *Traktat über rationale Praxis* (Tübingen 1978), 20.
- ^{xxviii} Sian Ede, *Strange and Charmed. Science and the Contemporary Visual Arts* (London, 2000) 44.
- ^{xxix} Luce Irigaray, "Le sujet la science est-il sexue?" / "Is the Subject of Science sexed?", trans. Carol Mastrangelo Boce, in *Hypatia*, 2 (3), 1987, 65-87.
- ^{xxx} M. Rader, "The Root Value of Art", *The Journal of Philosophy*, vol.38. no.12, (Jun. 5, 1941), 324-332.
- ^{xxxi} J. Feibleman, "The Truth-Value of Art", *The Journal of Aesthetic and Art Criticism*, vol. 24, no.4, (Summer 1966), 501-508.
- ^{xxxii} Martin Heidegger, *Basic Writings*, "On the Origin of the Work of Art", ed. David Farrell Krell (New York, 2008) 146-165.
- ^{xxxiii} Donald Kuspit, "Art Values or Money Values?", *Artnet Magazine* (www.artnet.com. 16.2.2013)
- ^{xxxiv} R. Carnap, *Logical Foundations of Probability*, 2nd ed. (Chicago, 1962).
- ^{xxxv} Ernst Gombrich, *Kunst und Fortschritt. Wirkung und Wandlung einer Idee* (Köln, 2002) 22.

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