

AN ENDOGENOUS REPRESENTATION OF THE CONTEMPORARY ART MARKET CYCLE

SPECULATION AND DECOUPLING OF ARTISTIC AND MARKET CLASSIFICATIONS OF LIVING ARTISTS



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The art market has long been ignored by economic science because the most established paradigms do not enable it, either by work value or by rarity, to understand the formation of the exchange value of a unique work. Because of the uncertainties it embodies, the contemporary art market to an even greater extent eludes our economic laws. Describing “the price of a work of art [as] a matter of accident”, Marshall (1890) ended up by excluding this heretical market. Nevertheless, the work of the economist G. Akerlof (1970) proposes that the source of these difficulties lies in the indeterminate character of the products on the market. Without agreement on the part of actors as to what is to be assigned value, uncertainty and speculation fuel price instability. Sociology (R. Moulin, then A. Queminn), by providing an analysis of the interrelations between the actors in the process of artistic valorization, is here of considerable help. Artistic recognition, by defining the quality of a work, is a needed reference point for market actors. By bringing together this knowledge from economic theories of speculation and networks, the perception of the formation of a work’s value on the market may be refined (Moureau, 2000).

Such an approach is all the more necessary since at the beginning of the 1980s financial actors in search of alternative investments entered the contemporary art market and brought about sharp fluctuations. Yet although this market can generate high returns, these are infrequent and require detailed information on the part of investors on the artistic recognition of the actors. But since such a degree of information is unusual, these investors tend strongly to disrupt a market where price convergence comes from a slow and complex realignment of the parties involved. This situation resulted in a collapse in prices in the early 1990s, the scale of which has until now been ignored. The surge in indices of value in the contemporary art market is currently giving rise to fears of a renewed collapse. Once again there arise questions as to the formation of market value on the art market and the relevance of the indicators for describing its variations.

First of all, we shall show that behind the bullish price trends on the contemporary art market there is a wide

range of returns that only an artist-by-artist approach can clarify. Thus to control the risks, market actors must have knowledge of the artistic worth of the works produced, and therefore of the conventions and procedures existing in the art world. We also raise the question as to whether the artistic value indicator currently available, the *Kunst Kompass*, still allows light to be shed on investors’ decisions in an ever more creative and globalized market¹.

■ I. THE SPECIFICITIES AND RETURNS OF THE CONTEMPORARY ART MARKET’S COMPARED TO FINANCIAL ASSETS

The entry of financiers into the contemporary art market clearly stems from a sometimes very high profitability, even if the artworks have specificities in comparison to financial assets that these actors have little knowledge of. Such specificities increase the risk of the investments, especially when the information held by the investor is inadequate or incomplete.

I.1. RISK AND PROFITABILITY ASSESSMENT ON THE ART MARKET

The studies by Baumol (1986) and then by Rouget and Sagot Duvaurox (1996) have specified the characteristics of artworks compared to other assets (see Box below). As a result of these specificities, the market is structurally faced by very high uncertainty, in which the impacts of speculation are reinforced by arbitration between the securities market and the art market. The six-month time lag in the cross-correlation of the evolution of indices between these two markets (O. Chanel, 1994) indeed shows that investors would tend to enter the art market when other investment opportunities are exhausted. Fluctuations are therefore sudden.

Estimating the exchange values of works is complex because of these characteristics, and therefore takes on a strategic character for market actors lacking reference

Specificities of artworks in comparison with financial assets

- Absence of substitutability of artworks implying a monopoly status for the holder.
- Discontinuity of sales.
- No price transparency.
- Absence of positive monetary income (dividends or interest) enabling a basic value of the asset to be calculated in the form of a current cash flow value of expected returns.
- Specific holding and transaction costs (specific taxes, insurance, commissions for intermediaries, transport costs).

points. The assessment of market trends uses three main index calculation methods. The **composite index** selects a group of artists, whose average prices are tracked over time. However, the nature and value of the works contained in the index can vary from one year to the next, which gives rise to bias. The **repeat sales method**, initially used in property economics, calculates the evolution in the value of a sample of works sold several times during the same period, which dispenses of the preceding criticism but raises the problem of the (sometimes lengthy) period of resale. Finally the **hedonic method** considers the works as combinations of common characteristics (artist's name, size, technique used, creation date, etc.). It is then possible to determine the implicit price of each characteristic and the structure of a standard asset from which a price index is extracted. Thus Agnello and Pierce (1996) show that the most value-enhancing element is the artist's name, a large canvas always sells at a higher price than a small one, an oil is more expensive than a water-color (Frey and Pommerehn, 1989).

In actual fact, the tendencies described by each of the indices are not an additional source of uncertainty but broadly converge (Burton and Jacobsen, 1999; Worthington and Higgs, 2004). All of them show, over the 1990s, lower returns and higher risk than for other assets (shares and bonds), irrespective of the artistic area concerned, including the contemporary art market (Mei and Moses, 2002). Nevertheless, examination of the years post-2000 partly contradicts these conclusions. In its 2006 annual report, Artprice notes, by comparing the art market index to the Dow Jones, that the art market is two or three times

less volatile than the stock market. The reason for this seems to be the lower sensitivity of art to geopolitical events and economic crises. This stability also stems from the phenomenon of selectiveness of transactions in periods of uncertainty. Before selling at lower prices, market actors first become more selective as to the works traded, and an increase in the rate of unsold items is observed. The contraction in the volume of trades and the quality of the works traded thus artificially maintains prices. In short, the number of unsold works becomes a relevant indicator of latent crisis, that the price index cannot reveal, and distorts risk assessment.

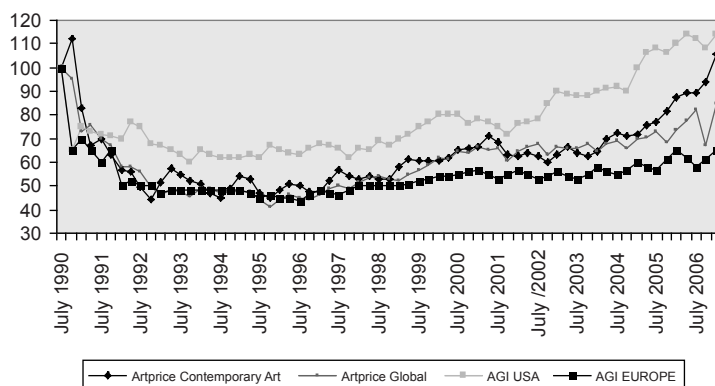
Despite the specificities of artworks as a speculative medium, we note therefore that the various estimation methods of art market indices all confirm its higher returns and lower risk than the stock market. However, although attractive from the viewpoint of a general index, the contemporary art market masks great variation in profitability.

1.2. EVOLUTION OF THE PRICE INDEX ON THE CONTEMPORARY ART MARKET: GENERAL AND SPECIFIC ASPECTS

THE ARTPRICE² GLOBAL INDEX (AGI) is currently the benchmark index for the art market. Even though its use seems to be debatable (cf. III.A.2), its evolution nevertheless reveals the collapse in 1990 of the speculative bubble created in the 1980s and the sharp downturn in the market from 2001 to 2003. The recovery, which began in 2004, led to extremely rapid growth until 2007. A direct link may be noted between the contemporary art market index and the global index until October 2003 (adjusted $R^2 = 0.861$) then a growing decoupling of the two markets thereafter (adjusted $R^2 = 0.547$), suggesting the creation of a renewed speculative bubble in the market for contemporary works. Behind these broad movements, there are specificities giving rise to differences in returns and risk depending on particular markets and artistic trends.

First of all, the AGI³ index recalculated by market shows a marked divergence between Europe and the USA after 2002⁴. The democratization of the art market in the United States, the return to growth in the main marketplaces, the fall in the value of the dollar, and the search for alternative investments on the part of American financiers, seem to account for this orientation (Artprice Report, 2006). London owes its growth to a conjuncture similar to that of New York, while the other European markets are suffering from the overvaluation of the euro⁵. In short, the growth of the AGI is largely driven

Graph 1. Evolution of the Artprice global index and the Artprice contemporary art index (base 100 July 1990)



by the American market. These differences in markets are detailed in Table 2. Second, within each market, the index is sustained by a number of major artistic movements whose price growth rate over the last ten years has set records (Table 1).

In fact, the most discriminating but least totalizing approach is that of calculating profitability by individual artist. As Moureau (2000) shows, this is probably the best way to optimize return/risk. As proof of this, one only has to consider the variable consisting of rankings

gained or lost for living contemporary artists, listed in the Artprice classification between 2005 and 2006, the main indicators of which are shown in Table 3.

Such individual volatility confirms the relevance of an artist-by-artist approach to investments, including artists within the same movement. The corollary of such specificities is of course the increased information required by the investor. Given the conventions at work in the contemporary art scene, this information turns out to be particularly complex.

Table 1. The most profitable contemporary art movements

NAME OF MOVEMENT	PERIOD	Leading members	PRICE GROWTH (1996-2006)
<i>Cologne group</i>	1980-1990	Christopher WOOL, Mike KELLEY, Martin KIPPENBERGER (record: \$706,000)	+ 695.5%
<i>Arte povera</i>	1967	Luciano FABRO, Giovanni ANSELMO, Giuseppe PENONE Salvatore SCARPITTA, Pino PASCALI, Alighiero BOETTI (record: £380,000)	+ 527.5%
<i>British pop art</i>	1960	Allen JONES, Peter BLAKE, Colin SELF, Ronald B. KITAJ, David HOCKNEY, Peter PHILLIPS or Joe TILSON, David HOCKNEY (record 3,2 millions \$)	+ 495.8%
<i>Contemporary Indian art</i>	2000	Tyeb MEHTA, Francis Newton SOUZA, Subodh GUPTA (record: \$1.2 million)	+ 482.7%
<i>Minimal art</i>	1960	Carl ANDRÉ, Dan FLAVIN, Donald JUDD, Sol LEWITT or Robert MORRIS, Donald JUDD and Frank STELLA (record: \$4.2 million)	+ 474.8%
<i>Chinese avant-garde</i>	1998	Cai GUO-QIANG, Zhang XIAOGANG, Wang GUANGYII and Yu MINJUN (record: \$2 million)	+ 385.7%
<i>Poster art</i>	1960s	VILLEGLÉ, Mimmo ROTELLA, Raymond HAINS. (record: €102,000)	+ 370.2%

Table 2. Comparative figures for art markets in 2006

Data taken from Artprice 2007.	USA	UK	FRANCE	ITALY	GERMANY SWITZERLAND AUSTRIA	CHINA
MARKET SHARE (% TOTAL SALES)	45.9	26.9	6.4	2.8	5.3	4.9
GROWTH RATE OF PRICES (IN %)	18.5	14	9	6	8.4	—
NUMBER OF AUCTION MILLIONAIRES	132 in 2003 to 229 in 2004	69	13		20	—
% OF TOTAL VOLUME OF TRANSACTIONS	16.4	14.7	18.8	5.8	12.7	4.1
RETURN FOR \$100 INVESTED (1995-2005)	\$60			\$10		—

Table 3. Volatility of the Artprice classification between 2005 and 2006

Descriptive statistic	Values	Descriptive statistic	Values
Number of observations	93	Median	82.000
Minimum	— 431.000	3rd Quartile	486.000
Maximum	36184.000	Mean	886.387
1st Quartile	— 62.000	SD (n)	4071.354

■ II. VALORIZATION MECHANISMS IN REGARD TO CONTEMPORARY ARTISTS: A POINTER FOR THE MARKET

As we have said, the difficulties associated with the determination of value in the contemporary art market derive from the lack of agreement on the quality of the works traded. Before carrying out their trades, art market actors therefore have to define a value. To do this, three sources of information are available: the artistic value of the work as defined by the legitimate authorities of the art world, information provided by the specialist media, and market transactions carried out by other actors. These three sources are obviously not independent of each other, but the artistic authorities form the basis of the system. It was only at the end of the 1960s that sociology attempted to clarify the formation of the artistic (rather than market) value of works on the markets. The question was all the more complex because artistic activity was at the time undergoing profound changes of convention.

II.1. SOCIOLOGICAL THINKING ON THE FORMATION OF A WORK'S ARTISTIC VALUE

The fundamental contribution of R. Moulin was to show that in the art market, quality is not fully specified but emerges from the interactions of agents. Whereas in the 18th and 19th centuries an "academic convention" prevailed, through which works were valorized by the artistic world in accordance with explicit criteria, the 20th century is marked by the emergence of a new convention, the so-called "originality convention". Henceforth "the insertion of an artist into the history of art depends on positives consumption externalities and on the direct imbrication of the market channel and the artistic channel of valorization of works" (Moulin, 2000).

a. From one convention to another: specificities and complexity

The Academy, restored in 1816, was structured around two institutions: **the School of Fine Arts** "which standardizes qualifications by drawing on a process calling for training and socialization" (Moreau, 2000) and the **Salon** which validates the skills acquired and sanctions the artist as a professional. The academic convention was organized around accepted criteria⁶ (H. White and C. White, 1991). But these overly large and classical canvases did not sell well. Thus another, artisanal, market developed, on which value was based on the cost of production and the very high demand for genres such as portraiture and decorative painting (Taine, in Monier 1991). The academic market gave the artist social status and the artisanal market gave him an income. This complementarity, which was a source of stability, was called into question at the end of the 19th century.

The decline of the academic convention resulted both from a phenomenon of *collapse* (the arrival of photography diverted demand from the artisanal market and upset the

financial equilibrium of the system) and from a phenomenon of *invasion* (the emergence of currents coming from new training centers whose economic legitimacy was secured by informal communication networks). This decline obliged the *maîtres* to think about the specificity of their art.

In the 20th century there then slowly emerged a new *convention of originality*. As Sagot-Duvaouroux (2005) notes, "from now on, a painting become desired, not for the image that it reproduces, but because it is made by the hand of artist, according to a unique process. It is this rarity which will be valorized." Such a convention is structured around three notions: the non-reproducibility of the creation process, the novelty of the proposition, and the authenticity of the work. This transformation reorganized the market around two main features.

Firstly, the contemporary market is characterized by a strong movement of decentralization and internationalization. Only the fragmentation of centers of legitimation and of points of sale can encompass the multiplicity of trends. A large number of actors, who previously were simple intermediaries, become agents for the legitimation and promotion of living artists, all within a highly internationalist context. The communication problems created by the dispersal of participants are partly resolved by international art fairs.

Secondly, assessing the quality of a work grows in complexity. A work can no longer be judged in isolation; it is the entirety of an approach that enables the coherence and strength of the creation to be evaluated. From a market of works in the 19th century, there is a shift to a market of artists' names at the beginning of the 20th century.

b. From the convention on quality to the formation of demand: the specificities of the art market

Drawing fairly extensively on microeconomic studies on the dissemination of technologies and networks (Katz and Shapiro, 1986), Moreau (2000) shows that demand addressed to an artist depends on three mechanisms. Firstly, the market possesses a *growing output of information*. Indeed, appreciation of contemporary art requires significant information on artistic currents and the creator's approach. The better known the artist, the more demand is focused on him or her, because information is more easily accessible (*auto-reinforcement effect*). Secondly, recognition conferred on the artist is reinforced by art interrelationships, since the dissemination and imitation of an artist makes it more probable that there will be a movement, group or trend around him or her. Uncertainty as to the quality of artistic work is thus reduced. Finally, the level of demand is also subject to network externalities⁷ in the sense that possession of a work by an artist exhibited in a gallery also allows the network of those possessing that artist's work to be integrated. Thus the more a body of work is distributed in the market, the more purchasing intentions increase, irrespective of individual preferences. It is then a matter of inquiring into the mechanisms and actors through which and whom recognition is established, i.e. the construction of the historicization process of the artist and the oeuvre.

c. The actors in the historicization process

The authorities of this process, the personalities of the art world in possession of expertise, are represented in the following graph.

Five categories of actors may be identified. **Artists** can no longer be considered as passive actors in the system, victims of their atomicity. The collectives or support systems that they mutually provide make them actors in market trends (Benhamou, 2001). **Gallery owners**, through their exhibitions, catalogue publications, advice to other actors, have become indispensable actors in the commercial world and increasingly are entering into artistic valorization. **Collectors**, whose purchases are perceived as signals of quality as soon as they are shown in spaces open to the public, have a power of legitimation all the greater since they have links with other legitimation authorities (participation in museum governing boards, gifts to museums, etc.). **Curators**, institutional actors, are the only ones genuinely to consecrate an artist, since museum purchases are irreversible. Finally, in the context of this new convention, the growing role of **critics** and **exhibition organizers** should not be neglected, all the more so since they are often dealers or curators. As Sagot-Duvaurox (2005) emphasizes, “an artistic reputation can be established in a lasting way only if the critics develop theories and criteria which enables it to be given a meaning”.

II.2. LEGITIMATION NETWORK FOR WORKS AND THE CREATION OF MARKET VALUE

The many places where members of the legitimation authorities encounter each other – major artistic events, biennales, art fairs, previews for the press and the museum profession, openings of new modern art museums, conferences, openings of major exhibitions, etc. – are all opportunities for interactions during which they inform and influence each other on the evaluation of artists. Such a configuration forms a “clique”, in the sense used in network theory. This theory, adapted to questions of speculation through the work of Orléans (1994), offers a way of understanding the processes by which artists are valorized in the contemporary art market (Moureau, 2000).

If each member of the legitimation authorities directly exchanges information with other members, the structure is termed “connected”. Consequently, the convergence of actors towards a consensus as to the value of an artist depends only on the speed of transmission of information, i.e. on the intensity of their relations, which is particularly high in contemporary art. However, even if all the individuals are in contact, not all of them follow each other in their support for particular artists. Each centre of the network, and inside these, each group of individuals (or island) may have different opinions and different capacities to influence other islands. Within each island and between islands, one-off or structural agreements can then arise according to strategic or commercial objectives. Thus an accepted artistic valorization of the artist is formed, resulting from a complex interaction among actors. In

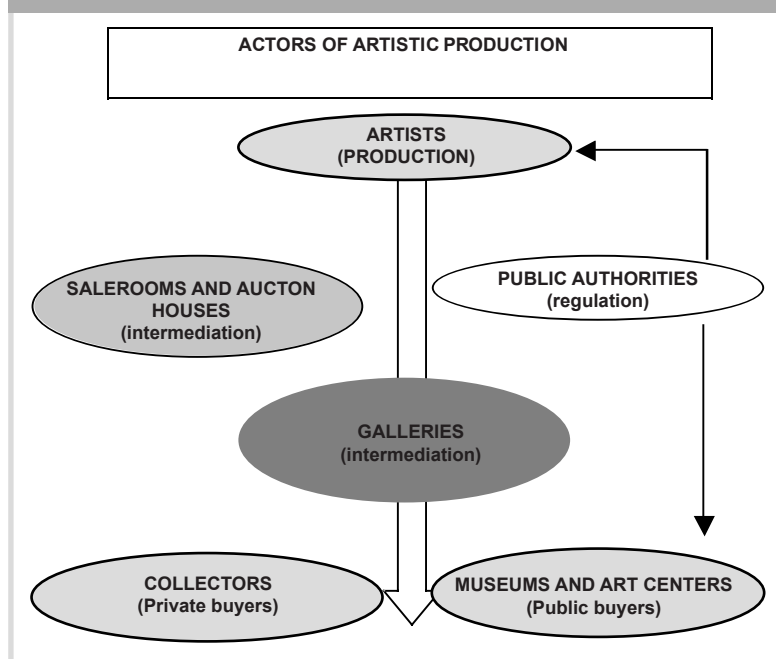
this instance, the information given to the market by the legitimation authorities is called “consistent” and there is little uncertainty. A convergence of artistic opinion and market value takes effect.

Conversely, when the network is not “connected”, a structural gap appears between the groups of individuals. Separate groups, with different opinions, coexist, thereby giving rise to uncertainty as to the artistic quality of an oeuvre. The existence of a structural gap is of course fairly frequent in the opinion network on contemporary art. For want of clear artistic bearings, market agents are inclined to give credence to the views of certain actors which are then amplified by the media. Self-reinforcement mechanisms then decouple the price from the artistic value of the work.

Speculation on the contemporary art market therefore structurally has a number of origins: the absence of a clear signal from the artistic legitimation authorities addressed to market actors, the misrecognition of these authorities by market actors, the distortion of the authorities’ message through the ambivalence of some of its members using the media to promote their strategic interest.

In the end, three factors contribute to the formation of prices: the signals emitted by the legitimation authorities, media signals, and the type of work⁸. In fact, for each type of work, the “stability” of the contemporary art market then lies in the capacity of the network to produce relevant and reactive information on artistic value that is capable of replacing media rumor. Yet does the key indicator of this artistic worth, the Kunst Kompass, still answer to the expectations of operators on the contemporary art market in which the production cycles are becoming shorter and the offering more complex and more global?

Graph 2. Actors in the valorization and legitimation of the artistic oeuvre



III. FROM THE CONNECTION BETWEEN ARTISTIC AND MARKET CLASSIFICATION TO THE IDENTIFICATION OF SPECULATIVE TENDENCIES ON THE MARKET

Our intention here is to confirm or disconfirm the hypothesis according to which current tensions on the art market are expressed by a growing decoupling between artistic legitimation and market valorization of artists. Comprehending the scale and nature of this decoupling will then be able to tell us about the market's speculative potential, the risks of a correction process, and the shortcomings in information leading to such risks. The period running from 2002, the start of the current expansion phase, to 2007, the peak of the cycle⁹, provides a relevant sequence for such a comparison. In view of the fact that an artist-by-artist approach is the only one capable of satisfactorily accounting for differences in returns, we shall use the Artprice classification of living artists to assess market valorization and the Kunst Kompass classification of contemporary (living) artists for the estimation of artistic legitimation, subject to the reservations raised as to these two indicators. Our methodology is based therefore on the comparison of classifications¹⁰.

III.1. PRESENTATION CLASSIFICATION METHODS BASED ON ARTISTIC REPUTATION AND MARKET VALORIZATION

a. The Kunst Kompass, a debated indicator but useful for artistic legitimacy

Founded in 1970 by Willy Bongard, the Kunst Kompass annually publishes in the November issue of the German economics journal *Capital* "a good assessment of the aesthetic value of contemporary art in relation to its price and helps orient would-be purchasers in the international art market." (H. S. Becker, 1994). It is presented as a celebrity scale of the 100 best artists in the world out of 500 listed on the international art scene. The number of points assigned to each artist enabling the classification to be drawn up depends on that artist's presence in museums, participation in biennales and works written on his or her work. Museums, biennales and journals are weighted in order of recognition. The value obtained allows an order to be constructed, ranking the listed artists according to how well-known they are, and expresses a consensus among the legitimation actors on the reputation of contemporary artists.

Two major structural criticisms may be made of the use of this indicator. The first, conceptual in nature, was expressed by Quémin (2001): "The rank assigned to an artist in the classification does not depend directly on the quoted value of the artist in the contemporary art market but on a collection of judgments (as to artistic

reputation) made by contemporary art experts." In short, power plays within a non-consistent clique can generate artistic legitimacy, and the indicator cannot take these into account. The second criticism, put forward by R. Moulin, emphasizes the lack of independence between aesthetic value and price: "If the price is a function of the presumed artistic value, estimation of aesthetic value is a function of price. In a confused dialectic, aesthetic judgment becomes the pretext for a commercial transaction and a successful commercial transaction takes the place of aesthetic judgment."

Nevertheless, over and beyond these limitations and the grey areas involved in average price calculation methods, the Kunst Kompass remains the basic indicator of artistic legitimacy.

b. Construction of the Artprice classification of living artists

The classification of artists by Artprice is made, in July, on the basis of the accumulated sales prices in (current) US dollars at auctions excluding saleroom costs, over the previous year. We can thus speak of the artist's turnover. Nevertheless, this procedure involves a degree of bias. On the one hand, most contemporary art sales are effected through the intermediary of galleries and not by auction houses. On the other hand, the valuation does not take account of the number of works sold or of their hedonic characteristics, which can, as we have seen, give rise to differences in valorization. The new process of assessing work, the "artprice indicator", launched at the end of 2007 by the company, largely corrects this bias, and will probably allow more accurate ranking to be drawn up in future.

III.2. COMPARISON BETWEEN THE ARTPRICE OF THE CONTEMPORARY MARKET AND THE KUNST KOMPASS

In a stable market, we should be able to see a direct link between the Artprice classification of living artists' market values in year t (AGI_t) and the Kunst Kompass classification of artistic reputations observed in year $t-1$ (KKP_{t-1}). The time-lagged dependence of year between the AGI and the KKP is only a working hypothesis, which can be criticized. However, as we shall see below, the stability of the KKP and its date of publication, enables most of the sales recorded by Artprice (in practice, 10 months of sales over the year) to take account of the orientations given as to the artistic legitimacy of artists' work. Moreover, the instability of the Artprice classification confers little advantage in using a time-lag of more than a year.

The speculative instability of the market would then give rise to a decoupling of the two classifications, with the media strategies causing a destabilization of the market valuation of artists not recognized by the legitimation authorities.

The exploration of this hypothesis involves comparing classifications at the bottom of the cycle (AGI_{2002} et KKP_{2001}) and the top of the cycle (AGI_{2007} et KKP_{2006}) in regard to two criteria:

■ The number of artists belong to the intersection of the two classifications, shown in the annexed tables. We note f_i , the relation between the cardinal number of the intersection and that of the reference classification (AGI).

■ Comparison of the ranks obtained by the artists in the intersection of each classification, here using the appropriate Spearman's rho test¹¹ expressed as an absolute value¹² ($|\rho|$). The rho values calculated between AGI_t and KKP_{t-1} are in fact negative (see Table 7), showing that a high ranking of an artist in the KKP corresponds (depending on the degree of linkage between the classifications) to a low ranking of that artist in the AGI. This phenomenon lies in the greater frequency of renewal of AGI as against the inertia of the KKP. The market, speculative by nature, constantly valorizes new currents whose incorporation into the KKP can only occur from below. In view of the methods used by the two classifications, we can therefore suppose that the negativity of coefficients is structural in character. The use of absolute values is justified only in regard to the ease of graphical representation (Figure 1).

■ We also present a Kendall's test, the aim of which is not to provide an additional, and redundant, criterion but to make sure that the previous test is robust.

Such a method nevertheless presupposes that the number of living artists in the classifications be the same from one period to the next, which unfortunately is not the case for the AGI. This produces a classification of the 500 leading artists according to their annual sales without distinguishing artistic periods. So while 2007 enables 100 living artists to be obtained, 2002 offers only 70. The sizes of the classifications are not therefore the same at the bottom of the cycle. Nevertheless, we are interested in precisely that part of the classification of market values that can be explained by artistic reputation, so that we by-pass the difficulties associated with the sample size by expressing the number in the intersections as a proportion of the total number of the reference classification.

Figure 1 shows the usual evolution of the contemporary art market cycle in three dimensions, based on the hypotheses relating to the formation of market value and the criteria used. The first ranks the artists common to both classifications ($f_i \cdot 100$), the second compares their rank in each classification ($|\rho| \cdot 100$), and the last shows the Artprice (contemporary art) market index. In theory, when leaving from a point D for which the market valuation takes account of artistic legitimacy (no speculation), the decoupling between the classifications leads to a speculative increase in prices ($A \rightarrow B$). The exact position of the change remains uncertain since we do not know if the market is more sensitive to a modification of classification than to a reduction of the intersection, even if instead we can assume the opposite. With the bursting of a speculative bubble, we can in principle observe a repositioning of market valuation in relation of artistic legitimization. However, we know that when a bubble bursts, prices first tend to fall little due to the increased number of unsold works. Between B and C, the return of the market toward artistic legitimization does not therefore happen by way of

a large fall in prices but of a growth in unsold works by the withdrawal of lots that have not reached the reserve prices in the auction houses. Nevertheless prices will end up falling (from C) with an exit point from the cycle that may be higher, lower or equal to the entry point.

The results obtained by comparison of classifications, presented in the table below, confirm the idea of a growing distance between the two classifications with an increase in prices. On the one hand, it may be seen that 40% of artists are present in both classifications at the bottom of the expansion phase¹³ against only 24% at the top. On the other hand, a comparison of ranks reveals a lack of correlation between the classifications AGI_{2002} and KKP_{2001} , since the calculated Spearman's ρ values (in absolute value) are lower than the critical ρ values. Between the two dates a near-stability of the calculated Spearman's coefficient may be observed, at an extremely low level. It can therefore be deduced from our observations that the differences in rank of artists in the intersection, between the two classification, are not a determining factor of speculation (which confirms Kendall's test). The cycle could therefore be nearly parallel to the axis of frequencies, with the frequencies being the determining factor. Lastly, since 2002 was the low point of the years after 2000, it can be agreed that the possibility of an exit point from the cycle in the context of a perfect correspondence of the two classifications seems to be less likely. There no doubt exists an irreducible difference between market legitimization (the AGI) and artistic legitimization (the KKP), due to the dynamic nature of creativity. These comments reposition the cycle in its space but without altering its direction.

Although the hypothesis of the separation of classifications during a speculative phase seems to be confirmed, we also see that this separation stems largely from the instability of the AGI. Indeed, the comparison of KKP classifications between 2001 and 2006 shows great stability.

Figure 1. Representation a cycle and positioning for 2002 and 2007

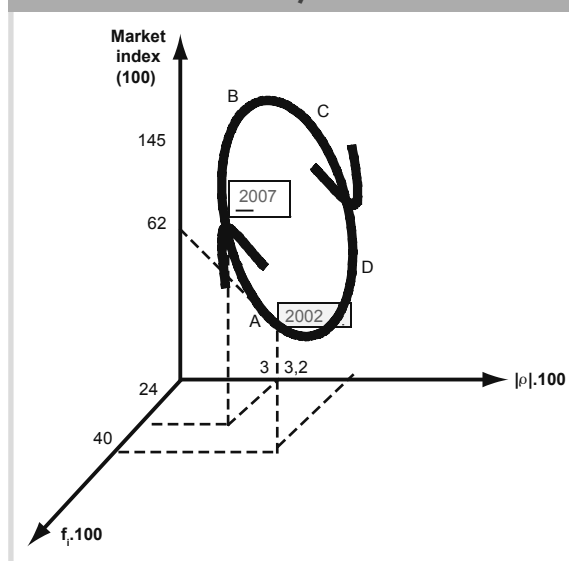


Table 7. Number of artists in the intersection of the AGI and KKP classifications and comparison of rankings

	AGI ₂₀₀₂ -KKP ₂₀₀₁	AGI ₂₀₀₇ -KKP ₂₀₀₆	AGI ₂₀₀₇ -AGI ₂₀₀₂	KKP ₂₀₀₇ -KKP ₂₀₀₁	AGI ₂₀₀₂ -KKP ₂₀₀₆	AGI ₂₀₀₇ -KKP ₂₀₀₁
Number in intersection	28	24	19	74	24	22
f_i	0.4 (N = 70)	0.24% (N = 100)	0.19	0.74	–	–
Spearman's rho test at 5% threshold	$\rho = -0.0804$ ($\rho^* : 0.3748$)	$\rho = -0.1356$ ($\rho^* : 0.4062$)	$\rho = 0.2578$ ($\rho^* : 0.4605$)	$\rho = 0.5254$ ($\rho^* : 0.23$)	$\rho = 0.1860$ ($\rho^* : 0.4062$)	$\rho = 0.0818$ ($\rho^* : 0.4249$)
Kendall's tau test (at 5% threshold)	$\tau = -0.053$ ($p = 0$)	$\tau = -0.08$ ($p = 0$)	$\tau = 0.181$ ($p = 0.298$)	$\tau = 0.46$ ($p < 0.0001$)	$\tau = 0.13$ ($p = 0.390$)	$\tau = 0.056$ ($p = 0.739$)
Conclusion of test	No correlation	No correlation	No correlation	Correlation of rankings	No correlation	No correlation

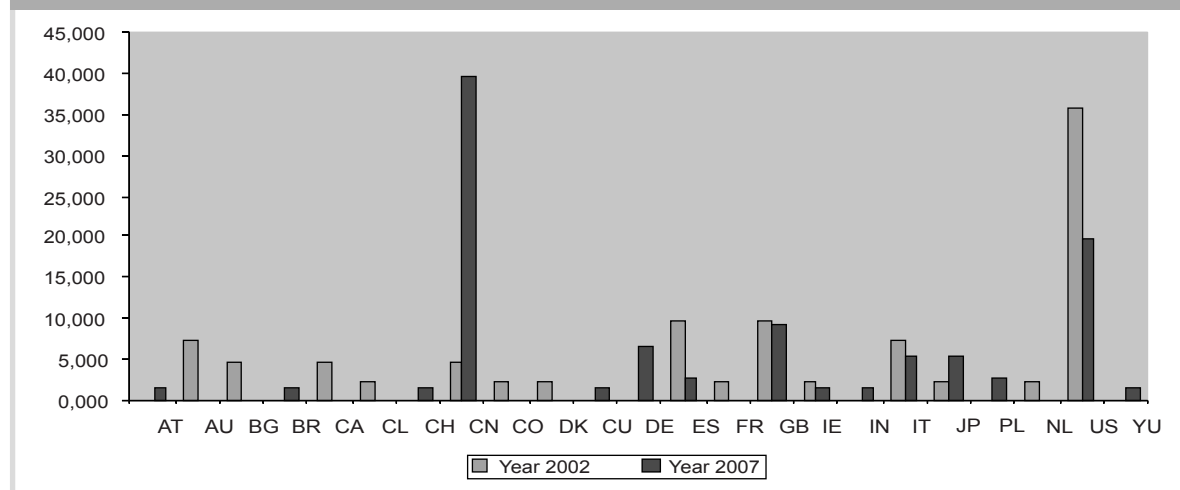
Three-quarters of the artists remain present between these two dates, with a not significantly different ranking order. On the other hand, the AGI appears to have been extremely unstable between 2002 and 2007, retaining only 19% of its artists, in accordance with a substantially different classification for the two years. As Kendall's test confirms, the growing distance between the two classifications is therefore somewhat one-sided, with a changing AGI in contrast to a stable Kunst Kompass classification¹⁴. Lastly, cross comparison of the classifications at the bottom and the top of the evolution of the indices shows that the KKP is more inclined to approach the AGI than the AGI to the KKP, which is all the more evident in terms of the artists in the intersection than in comparison of rankings, even if the results are not very marked.

Although we can agree on the link between the market's "speculative" tendency and the decoupling between market value and artistic legitimation, the question remains as to the present nature of this decoupling. In sociological studies, this discrepancy between market and artistic

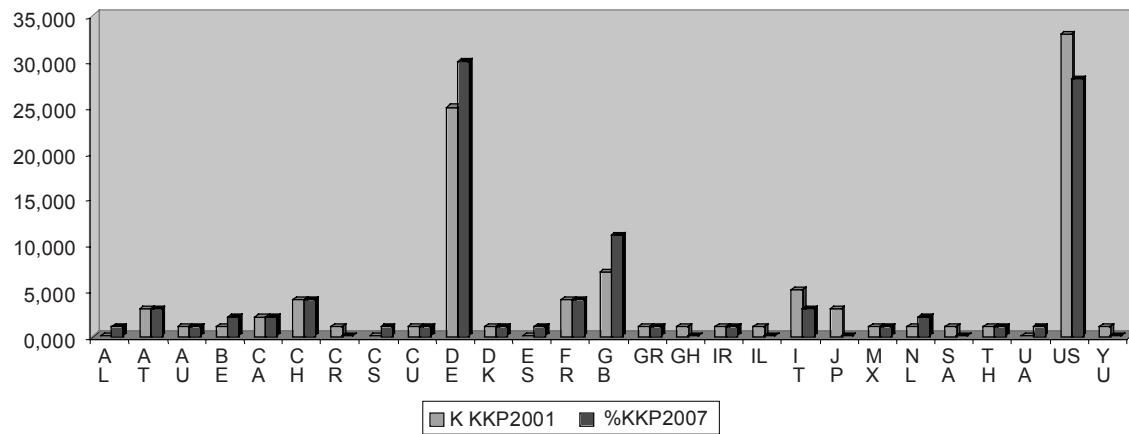
values gives rise to inevitable market speculation as to what will become of oeuvres in a world teeming with artistic currents¹⁵, of which only a few will have a future in terms of artistic legitimation. However, looking at the artists in the two classification according to their nationality suggests an alternative interpretation. From the distribution of artists by national origin, we see a relative similarity between the nationalities of legitimated artists in 2001 and the highest priced artists in 2002, in such a way that the decoupling between these two classifications would in fact stem from speculative phenomena on the future of emerging artistic currents in a closed artistic world.

On the other hand, the comparison between the nationality of the AGI artists not present in the KKP in 2002 reveals the existence of another source of disconnection between the two phenomena. Here we note a pronounced increase of the numbers of Asian artists – Chinese and to a lesser extent Japanese – who, in the AGI classification, replace artists of European or US origin.

Graph 3. Distribution as a % of AGI artists not present in the Kunst Kompass in 2002 and 2007 according to nationality¹⁶



Graph 4. Distribution as a % of the Kunst Kompass artists in 2001 and 2007 according to nationality



As A. Quémin notes (2006), while the origin of artists has become more diverse, the places of production of art (studios), distribution of work (galleries) and consecration (museums) are still concentrated in Europe and the United States, in particular New York, London, Berlin and Paris. This difference between the geography of artists and that of the required points *de passage* of artistic legitimization, could account for this phenomenon.

We are present therefore at the introduction of a new art world, the talents of which, in part at least, are already legitimated in their world. This integration thus contributes to the decoupling of classifications, concomitantly with the incorporation of currents still ignored by artistic legitimization. Two conclusions can then be drawn.

On the one hand, while the disconnection between the two classification reveals potential speculation, this is attenuated by the existence of artistic legitimization whose indicator our world is as yet unaware. The coming correction phenomena in the market will then probably be less pronounced than might have been feared. On the other hand, the artistic legitimization indicator displays an inertia, commendable since it is a sign of demand, but insufficient to reassure market actors in an ever more creative and global world. We thus perceive the need for a new classification, based more on recognition than consecration, and on globalization than western civilization. Such a program no doubt calls for turning away from a view of contemporary production supported by the theory of convention and agreements and opening out onto conceptions drawn from the sociological of social-technical networks. ■

- 2 Founded by Thierry Ehrmann in 1987, Artprice is a French company (and website) and the world leader in art market listings.
- 3 Artprice does not publish the Contemporary Art index by market, but its link with AGI allows some comments to be made even if this link is less pronounced during the later period.
- 4 The gradients of line temporal regressions of AGI Europe and AGI USA (both significant at the 0.0001 threshold), calculated as of January 2002, change respectively from 0.602 to 2.765.
- 5 The under-performance of Germany also stems from the proportion in total sales of multiple works, particularly prints (33% of sales against 15% in other markets), the prices of which are lower everywhere.
- 6 A classical or Christian theme, forms taken from nature, noble human postures borrowed from classicism, balanced and harmonious composition, and finally skill of draughtmanship.
- 7 Network externalities, or club effects, describe a situation in which consumers' preferences for an asset do not depend solely on the intrinsic qualities of the object but also on external elements such as other people's attitudes toward this asset (on this topic, see the more detailed treatment by A. I. Curien, 1994).
- 8 For technical reasons certain works – minimal art, for example – do not sell well.
- 9 Comments from Artprice point to a downturn in 2008: "Very reasonably, the opinion of actors on the development of the art market is irrevocable: pessimism is the order of the day." (Thierry Ehrmann, 28 January 2008; Artprice. com)
- 10 The comparison of classifications would benefit from being made continuously since 1987. However, the very difficult access to the two classification over the whole of this time period prevents us from doing so.
- 11 If the absolute value of the calculated rho is higher than or equal to the rho of the table, the nul hypothesis (absence of correlation between the rankings) is rejected, and the existence is admitted of a link between the classification. The sign of rho gives our the direction of the dependence of classifications.
- 12 "The rho values calculated between AGI and KKPt-1 are in fact negative (see Table 7), showing that a high ranking of an artist in the KKP corresponds (depending on the degree of linkage between the classifications) to a low ranking of that artist in the AGI. This phenomenon lies in the greater frequency of renewal of AGI as against the inertia of the KKP. The market, speculative by nature, constantly valorizes new currents whose incorporation into the KKP can only occur from below. In view of the methods used by the two classifications, we can therefore suppose that the negativity of coefficients is structural in character. The use of absolute values is justified only in regard to the ease of graphical representation (Figure 1)."
- 13 In expectation of an AGI₂₀₀₅ sample size of 70 to 100 artists, the percentage could vary between 28 and 40% depending on whether or not the last 30 artists in the KKP₂₀₀₁ classification are included. In fact, the percentage represented by the artists in the intersection of the two classifications at the beginning of the 2000s would always be higher than 2007.
- 14 Which expresses the negative signs of the rhos calculated.
- 15 Examination of postwar contemporary art currents identifies at least 56 movements, of which many are still active.
- 16 The codes used to identify countries come from the ISO alpha-2 country codes.

1 This globalized character will here lead us to disregard the particular features of the French organization of the art market without however denying its reach, but within the perspective of a common approach to all markets.

Table 4. Intersection of KKP and AGI classifications at the bottom and top of the price expansion phase

Intersection Kunst Kompass (2001) and AGI (2002)				Intersection of AGI2007/KKP2006 classifications			
Name of artist	KKP ₂₀₀₁ ranking	AGI ₂₀₀₂ ranking	Nationality	Noms des artistes	Nationality	AGI ₂₀₀₇ ranking	KKP ₂₀₀₆ ranking
ANDRE Carl (1935)	55	34	USA	ALYS Francis	BE	81	45
BASELITZ Georg (1938)	8	55	D	BARNEY Matthew	US	77	17
BOURGEOIS Louise (1911)	7	14	USA	CATTELAN Maurizio	IT	54	32
CATTELAN Maurizio (1960)	47	42	It	CLEMENTE Francesco	IT	50	44
JAVACHEV C. et J.C.DENAT(1935)	23	69	USA	DEMAND Thomas	DE	97	29
DIJKSTRA Rineke (1959)	93	60	NL	DUMAS Marlène	ZA	16	73
FISCHLI (1953) et WEISS (1946)	28	35	CH	GOBER Robert	US	76	58
GILBERT & GEORGE (65)	35	68	GB	GURSKY Andréas	DE	9	22
GOBER Robert (1954)	22	20	USA	HIRST Damien	GB	1	48
GURSKY Andreas (1955)	19	15	D	IMMENDORF Jörg	DE	62	13
HIRST Damien (1966)	69	19	GB	KELLEY Mike	US	26	10
HOCKNEY David (1937)	75	7	GB	KIEFER Anselm	DE	17	23
JOHNS Jasper (1930)	49	3	USA	KOONS Jeff	US	7	36
KIEFER Anselm (1945)	30	28	D	McCARTHY Paul	US	51	25
KOONS Jeff (1955)	24	5	USA	OEHLEN Albert	DE	24	86
NAUMAN Bruce	3	30	USA	PRINCE Richard	US	5	65
OLDENBURG Claes (1929)	32	23	USA	RAUCH Neo	DE	56	49
POLKE Sigmar	1	63	D	RICHTER Daniel	DE	41	1
PRINCE Richard (1949)	72	52	USA	RUFF Thomas	DE	34	26
RAUSCHENBERG Robert (1925)	42	11	USA	SCHUTTE Thomas	DE	55	16
RAY Charles (1953)	96	49	USA	SHERMAN Cindy	US	21	7
RICHTER Gerhard	2	1	D	STRUTH Thomas	DE	30	34
RUFF Thomas (1958)	27	57	D	TROCKEL Rosemarie	DE	64	4
RUSCHA Edward (1937)	36	2	USA	TUYMANS Luc	BE	70	56
SHERMAN Cindy (1954)	6	62	USA				
STRUTH Thomas (1954)	33	22	D				
SUGIMOTO Hiroshi (1948)	86	64	Jp				
TWOMBLY Cy (1928)	37	4	USA				

Table 5. Comparative volatility of the AGI and KKP classification between the bottom and the top of the price expansion phase

Intersection of the 2001 and 2006 Kunst Kompass classifications						Intersection of the 2002 and 2007 Artprice classifications		
Name of artist	KKP 2001 ranking	KKP2006 ranking	Name of artist	KKP 2001 ranking	KKP2006 ranking	Name of artist	AGI2002 ranking	AGI2007 ranking
ABRAMOVIC Marina (1946)	88	80	KIEFER Anselm (1945)	30	12	BARCELO Miquel	8	14
BALDESSARI John (1931)	54	43	KNOEBEL Imi (1940)	70	56	CATTELAN Maurizio	42	54
BARNEY Matthew (1967)	45	20	KOONS Jeff (1955)	24	36	DOIG Peter	36	3
BASELITZ Georg (1938)	8	7	KOUNELLIS Janis (1936)	44	59	FISCHL Eric	35	38
BOLTANSKI Christian (1944)	10	17	KRUGER Barbara (1945)	90	96	GURSKY Andreas	15	9
BOURGEOIS Louise (1911)	7	5	LUPERTZ Markus (1941)	99	92	HIRST Damien	19	1
BUREN Daniel (1938)	59	50	McCARTHY Paul (1945)	60	21	KIEFER Anselm	28	17
CALLE Sophie (1953)	98	72	NAUMAN Bruce	3	2	KOONS Jeff	5	7
CATTELAN Maurizio (1960)	47	39	NESHAT Shirin (1957)	48	31	MURAKAMI Takashi	50	46
DARBOVEN Hanne (1941)	74	83	OLDENBURG Claes (1929)	32	60	PALADINO Mimmo	61	58
DEMAND Thomas (1963)	53	29	OROZCO Gabriel (1962)	57	47	PRINCE Richard	52	5
DIJKSTRA Rineke (1959)	93	65	OURSLER Tony (1957)	29	94	RAY Charles	49	49
ELIASSEN Olafur (1967)	41	9	PARDO Jorge (1963)	94	78	RICHTER Gerhard (1932)	1	41
FISCHLI (1953) et WEISS (1946)	28	37	PERNICE Manfred (1966)	71	93	RUFF Thomas	57	34
FORG Gunther (1952)	12	49	PETTIBON Raymond (1957)	78	25	SCHNABEL Julian	25	42
GILBERT & GEORGE (65)	35	35	PISTOLETTO M.(1931)	34	99	SHERMAN Cindy	62	21
GOBER Robert (1954)	22	58	POLKE Sigmar	1	3	STRUTH Thomas	22	30
GORDON Douglas (1966)	20	15	PRINCE Richard (1949)	72	69	SUGIMOTO Hiroshi	64	12
CRAGG Tony (1949)	40	91	RAINER Arnuff (1931)	52	81	TANSEY Mark	38	27
GRAHAM Dan (1940)	43	46	RAUSCHENBERG R.(1925)	42	26			
GURSKY Andreas (1955)	19	23	REHBERGER Tobias (1976)	46	51			
HATOUM Mona (1951)	51	44	RICHTER Gerhard	2	1			
HIRSCHHORN Thomas (1957)	62	57	RIST Pipilotti Charlotte	9	19			
HIRST Damien (1966)	69	28	RUFF Thomas (1958)	27	18			
HOCKNEY David (1937)	75	73	RUSCHA Edward (1937)	36	16			
HOLLER Carsten (1961)	26	34	SCHUTTE Thomas (1954)	17	11			
HOLZER Jenny (1950)	38	55	SERRA Richard (1939)	13	42			
HORN Roni (1955)	73	87	SHERMAN Cindy (1954)	6	6			
HUYGHE Pierre (1962)	68	32	SLOMINSKI Andreas (1960)	81	89			
IMMENDORF Jörg (1946)	61	13	SMITH Kiki (1954)	76	75			
JOHNS Jasper (1930)	49	33	STRUTH Thomas (1954)	33	41			
KABAKOV Ilya (1933)	5	22	TIRAVANIJA Rirkrit (1961)	67	61			
KELLEY Mike (1954)	11	8	TROCKEL Rosemarie	4	4			
KELLY Ellsworth (1923)	64	64	TUYMANS Luc (1958)	85	67			
KENDRIDGE William (1955)	39	10	TWOMBLY Cy (1928)	37	27			
			VIOLA Bill (1951)	15	14			
			WALL Jeff (1946)	31	30			
			WEINER Laurence (1940)	21	45			
			WEST Frantz (1947)	16	24			

Table 6: Convergence of the AGI et KKP classifications at the top and the bottom of the price expansion phase

Intersection of the Kunst Kompass (2001) and Artprice (2007) classifications				Intersection Kunst Kompass (2006) and Artprice (2002) classifications			
Name of artist	KKP2001 ranking	AGI 2007 ranking	Nationality	Name of artist	AGI 2002 ranking	KKP 2006 ranking	Nationality
BARNEY Matthew (1967)	45	77	US	BASELITZ Georg (1938)	55	7	D
CATTELAN Maurizio (1960)	47	54	IT	BOURGEOIS Louise (1911)	14	5	USA
CLEMENTE Francesco (52)	84	50	IT	CATTELAN Maurizio (1960)	42	39	It
DEMAND Thomas (1963)	53	97	DE	CHRISTO (1935)	69	38	USA
GURSKY Andreas (1955)	19	9	DE	DIJKSTRA Rineke (1959)	60	65	NL
HIRST Damien (1966)	69	1	GB	DOIG Peter (1959)	36	74	GB
IMMENDORF Jörg (1946)	61	62	DE	GILBERT and GEORGE (1953/42)	68	35	GB
KELLEY Mike (1954)	11	26	US	GOBER Robert (1954)	20	58	USA
KIEFER Anselm (1945)	30	17	DE	GURSKY Andreas (1955)	15	23	D
KOONS Jeff (1955)	24	7	US	HIRST Damien (1965)	19	28	GB
McCARTHY Paul (1945)	60	51	US	HOCKNEY David (1937)	7	73	GB
PRINCE Richard (1949)	72	5	US	JOHNS Jasper (1930)	3	33	USA
RAY Charles (1953)	96	49	US	KIEFER Anselm (1945)	28	12	D
RICHTER Gerhard	2	41	DE	KOONS Jeff (1955)	5	36	USA
RUFF Thomas (1958)	27	34	DE	NAUMAN Bruce (1941)	30	2	USA
SCHUTTE Thomas (1954)	17	55	DE	OLDENBURG Claes Thure (1929)	23	60	USA
SHERMAN Cindy (1954)	6	21	US	PRINCE Richard (1949)	52	69	USA
STRUTH Thomas (1954)	33	30	DE	RAUSCHENBERG Robert (1925)	11	26	USA
SUGIMOTO Hiroshi (1948)	86	12	JP	RICHTER Gerhard (1932)	1	1	D
TROCKEL Rosemarie	4	64	DE	RUFF Thomas (1958)	57	18	D
TUYMANS Luc (1958)	85	70	BE	RUSCHA Edward, Ed (1937)	2	16	USA
WEST Frantz (1947)	16	87	AT	SHERMAN Cindy (1954)	62	6	USA
				STRUTH Thomas (1954)	22	41	D
				TWOMBLY Cy (1929)	4	27	USA

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