NBER WORKING PAPER SERIES

THE LIVES OF THE PAINTERS OF MODERN LIFE: THE CAREERS OF ARTISTS IN FRANCE FROM IMPRESSIONISM TO CUBISM

David W. Galenson

Working Paper 6888 http://www.nber.org/papers/w6888

NATIONAL BUREAU OF ECONOMIC RESEARCH 1050 Massachusetts Avenue Cambridge, MA 02138 January 1999

The views expressed here are those of the author and do not reflect those of the National Bureau of Economic Research.

© 1999 by David W. Galenson. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including [©] notice, is given to the source.

The Lives of the Painters of Modern Life: The Careers of Artists in France from Impressionism to Cubism David W. Galenson NBER Working Paper No. 6888 January 1999 JEL No. J24

ABSTRACT

Modern painting began in France during the nineteenth century. Using transactions from art auctions for the work of 50 leading painters who worked in France during the first century of modern art, I estimate the relationship between the value of a painting and the artist's age at the date of its execution. The econometric estimates show that artists born before 1850 - including Manet, Cézanne, and Degas - typically produced their most valuable work late in their careers, whereas artists born after 1850 - including Picasso, Léger, and Braque - were more likely to have done their most valuable work at early ages. Comparison of these results to evidence drawn from art history textbooks furthermore demonstrates that these artists' most valuable work has also been that most highly regarded by scholars. I argue that the change over time in the shape of these artists' age-price profiles was a result of changes in the nature of painting during the late nineteenth century, as painting increasingly became an activity in which innovation was a principal determinant of an artist's importance.

David W. Galenson Department of Economics University of Chicago 1126 E. 59th Street Chicago, IL 60637 and NBER sogrodow@midway.uchicago.edu

Introduction

On October 22, 1906, Paul Cézanne died in Aix-en-Provence, at the age of 67. In time he would come to be widely regarded as the most influential painter who had worked in the nineteenth century. So for example in 1914 the English critic Clive Bell would declare that "In so far as one man can be said to inspire a whole age, Cézanne inspires the contemporary movement," and nearly four decades later, in 1951, the American critic Clement Greenberg would write that "Cézanne, as is generally enough recognized, is the most copious source of what we know as modern art."¹ It is also generally recognized that Cézanne did his most important work late in his life. Thus historian Theodore Reff concluded that "If … one period in Cézanne's long development has been of special importance, it is surely the last one, comprehending the extraordinary changes that occurred in his work after 1895, and especially after 1900," echoing Meyer Schapiro's earlier judgment of Cézanne that "the years from 1890 to his death in 1906 are a period of magnificent growth."²

In the spring of 1907 - less than a year after Cézanne's death - in Paris 25-year-old Pablo Picasso showed a few friends a large new painting that would be given the title *Les Demoiselles d'Avignon*. Critic John Russell later declared that "In the art of this century one painting has a place apart ... [T]here is no doubt that the *Demoiselles* is the white whale of modern art: the legendary giant with which we have to come to terms sooner or later."³ The privileged position of the painting is a consequence of its role as the forerunner of Cubism, "perhaps the most important and certainly the most complete and radical artistic revolution since the Renaissance."⁴ Picasso would go on to paint for another 66 years, until his death in 1973 at the age of 92. During his long and enormously productive career, Picasso would become by far the most

celebrated artist of the twentieth century. Yet he would never again produce a painting as important as the *Demoiselles*, nor create another body of work as significant as that he executed in the years between 1907 and the outbreak of World War I.

The dramatic contrast between the careers of Cézanne and Picasso raises an intriguing question about artists' productivity: at what stages of their careers have modern painters typically done their best work? This question has not been addressed systematically by art historians. Biographies and studies of individual artists suggest that there has been considerable variation. Yet in the absence of systematic comparative study, the pattern and source of this variation remains unknown. Using evidence drawn from the twentieth-century auction market, this paper will examine the relationship between artists' ages and the value of their paintings for a group of important modern artists. The group studied consists of 50 painters, born during the nineteenth century, who were either natives of France or who worked there for substantial periods. This study of the careers of the painters who dominated the early development of modern art can provide a systematic basis for understanding when, and why, modern artists have made the contributions that have come to be seen as their most important.

The Sample of Artists

The purpose of this paper is to study the artists who created and developed modern art in France in the late nineteenth and early twentieth centuries. The goal in constructing the sample of artists to be studied was to select the most important painters who lived and worked in France during roughly the first century of modern art. This selection began by listing all artists who had at least one painting reproduced in three or more of six designated art history textbooks published

during the past three decades.⁵ The 29 artists included in this list who had been born in France from 1819-1900 were placed in the sample. Another eight artists on the list born outside France during the same period but who spent significant portions of their careers in France were added to the sample.⁶ Two groups of artists were then added to enlarge the sample in specific areas. One of these was made up of important painters from the generation immediately preceding the Impressionists; the eight artists in this group were born in France during 1796-1825.⁷ The second consisted of five artists who each participated in at least four of the eight group shows held by the Impressionists.⁸

The 50 artists thus selected are listed in Table 1. They include the central figures in a series of celebrated groups of French artists - the Barbizon School, the Impressionists, the Post-Impressionists, the Fauves, and the Cubists - as well as several key members of the Dada and Surrealist movements. Together they include all the major artists who dominated modern painting in France during the nineteenth century, and well into the twentieth. The total number considered, and their distribution over time, allow the possibility of finding shared patterns among members of particular cohorts, and changes in these patterns across cohorts.

Data and Econometric Analysis

The data analyzed in this paper are drawn from auctions of fine art held since 1970. The source of these data is the annual editions *Le Guide Mayer*, which compiles the results of art auctions held all over the world.⁹ *Mayer* classifies the works sold into five categories: prints, drawings, watercolors, paintings, and sculptures. This study collected the records of all sales for the 50 artists studied from the 28 annual editions of *Mayer* for auctions held during 1970-97, in

the two categories of watercolors and paintings. This yielded a total of 18,333 sales of individual works. For each painting in the data set, the coding for this study recorded the support (paper or canvas), size, date of execution, date sold, and price.¹⁰

For the econometric analysis, each painting sold constituted a single observation. Separate regression equations were estimated for each artist. The dependent variable was the natural logarithm of the sale price in dollars.¹¹ The principal interest of this study was in the impact on a painting's auction price of the artist's age at the time of its execution. To test for the best form for this relationship, five regressions were estimated for each artist, beginning with a linear specification, then adding successively higher order terms in age, up to a fifth degree polynomial. A binary independent variable was included to indicate whether the work was done on paper or canvas. The size of the work was controlled, using the natural logarithm of the surface area. Substantial fluctuations occurred in the art market during the period from which the data are drawn, and independent variables were consequently included to allow for the effect of the date at which the work was auctioned.

Regression Estimates of Age-Price Profiles

The estimated regressions for the 50 artists considered in the study are presented in the appendix. Of the five specifications estimated for each artist, the one reported is that which produced the best fit, as measured by the adjusted R^2 . For each case in which the variant reported is not simply linear in age, the table shows the results of an F test for the joint statistical significance of the estimated age coefficients.¹² Overall, age had a statistically significant effect on the value of an artist's work for 42 of the 50 artists considered. For these 42, Table 2 shows the

age at which the value of each artist's work peaked, as calculated from the estimated age coefficients shown in the appendix.¹³

With the artists listed in order of their birth dates, Table 2 shows a striking change over time. Eighteen of the artists included in the table were born before 1850. For 17 of these 18 (94%) the value of their work peaked above the age of 30; for 13 (72%), the value peaked at 40 or above. In contrast, for the 24 artists born after 1850, the value of the work of 17 (71%) peaked below the age of 40; for 9 (38%), their most valuable work was done during their 20s. The median age at which the peak value occurred was 44 for the 18 artists born before 1850, whereas the median age for the 24 born after 1850 fell to 35. Thus considering those artists for whom age statistically significantly affected the value of their work, only one of 18 of these born in the first half of the century did his best work before the age of 30, while nearly two-fifths of those born after 1850 did their most valuable work before they reached 30.

Looking at the earliest artists of Table 2 in more detail, six were born in 1825 or before. All of these had peak value ages above 40, with a median peak age of 51. In contrast, the median peak age for the 12 artists born during the 1830s and '40s fell to 42. Interestingly, six of these 12 artists had peak value ages of 40 or below - and were closely associated with each other, as members of what came to be called the Impressionist movement. The impact of their association on their peak ages will be considered below, but at this point it is relevant to note that the tendency for artists' peak value ages to decline across cohorts was present from the beginning of the period studied here.

To show the age-price relationships more fully, Figures 1-42 present graphically the full profiles implied by the regression estimates for all the artists for whom age was found to have

significantly affected price. For each artist, the relevant figure traces out the hypothetical auction prices of a series of paintings, of identical size, done in each year of the artist's career.¹⁴ A wide variety of shapes appear across artists, but the diagrams do point to a change over time. Among the most important of the early artists, Manet's profile rises throughout a long career; Cézanne's rises steeply for several decades early in his career, and again sharply to a peak in the last decade of his life. In contrast, the profiles of both Picasso and Braque fall almost throughout their long careers, from peaks in their mid-20s to their deaths, in both cases more than 50 years later. The latter phenomenon is perhaps the most distinctive feature of the change in these profiles over time: the pattern of extended decline of a profile from an early peak is virtually absent from the careers of artists born before 1850.

Market Values and Critical Evaluation

The econometric results thus provide evidence of a shift over time in the market valuation of artists' work over the course of their careers, as artists born late in the nineteenth century were more likely to produce their most valuable work at younger ages than were their predecessors. These results emerge from analysis of sales from art auctions. Yet the art market is often dismissed by art critics and historians as having little relevance to true art appreciation, with prices determined by wealthy collectors whose purchases are of no scholarly interest. Before evaluating the econometric results, an important question therefore concerns whether they represent the outcomes of decisions based on educated judgments. One way to answer this is to compare the results of the econometric analysis with the evaluations of art experts.

Systematic evidence on scholars' evaluations of when artists did their best work in the

form of explicit statements is elusive. For many artists this question has not been addressed directly. Even when it has, critics' judgments can be elliptical; and when unambiguous statements can be found, critics often disagree. Yet clear implicit evidence of scholars' judgments of when an artist's best work was done is available. Furthermore, this testimony is available from sufficiently large numbers of scholars to indicate whether a consensus exists in most cases.

This implicit evidence is provided in published surveys of art history. Whether monographs or textbooks, these books contain photographs of the work of leading artists, chosen to illustrate each artist's most important contribution, or contributions. Although no single book can be considered definitive, examining a number of books can serve to survey critical opinion. The decision in this study was to use all available recent books that surveyed all of the relevant period of art history. Although the specific purposes of these books vary, their scores of authors and co-authors include many of the most eminent art historians, critics, and curators of the recent past and the present, and the number of books consulted is sufficiently large that no important conclusion depends on the opinion of any one author, or any one book.

A total of 33 books were found that were published in English in the past 30 years, and that provide illustrated surveys of modern painting.¹⁵ A data set was created by listing every appearance of every painting reproduced in these books by any of the artists included in Table 2 who were born after 1825.¹⁶ There was a total of 1,976 reproductions for the 36 artists in this group. Based on this data set, for each artist Table 3 shows both the percentage of all illustrations of the artist's work that are of paintings done within 10 years of the estimated age of peak value from Table 2, and the age of the artist in the single year represented by the largest number of illustrations.¹⁷

For 22 of the 36 artists in Table 3 - just over 60% - three-quarters or more of the illustrations collected from the textbooks were of paintings executed within ten years of the age estimated to be that of the artist's most valuable work. In assessing these figures, the length of the artist's career is obviously important, for these percentages will necessarily be high for painters whose careers were short. Yet for example Braque's career - measured by his earliest and latest paintings sold at auction - spans a period of more than 50 years; not only were 93 of the 115 illustrations of his work of paintings done within 10 years of his estimated age of peak value, of 28, but the single age with the most illustrations is just one year later, at 29. Similarly, 56 of the 74 Renoirs illustrated date from within 10 years of his estimated peak age of 35, and the single year most often represented by the reproductions is that same year.

For another five artists in Table 3, from half to three-quarters of the illustrations represent work done within ten years of their estimated ages of peak value. As in the cases of Braque and Renoir, several of these were major figures with long and varied careers, resulting in frequent discussions in the textbooks, with accompanying illustrations, of how their work developed over time. Monet and Picasso are obvious examples. Monet's three important periods - his early Impressionist breakthrough of the late 1860s and early `70s, the series paintings of the `90s, and the water-lilies done after 1900 - are all commonly illustrated, but in spite of this nearly threefifths of all the illustrations of his work surveyed fall within 10 years of his estimated age of peak value at 29. Similarly, Picasso's long career is notable for a number of major innovations, and his paintings are more often illustrated than those of any other artist studied here, but the single year of his career represented by the most reproductions is age 26, the same year his work is estimated to peak in value.

Another six artists in Table 3 had between one-quarter and one-half of all the illustrations of their paintings represent work done within ten years of their age of peak value. Three of these were very important artists, each with more than 50 illustrations. Cézanne had only 54 of 136 total illustrations fall within ten years of his peak value at age 67. Yet this is again a result of the importance and length of his career, as many texts provide illustrations that document the development of his technique over time. However his age of peak value is also that of his most important work, as more illustrations - 31 of the total of 136 - date from the final year of his life than from any other. For Manet, only 38 of a total of 128 illustrations date from within ten years of his age of peak value of 50. His case is interesting, for textbook treatments of his career are to a great extent dominated by three remarkable paintings. Together these three account for 42% of his total illustrations. Two - the *Déjeuner sur l'herbe* and the *Olympia* - were completed in 1863, while the third - the *Bar at the Folies-Bergère* - was his last major painting, done in 1882. The first two were done during the period in the early 1860s that one student of his work characterizes as his "anni mirabiles," that "established Manet's reputation as the leader of a new generation," while the third marked the culmination of the period after 1870 that another Manet scholar regards as that of "his enduring contribution to modern art."¹⁸ The significance of Manet's work was extremely controversial in his time, and continues to be controversial today.¹⁹ In view of this, it is perhaps not surprising that there is less scholarly consensus on the relative importance of the phases of his career than is the case for other artists. Miró also produced important work over an extended period. As a result, only 26 of his 64 total illustrations fall within ten years of his age of peak value.

Finally, for three artists Table 3 shows that less than one-quarter of their illustrated

paintings date from within ten years of their ages of peak value. Two of these, Bonnard and Rouault, are not among the most important artists considered in this study. Thus Table 3 shows that neither is among the leaders in total illustrations. Figures 22 and 25 show that for both there is also relatively little variation with age in the value of their work. And for neither does the distribution of the dates of the paintings illustrated show a sharp peak. For these reasons, for these two artists the apparent disagreement between the market and the scholarly evaluations does not seem troubling. Yet none of these qualifications applies to the third artist in this category. Matisse's total illustrations, 169, are second in number in this study only to Picasso. Figure 24 shows that his work varies substantially in value with age. And the textbook illustrations reveal a clear critical consensus that his most important work was done much earlier in his career than his age of peak value at 66. Thus 105 of his illustrations - 62% - are of paintings done in the ten years after 1903, an extraordinary period in which he moved through Neo-Impressionism to become the recognized leader of the Fauves. His case is clearly the greatest single discrepancy between market and critical evaluations. Yet it might be noted that although Matisse's most celebrated innovations were produced early in his career, critics have remarked on the appearance of important developments throughout his career, including the later stages.²⁰

In general, the auction market appears to produce valuations of work over the course of artists' careers that are similar to the evaluations of scholars. The agreement tends to be clearest in the cases of artists whose careers were dominated by one important achievement. But it also appears for most of the major artists who had a number of important achievements over the course of long careers, as the text illustrations track their development over time, but usually agree with the market on the single most important period. Among major artists, only for Matisse

is there a strong disagreement between the two sources. The general agreement of the scholarly evaluations with those of the market valuations heightens the interest in explaining the patterns produced by the age-price profiles.

The Question

The shift described above in the careers of nineteenth-century artists has been noticed in part by art historians, if only because of the remarkable achievements of some major Post-Impressionists in spite of their early deaths. Thus for example the historian John Rewald made this observation in the introduction to his biography of Georges Seurat:

Seurat, van Gogh, Lautrec: three glorious names in the art of the dying nineteenth century, three industrious lives broken at the height of their élan. When van Gogh committed suicide in 1890 he was thirty-seven years old. When in 1891 Seurat suddenly died he was only thirty-one. Lautrec burnt himself out in 1901 at the age of thirty-seven. Despite their youth all three achieved what Cézanne called <u>realization</u>, giving their full measure at an age when others are still seeking.²¹

The puzzle this raises, of how the accomplishments of these three artists were possible at such early ages, is an intriguing one. As noted earlier, Cézanne produced the work that became his greatest legacy only in his later 50s and 60s. Similarly, a critic would write of one of his greatest contemporaries that "Degas' career offers strong proof of the fact that a painter must live long to live forever."²² Yet instead of pursuing the question posed by his observation, Rewald dismisses the issue: "As if recognizing that they had only a few years in which to express themselves, they passed by the halting places without stopping, reached maturity speedily and left us the fully achieved work which bears the ringing message of their genius."²³ The question of how it was

possible for Seurat and his contemporaries to become so important to the development of modern art at such early ages, in sharp contrast to such earlier artists as Cézanne and Degas, remains unanswered - not only by Rewald, but by art historians in general. And this question looms even larger for those who follow the course of art history further in time, as Picasso, Braque, and others later would again revolutionize modern art when even younger than Seurat, van Gogh, and Lautrec had been at the time of their greatest contributions.

Although art historians have occasionally noted their awareness of the shift described above in the careers of nineteenth-century artists, none has analyzed it systematically. Yet it appears that the central elements of an explanation for the shift can be drawn from existing studies by critics and historians, and from the testimony of the artists themselves. These elements, which involve changes over time in the nature of painting and in the market conditions facing artists, appear to provide a convincing answer to this puzzling question.

The Growing Demand for Innovation in Modern Painting

The story of the early development of modern art in nineteenth-century France is a familiar one, often told by art historians. Basic to this story is a series of changes during the second half of the nineteenth century in the institutional setting of fine art: the declining importance of the Ecole des Beaux-Arts as a training place for aspiring artists; the concomitant decline of the official Salon as the showplace for fine art, with a resulting decline in the power of its jury of selectors to enforce the tradition-bound standards of the Académie de Peinture et Sculpture; and the rise of the dealer-critic system, with independent private dealers competing for the custom of both artists and clients, and critics competing for distinction by championing individual artists, or groups of artists, and thus bringing them to the attention of the rising numbers of middle-class collectors.²⁴ These institutional changes contributed to a transformation of the ways in which many painters conceived of art, and in the ways in which they produced their work. The element of this transformation that appears to have been of greatest significance for the question posed in this study is the growing importance of innovation in painting. This development can most tellingly be chronicled through the language of contemporary art critics.

Perhaps the single most important critical statement, generally considered the first declaration of the modern revolution, was an essay published by the poet and critic Charles Baudelaire in 1863.²⁵ Writing in praise of *The Painter of Modern Life*, Baudelaire challenged the Academy's insistence on the superiority of paintings with historical themes, declaring that "The pleasure which we derive from the representation of the present is due not only to the beauty with which it can be invested, but also to its essential quality of being present." In a formulation that would become a manifesto for many young artists, Baudelaire asserted that the painter of modern life was in search of "modernity" [by which] I mean the ephemeral, the fugitive, the contingent, the half of art whose other half is the eternal and the immutable." This search implied a redirection of artists' efforts: "It is doubtless an excellent thing to study the old masters in order to learn how to paint; but it can be no more than a waste of labor if your aim is to understand the special nature of present-day beauty."²⁶

Other critics soon followed Baudelaire's lead, with increasingly explicit statements of the value of developing new techniques to portray modern life. In 1867, the novelist and critic Emile Zola drew a parallel between modern science and art. In an article about Edouard Manet, Zola called the artist "a child of our times. To me he is an analytical painter. Since science required a

solid foundation and returned to the exact observation of facts, everything has been called in question. This movement has occurred not only in the scientific world. All fields of knowledge, all human undertakings look for constant and definite principles in reality. Our modern landscape painters have far surpassed our painters of history and genre because they have studied our countryside, content to set down the first edge of a wood they come to. Manet applied the same method in each of his works. While others rack their brains to paint a new *Death of Caesar* or a new *Socrates Drinking the Hemlock*, he calmly poses figures and objects in his studio and starts to paint...²⁷

To a growing number of critics, innovation increasingly became a central criterion for importance among the emerging group of painters, of whom Manet was considered a leader. In 1870, Théodore Duret wrote that "We can now relish Manet ... for what in his work is excellent and novel ... [H]e is an innovator, one of the rare beings who has his own view of nature."²⁸ Similar terms appear in a pamphlet written in 1876 by Edmond Duranty, who praised Manet for having "repeatedly produced the most daring innovations," embodied in "works full of depth and originality standing apart from all others." Referring more generally to the group of artists who were currently exhibiting their work at the Durand-Ruel gallery, Duranty declared that "the battle really is between traditional art and the new art, between old painting and the new painting."²⁹ In the same year the poet Stéphane Mallarmé published an appreciation of the Impressionists. Mallarmé singled out Manet as the leader of the group, and praised him for both his technique and his choice of subjects. Mallarmé took Manet's *Olympia* as a laudable example of a subject chosen under this "influence of the moment," and remarked on the result of its unconventional content: "Rarely has any modern work been more applauded by some few, or more deeply damned by the many, than was that of this innovator." Concerning the Impressionists as a group, Mallarmé concluded that "honor is due to those who have brought to the service of art an extraordinary and quasi-original newness of vision," and he concluded that "Impressionism is the principal and real movement of contemporary painting."³⁰

During the 1880s and `90s, praise for artists as innovators became commonplace. In 1880 the novelist and critic J. K. Huysmans described Degas as "the greatest artist we possess today in France," and recalled his first sight of Degas' work: "A painter of modern life had been born, moreover a painter who derived from and resembled no other, who brought with him a totally new artistic flavor, as well as totally new skills."³¹ In 1887 the critic Félix Fénéon criticized Impressionism - which was already coming under attack as outdated - for its haphazard technique, declared that within the past two years, "Impressionism has come into possession of this rigorous technique. M. Georges Seurat was its instigator. The innovation of M. Seurat ... is based on the scientific division of the tone."³² And in 1892 a young symbolist writer, Albert Aurier, stated that "Paul Gauguin seems to me to be the initiator of a new art."³³ The regularity of these declarations linking importance to novelty has led one scholar to characterize the Paris art world of the 1880s as "competitive, aggressive, swept by the demand that artists come up with something new or perish."³⁴

Artists clearly felt this pressure of the demand for innovation and novelty. In 1887 Pissarro reported that Seurat was reluctant to exhibit his work for fear that others would copy him.³⁵ The following year another member of the Neo-Impressionist group, Signac, was angered by an article that praised Seurat as the originator of the style, then added that he "sees his paternity of the theory contested by misinformed critics and unscrupulous comrades." Seurat's response to Signac disavowed responsibility for the accusation, and elaborated his fears as he described his interview with the journalist: "I have never told him anything but what I have always thought: the more numerous we are, the less originality we shall have, and the day when everybody uses this technique, it will no longer have any value and one will look for something else as has already happened." The young master then added: "It is my right to think and to say so, since I paint in this way only in order to find something new, an art entirely my own."³⁶

The artists' perception of the persistent demand for novelty appears in the form of frustration as well as anxiety. When Albert Aurier wrote an article in 1890 praising van Gogh as "the only painter who perceives the coloration of things with such intensity," and describing him as a symbolist who "considers this enchanting pigment only as a kind of marvelous language destined to express the Idea," the artist wrote to Aurier in embarrassment, avowing his debt to other painters, and expressing his discomfort at what he considered critics' exaggerated differentiation among artists: "You see, it seems to me so difficult to make a distinction between impressionism and other things; I do not see the necessity for so much sectarian spirit as we have seen in the last years; in fact I fear its absurdity."³⁷ In 1895 Pissarro, who had had a great impact on Cézanne's early development, complained to his son of the oversimplification of a critic's praise for Cézanne : "He simply doesn't know that Cézanne was influenced like all the rest of us, which detracts nothing from his qualities." Pissarro was irritated by critics who "imagined that artists are the sole inventors of their styles and that to resemble someone else is to be unoriginal."³⁸ In an essay written in 1902, Paul Gauguin expressed similar feelings: "At an exhibition in London, one sagacious critic wrote: 'Monsieur Degas seems a good pupil of Nittis!' Doesn't this reflect that mania which men of letters have for squabbling in court over who had a

given idea first? And the mania spreads to painters who take great care of their originality ..."39

Comparisons that glorified the innovations of young artists at the expense of the old clearly hurt those who were aging. In 1896, the 66-year-old Pissarro reported to his son the opening of a show of his recent paintings: "All my friends say the exhibition is very beautiful." He then added: "Degas told me that no matter what the 'great masters' of the youth, who treat us as dolts, say, we still have the upper hand." Later he complained that "The yap of *La Revue Blanche* [a symbolist periodical] seems hostile to me, it is the organ of the new generation."⁴⁰

The growth of a new class of art galleries dealing in contemporary painting has also been identified as a stimulus for young artists to innovate, in order to differentiate their work in the hope of gaining a following of collectors. Unlike the annual Salon run by the Academy, which showed the work of hundreds of artists, private dealers would invest in the paintings of individual artists and show them to best advantage. For young painters who worked within the Academic system, the progress of their careers would necessarily be slow, not only because their work had to be acceptable to the conservative Salon jury, but also because the enormous size of the Salon exhibition generally prevented the one or two entries of a young painter from receiving much attention.⁴¹ In contrast, a one-man show at a private gallery held out the possibility of making the public familiar with an artist's work much more rapidly. In an influential study, Harrison and Cynthia White stressed that the new private dealers could offer artists a series of benefits: visibility, publicity, purchases, a more steady income, and social support.⁴²

Yet the impact of the new system of private dealers on the careers of artists in the nineteenth century should not be exaggerated. The number of private dealers was very small, and grew slowly in the late nineteenth century, so few artists appear to have benefited from

competition among dealers. In one example, John Rewald quotes a series of excuses the dealer Paul Durand-Ruel made to Pissarro during 1883-84 for his lack of sales, then comments: "Durand-Ruel could hardly expect his painters to subsist on these complaints, and as a matter of fact they often threatened to abandon him, only to return to the realization that no other dealer or collector was willing to offer them even the few francs Durand-Ruel still managed to send."43 And in 1891 Pissarro still complained to his son that Durand sold none of his work: "If anyone else were available, I would unhesitatingly turn to him, but there is nobody."⁴⁴ Durand-Ruel, who took over his father's gallery in 1865, was the most important dealer in the decades that followed, and his gallery did become a source of considerable success for a number of artists. But this success came slowly, as Durand initially concentrated on the work of the older, Barbizon School painters, and only began to represent the Impressionists after 1870. Durand did not find regular markets for their work until after 1880, and even then sales were poor, and other galleries few. Thus when Vincent van Gogh arrived in Paris as an aspiring artist in 1887, he reported of the art market that "Trade is slow here. The great dealers sell Millet, Delacroix, Corot, Daubigny, Dupré, a few other masters at exorbitant prices. They do little or nothing for young artists. The second class dealers contrariwise sell those at very low prices."⁴⁵ Three years later, the work of the new artists still received little interest from the major dealers. In 1890, distraught at the suicide of his brother Vincent, Theo van Gogh resigned from his job with the gallery of Boussod & Valadon, one of Durand-Ruel's few competitors. The gallery's owner subsequently complained that Theo had "accumulated appalling things by modern painters which had brought the firm to discredit." Theo's inventory included works by Pissarro, Degas, Monet, Redon, Guillaumin, Gauguin, and Lautrec, but Boussod claimed only Monet's paintings could be sold.⁴⁶

One problem slowing the progress of private galleries was a widespread suspicion of their commercial motives, which resulted in distaste for their activities. The Salon had long been the source of respectability and legitimacy for artists' work, and this traditional belief in the importance of large-scale group shows lay behind the Impressionists' decision to create a société anonyme (joint stock company) to present their work in the group exhibitions they began in 1874, instead of relying on private dealers.⁴⁷ As late as 1883, Pissarro reported to his son that Monet's new show at Durand's gallery, "which is marvelous, has not made a penny." He attributed this to the consequences of the commercial setting: "The newspapers, knowing that a dealer is behind it, do not breathe a word." He concluded that it was "a poor idea to have one-man shows."⁴⁸

The small size of the market for paintings controlled by galleries, and the caution of dealers in choosing artists to represent, meant that few young artists were significantly affected by the new system of private galleries during the nineteenth century.⁴⁹ Eventually this would change, as the growing number of galleries committed to the sale of contemporary art could provide even young artists with the opportunity to gain early economic success. The first modern artist who would gain both fame and fortune in Paris almost exclusively through shows at private galleries was the young Spaniard Pablo Picasso, who had his first Paris gallery show in 1901, at the age of twenty.⁵⁰ Picasso's precocious artistic genius was complemented by a shrewd business sense that led him to take advantage of competition among dealers throughout his career, and in his case early artistic innovation may have been influenced by market outcomes.⁵¹ Thus later in his life Picasso suggested that his radical departure into Cubism in 1907 might have been affected by his earlier success, which he called his "protective wall": "The blue period, the rose period - they were the screens that sheltered me ... It was in the shelter of my success that I was able to do

what I wanted to do."⁵² But although the private gallery system might later become a powerful influence on artists' careers, its slow early development appears to have made its effect much smaller in the nineteenth than in the twentieth century.⁵³

Changes in Artists' Careers: An Explanation

The growing emphasis placed on innovation as a central criterion for the importance of new art after mid-century appears to have given rise to a changing conception of painting that allowed artists to make significant contributions at progressively younger ages. Throughout the first half of the nineteenth century the dominant method of training artists, in which young artists were effectively apprenticed to masters who were members of the Academy, reflected a conception of painting as essentially a skilled craft. The training process, which consisted of repetitious copying and execution of assigned canonical subjects, was based on the assumption that excellence in painting came from practice and imitation. The hierarchical organization of the Academy, which largely controlled the supply of new paintings to the French market for fine art, equally demonstrated a belief in the value of experience to painters: members of the Academy were elected for life, with an average age at entry above 50, and an average term of service of 25 years.⁵⁴

Although few painters in this study were born before 1830, the evidence for those few is generally consistent with the idea that an artist's mature work was his best: the earliest peaks in value occur for Boudin, Jongkind, and Millet, when they were in their mid-40s, while the peak values for Delacroix, Daumier, and Daubigny occur from 50 to 60. Even Manet, often considered the first modern painter, has a peak value at 50, at the end of his remarkable career. Although

Manet's work was revolutionary in many ways, and he was widely regarded as the inspirational leader of the new painters who began to gain attention during the 1870s, the deviation of his painting from accepted norms was tempered by his continued commitment to the Academic system. A friend quoted him as saying "The Salon is the true field of battle - it is there that one must measure oneself."⁵⁵ He declined ever to participate in the group shows organized by the Impressionists, and instead continued to submit his work to the Salon, in spite of its famous rejection of his *Déjeuner sur l'herbe* in 1863.⁵⁶ After his death, Pissarro remarked sadly that "Manet, great painter that he was, had a petty side, he was crazy to be recognized by the constituted authorities, he believed in success, he longed for honors …"⁵⁷

Although Manet remained traditional in his attitudes toward the institutions of fine arts, the innovations he made in his painting, including his rejection of historical subjects in favor of the modern and his abandonment of the conventional use of shadow in modeling, pointed the way toward a modern art that would portray contemporary scenes and that would progressively deemphasize the importance of illusionistic representation.⁵⁸ During the late 1860s and `70s the Impressionists added their own innovations, which included not only changes in their approach to painting and in the visual results they achieved, but also changes in the way art would be presented to the public.

One of the Impressionists' most interesting innovations was in the organization of the way painters learned and worked. During the 1860s, the core group of Impressionists functioned very much like participants in a modern scholarly research project. Monet, Renoir, Sisley, and Bazille had become friends when all were students in the studio of Charles Gleyre. When Gleyre closed his studio in 1864, the group chose to work on its own. With Monet as the informal leader, for a

number of years these four often worked with each other, sometimes joined by other artists, including Monet's mentors Boudin and Jongkind, and occasionally Courbet, Pissarro, and Whistler.⁵⁹ Working together was of course not a new custom for artists; the Barbizon painters had worked side by side, and the Ecole des Beaux-Arts had long organized artists into groups in studios.⁶⁰ But the Impressionists worked together as equals, unlike in the Academy's apprenticeship system of master and pupils, and their attitude toward their enterprise appears to have differed from that of the Barbizon School. Thus a historian of the Barbizon painters notes that although they gained social and professional support from their contact with each other, they did not generally seek artistic advice.⁶¹ In contrast, the Impressionists actively debated artistic goals and techniques, and stressed the value of the group as a source not only of companionship and support, but also of learning. So for example in 1864 Monet wrote to admonish Bazille: "What I'm certain of is that you don't work enough, and not in the right way ...[A]ll alone, there are some things that one cannot fathom." Later the same year Monet again scolded Bazille for his absence: "There are a lot us at the moment in Honfleur ... Boudin and Jongkind are here; we are getting on marvelously. I regret very much that you aren't here, because in such company there's a lot to be learned."⁶² The Impressionists' belief that the group could help them succeed individually led eventually to their establishment of the famous group exhibitions, beginning in 1874, which they designed as an alternative to the official Salon for the display of their work to the public.⁶³

The Impressionists were critical of the teachings of the Ecole des Beaux-Arts,⁶⁴ and they rejected the judgments of their work made by the jury of the Salon.⁶⁵ Yet although Monet and his friends consciously set out to change modern painting, like others of their generation they still had

a traditional conception of art that led them to distrust rapid change, and to believe that valuable achievements could be made only slowly and incrementally, as a result of long periods of study and experimentation. Monet believed that progress in art was possible only with total commitment and long hours of work. Even as late as 1890, at the age of 50, he described painting as "a continual torture," and reported to a friend: "I am working at a desperately slow pace, but the further I go, the more I see I have to work a lot in order to manage to convey what I am seeking: 'instantaneity,' above all, the envelopment, the same light spread over everywhere; and more than ever, easy things achieved at one stroke disgust me."⁶⁶ Renoir shared this ethic: in 1881 he complained to Durand-Ruel that "I wanted to send you a mass of pictures ... But I am still bogged down in experiments - a malady. I'm not satisfied, so I clean things off again and again." But he did say that although he'd bring few paintings back from his current trip abroad, "I think I shall have made some progress, which always happens after experimenting for a long time."⁶⁷

The innovations of the Impressionists were consequently based on experimentation, motivated by esthetic criteria: in Monet's celebrated formulation, "it is by dint of observation and reflection that one makes discoveries," and his career was an extended effort to capture the elusive visual effects of "the weather, the atmosphere, the surroundings."⁶⁸ But the Impressionists' most productive experiments occurred only after Monet had made a bold conceptual innovation. Later in his life, he recalled that in 1867, owing to his desire not to lose the transient effects of light and atmosphere by working in the studio, he began to work entirely outdoors: "I threw myself body and soul into the *plein air*."⁶⁹ Although starting paintings outdoors was not uncommon among the Barbizon painters and others, including Boudin and Jongkind, and even executing entire paintings outdoors was not unprecedented, Monet's decision to work entirely in the open air marked a new departure.⁷⁰ Looking back on his decision, Monet remarked that "It was a dangerous innovation. Up to that time no one had indulged in it, not even Manet, who only attempted it later, after me. His painting was still very classical and I still recall the contempt that he showed for my beginnings. It was in 1867; my manner had shaped itself, but, after all, it was not revolutionary in character. I was still far from having adopted the principle of the subdivision of colors that set so many against me, but I was beginning to try my hand at it partially, and I was experimenting with effects of light and color that shocked accepted customs."⁷¹

The abruptness of the decision to work entirely outdoors, as well as Monet's complete commitment to it, mark it not as a tentative, experimental innovation, but as a conceptual one, born of conviction. Yet this decision in itself did not constitute an artistic breakthrough: as Monet noted, the results he had achieved in his art were not yet revolutionary. The Impressionists' artistic breakthrough came later, after several years of additional experimentation with the "effects of light and color," by Monet, Bazille, Renoir, Sisley, and Pissarro. The 1870s became the triumphant decade of Impressionist painting, and historians generally attribute this to a breakthrough eventually made by Monet and Renoir during the summer of 1869, which they spent painting together at a riverside café near Paris. Kenneth Clark called that café, La Grenouillère, " the birthplace of impressionism," as the friendship of Monet and Renoir became "one of those conjunctions ... from which new movements in the history of art are often born." Their novel treatment of "the sparkle and reflection of light on water" led to a new technique so powerful "that it not only captivated sympathetic spirits like Sisley and Pissarro, but imposed itself on

painters to whom it was quite alien," as even Manet, Gauguin, and van Gogh were lured into experiments with Impressionist methods. For Clark, during the late 1860s and early '70s, Monet, Sisley, and Pissarro "achieved the most complete naturalism that has ever been made into art." ⁷²

Table 2 shows that within a brief period the members of this core group of Impressionists all produced what would be their most valuable work: Monet's work reached its peak value in 1869 (when he was 29 years old), Sisley's in 1874 (at age 35), Pissarro's in 1875 (at 45), and Renoir's in 1876 (at 35). The value of the work of two other close followers also reached a peak in this same period - Morisot in 1874 (at age 33), and Guillaumin in 1876 (age 35). In view of the central place of Impressionism in the history of nineteenth-century modern art, it is perhaps not surprising that the careers of those closest to the school's most distinctive breakthrough were greatly affected by it, and most of all that of Monet, who is generally given the greatest credit for the breakthrough. Monet's determination coupled with his enduring commitment to an experimental approach motivated by observation would lead him to make other important contributions in his long and productive career, including the famous series paintings of the 1890s and the paintings of waterlilies done in Giverny after 1900.⁷³ But arguably none of these later innovations would be as important for the development of modern painting as his first discovery, which resulted in his being set apart in this study as the only artist born before 1850 to produce his most valuable work before the age of 30.

Cézanne was a contemporary of Monet, and the only member of the cohort who would eventually have a greater impact on the development of modern art. Cézanne failed the entrance exam for the Ecole des Beaux-Arts, but he did paint in Paris as a young man.⁷⁴ He was influenced by the early discoveries of the Impressionists, which he learned about mainly from Pissarro in the

early 1870s.⁷⁵ His submissions to the official Salon were consistently rejected during the 1860s and '70s, and after exhibiting in the Impressionist group shows in 1874 and 1877, he chose not to join them thereafter. From the 1880s, Cézanne became increasingly reclusive, choosing to work alone in his native Provence, "in silence until the day when I should feel myself able to defend theoretically the result of my attempts."⁷⁶ Like Monet, Cézanne was committed to a conception of art in which progress could come only slowly, as the result of extensive experimentation and careful observation of nature. A biographer, Roger Fry, wrote of Cézanne that "For him, as I understand his work, the ultimate synthesis of a design was never revealed in a flash; rather he approached it with infinite precautions ... For him the synthesis was an asymptote toward which he was forever approaching without ever quite reaching it; it was a reality, incapable of complete realization."77 Throughout his long career, Cézanne expressed frustration at his inability to achieve what he called realization in his art. In 1903, at the age of 64, he wrote "I have made some progress. Why so late and with such difficulty?" The following year: "I progress very slowly, for nature reveals herself to me in very complex ways; and the progress needed is endless." In September, 1906, the month before his death, he wrote to his son that "as a painter I am becoming more clear-sighted before nature, but ... the realization of my sensations is always painful. I cannot attain the intensity that is unfolded before my senses. I have not the magnificent richness of coloring that animates nature." Later the same month he wrote to the young painter Emile Bernard: "Will I ever attain the end for which I have striven so much and so long? I hope so ... I am always studying after nature and it seems to me that I make slow progress."⁷⁸ Cézanne's painting began to have a profound impact on the course of modern art late in his life, and its influence became enormous after his death, when the innovations of the last decade of his

life became the primary inspiration for Cubism.⁷⁹ In his approach, Cézanne epitomized the experimental artist, developing his work incrementally, based on esthetic criteria. His art is recognized by art historians as a "model of steadfast searching and growth" that continued to the very end of his life.⁸⁰ This is clearly reflected by the market, as his most valuable work is that done at the end of his long career.

The other major artist who consistently exhibited in the Impressionist group shows was Edgar Degas. Unlike Monet and Cézanne, Degas was not committed to open-air painting, or to studying nature; indeed he was quoted as saying that "the study of nature is of no significance, for painting is a conventional art, and it is infinitely more worthwhile to learn to draw after Holbein."⁸¹ Although he studied only briefly at the Ecole des Beaux-Arts, he was not hostile toward Academic technique or methods of instruction. Among living artists he most admired the dominant Academic painter of the time, Ingres, and he endorsed the Ecole's emphasis on imitation: to learn his craft a painter "must copy the masters and recopy them, and after he has given every evidence of being a good copyist, he might then reasonably be allowed to do a radish, perhaps, from Nature."⁸² Degas did not share Cézanne's interest in landscape, preferring instead to paint interior scenes, often with ballerinas or female nudes, but he did share the belief that progress could be made only slowly: "No art was ever less spontaneous than mine. What I do is the result of reflection and study of the great masters; of inspiration, spontaneity, temperament ... I know nothing."⁸³ Degas also resembled Cézanne in his belief in the value of repetition of the same subjects; "one must redo ten times, a hundred times the same subject."⁸⁴ Although Degas arrived at radical innovations in the use of materials and the representation of space, his conception of art as governed by convention clearly molded his approach, for he proceeded

incrementally, according to aesthetic criteria. His most acclaimed work was done later in his career. Figure 9 shows that his work rose sharply in value to a peak at age 46, and remained quite high from then until the end of his life.

The next group of artists chronologically, who came to maturity in the 1880s and '90s, was dominated by Gauguin, van Gogh, Seurat, and Toulouse-Lautrec. Their work marked a sharp break with that of their immediate predecessors. The innovations of the Impressionists and Cézanne were driven by visual criteria: Monet's stated belief in the need to observe nature, and Cézanne's repeated insistence on the importance of studying nature, clearly reveal their goals of using paint to capture visual sensations. In contrast, the innovations of the young artists who followed them derived from a very different source. That it was possible for these artists to make great contributions in spite of the brevity of their careers appears to stem directly from the fact that their approach was neither visual nor experimental. Instead, these painters made breakthroughs that were conceptually motivated, as increasingly color and form were used to symbolize nature rather than to describe it. One consequence of this change was that innovations could be made more quickly, for the painstaking experimental approach that Monet and Cézanne had devised for capturing visual appearances was not deemed necessary for the expression of ideas, thoughts, or emotions.

Seurat's inspiration came from science. As a student at the Ecole des Beaux-Arts, he began to read scientific treatises on the visual perception of colors, and he became fascinated by the proposition of one aesthetician that "Color, which is controlled by fixed laws, can be taught like music."⁸⁵ In seeking to put into practice the principles embodied in these laws, he and his followers - a group to which critic Félix Fénéon gave the name of Neo-Impressionists - criticized

Impressionism for its rejection of "all precise scientific methods."⁸⁶ In the words of a critic who admired Seurat, he "wished to make of painting a more logical art, more systematic, where less room would be left for accidental effect. Just as there are rules for technique, he wanted them also for the conception, composition, and expression of subjects."⁸⁷ At the age of 25, based on his understanding of color theory, Seurat systematically and methodically set out to produce a masterpiece that would serve as a manifesto for his approach. After two years of painstaking work, he completed a painting more than 65 square feet in size that his disciple Paul Signac could fairly call "an epoch-making picture."⁸⁸ Sunday Afternoon on the Island of the Grande Jatte. completed when Seurat was just 27, is probably the single most often reproduced painting made in the nineteenth century.⁸⁹ In the few years that remained in his life after completing it, Seurat searched for a "logical, scientific, and pictorial system ... to coordinate the lines of a picture towards harmony just as I am able to coordinate colors."90 Henri Matisse later stated that Seurat's achievement was "the great innovation of that day."⁹¹ That Seurat could accomplish this in spite of his premature death appears to be a consequence of the conceptual basis of his innovations: in the words of Pissarro, who for a time in the late 1880s became a disciple of Seurat, for the Neo-Impressionists, "As far as execution is concerned, we regard it as of little importance: art, as we see it, does not reside in the execution."92

The belief that the ideas embodied in a painting were more important than representing visual perceptions of nature was also used during the 1880s and '90s to support the very different approach of the symbolist artists, of whom Gauguin and van Gogh became the most prominent. Gauguin became committed to painting only in 1883, at the age of 35, when he resigned his job in the stock exchange. His professional income had allowed him to buy paintings by the leading

Impressionists, and his interest in them led him to study with Pissarro. Although Gauguin was a good pupil, Pissarro was troubled by his eagerness to sell his work as he embarked on his new career. Thus Pissarro wrote to his son in 1883: "Gauguin disturbs me very much, he is so deeply commercial ... I haven't the heart to point out to him how false and unpromising is his attitude."93 Gauguin did gain influence quickly in the art world, if not commercial success, but he did it by rejecting Impressionism. Within only a few years he had become the leader of a group of young symbolist painters who worked in the town of Pont-Aven, in Brittany. Pissarro, who distrusted rapid success, acknowledged Gauguin's achievement but questioned its source: in 1887 Pissarro wrote to his son that "it must be admitted that he has finally acquired great influence. This comes of course from years of hard and meritorious work - as a sectarian!"⁹⁴ Pissarro remained skeptical about Gauguin's success, telling his son in 1891 that "Gauguin is not a seer, he is a schemer."⁹⁵ Yet in 1891 Gauguin was hailed by the symbolist critic Albert Aurier as "the initiator of a new art." Aurier declared that "The normal and final goal of painting, as of all arts, cannot be the direct presentation of objects. Its ultimate goal is to express Ideas." Toward this end the artist had the duty to avoid illusionism, and the right "to exaggerate, to attenuate, to deform ... according to the needs of the Idea to be expressed."⁹⁶ Gauguin's most valuable works were done in the years immediately before and after Aurier's declaration, both in Pont-Aven and in Tahiti, where he went in 1891 in search of a simpler and more primitive way of life. His rejection of naturalism and his use of color to evoke emotion influenced many painters of the next century, and the conceptual simplification of his art allowed him to achieve this within his brief career. Gauguin did not believe in the painstaking approach of the Impressionists. In contrast to their belief that dedicated effort might lead to slow progress, Gauguin's advice to a fellow painter was:

"Go on working, freely and furiously, you will make progress ... Above all, don't perspire over a picture. A strong emotion can be translated immediately." In a slighting reference to Degas' painstaking technique, he declared "I am not going to spend my life rubbing pumice stone over an inch of canvas during five sittings of a model." And he advised "don't paint too much direct from nature. Art is an abstraction!"⁹⁷

Van Gogh's career as an artist lasted barely a decade, from his decision in 1881 to be a painter, after failed careers as an art dealer and pastor, to his suicide in 1890, at the age of 37. He was a self-taught painter, and his greatest work was done after his arrival in France, during the last four years of his life. In his first two years in France, in Paris, he assimilated modern art at an extraordinary rate, before leaving in 1888 for the quieter setting of Arles. His most celebrated and most valuable - work was done in the two years that followed. The eloquent descriptions of his work in his letters clearly state his goal of expressing emotion rather than describing nature. Thus for example as he described his famous 1888 painting of the Night Café in Arles, "It is color not locally true from the point of view of the ... realist, but color suggesting some emotion of an ardent temperament." His goal in the painting was "to express the terrible passions of humanity by means of red and green." Later he added "I have tried to express the idea that the café is a place where one can ruin oneself, go mad, or commit a crime."⁹⁸ Van Gogh's position that "instead of trying to reproduce what I have before my eyes, I use color more arbitrarily in order to express myself forcibly,"⁹⁹ which endeared him to the same critics who praised Gauguin,¹⁰⁰ would also make him an inspiration to many artists of the next century. That he could produce works that would have such far-reaching influence so soon after his first exposure to modern art is again a clear consequence of the conceptual basis of his art: the powerful emotion that distinguishes his

late works required neither long periods of experimentation nor extended observation.

Of the 18 artists in the sample who were born after 1870, more than two-thirds did their most valuable work before the age of 40, and one-third did their most valuable work while still in their twenties. Two of the latter - Vlaminck and Derain - were painters whose best work was done while they were members of the Fauves. Led by Matisse, the Fauves were a small group who produced paintings distinguished by bright, anti-naturalistic color, a flattened picture surface, and crude, visible brushwork. Their style came into existence quickly, it was practiced intensively only briefly, during 1904-07, and it was then largely abandoned by most of those involved. Given these characteristics, and the youth of Vlaminck and Derain at the time, it is not surprising that the art had conceptual origins. When André Gide first saw Matisse's work in this style, he described it as "the product of theories. Everything in it can be deduced, explained; intuition has no place in it ... Yes, this sort of painting is certainly rational."¹⁰¹ Fauvism did not derive from observation, but from thought. As Derain later admitted, "We painted with theories, ideas."¹⁰²

More important among the artists of this period whose age-price profiles reached early peaks are Georges Braque, Juan Gris, and the most dominant figure in the painting of the twentieth century, Pablo Picasso. These three were the creators of Cubism, generally considered the most influential single development in twentieth-century art. Just as Cézanne can serve as the archetype of the visually-motivated, experimental innovator, Picasso is a prime example of the conceptual innovator. In contrast to Cézanne's belief in the need to study nature in the hope of representing its complexity, Picasso brusquely declared "I paint objects as I think them, not as I see them."¹⁰³ In contrast to Cézanne's pained description of striving endlessly for the goal of realization, Picasso stated "I can hardly understand the importance given to the word *research* in

connection with modern painting. In my opinion to search means nothing in painting. To find, is the thing. Nobody is interested in following a man who, with his eyes fixed on the ground, spends his life looking for the pocketbook that fortune should put in his path ... When I paint my object is to show what I have found and not what I am looking for."¹⁰⁴

Table 2 shows that Picasso's age-price profile peaks in 1907, the year he executed the *Demoiselles d'Avignon*, which would become the single most reproduced painting of this century.¹⁰⁵ Although the painting was not exhibited publicly until 1916, those who saw it in Picasso's studio immediately recognized that it represented a new type of painting. André Salmon, a young poet who was the first to write about the painting, described its figures as "stark problems, white numbers on a blackboard. This is the first appearance of the painting-equation."¹⁰⁶ Braque's age-price profile peaks in 1910. Although Braque saw the *Demoiselles* in 1907, and began working in a Cubist style, he did not begin his famous collaboration with Picasso until 1909. From then until 1912 they worked together, in Braque's words "like two mountaineers roped together."¹⁰⁷ The results of their work include Braque's greatest, and most valuable, accomplishments.

Dozens of painters became Cubists in the years that followed, as the style spread across Europe and spawned a number of derivative schools.¹⁰⁸ Yet the two leading historians of Cubism, Cooper and Golding, agree that only one other artist joined Picasso and Braque as a creator of true Cubism. Juan Gris was a young Spaniard who met Picasso in 1906, but initially worked as a commercial artist. In 1912 he exhibited paintings in a Cubist style, and in the next few years he devised an approach distinct from that of Picasso and Braque. His age-price profile peaks in 1915, the year in which he felt he did his best work. In that year he wrote to his dealer, "I think I have really made progress recently and that my pictures begin to have a unity which they lacked till now." Gris' enterprise, like Picasso's, was conceptually driven: he described his approach as "a deductive method," based on "the mathematics of picture-making."¹⁰⁹

Picasso, Braque, and Gris created an art that transformed the painting of the twentieth century. Douglas Cooper compares Cubism to the artistic revolution of the Renaissance: although stylistically opposite, Cooper observes that both movements "were initiated by a few artists, spread quickly throughout the western world and became the starting-point of a new and more modern art."¹¹⁰ This twentieth-century revolution was developed not by established artists who had undergone long years of study, but by young men in their twenties barely trained in the craft of painting. This was possible because of the nature of their innovation: in Golding's words, "the Cubism of Picasso and Braque was to be essentially conceptual. Even in the initial stages of the movement, when the painters still relied to a large extent on visual models, their paintings are not so much records of the sensory appearance of their subjects, as expressions in pictorial terms of their idea or knowledge of them."¹¹¹
Conclusion

The auction market of the past three decades provides the basis for a systematic evaluation of the careers of the painters who invented and developed modern art in late nineteenth- and early twentieth-century France. Econometric analysis of auction sales reveals that there was a persistent tendency over time for leading artists of this era to produce their most valuable work at progressively younger ages. Whereas the most valuable work of the painters from the generation before the Impressionists was done well above the age of 40, the core group of the Impressionists produced their most valuable work during their early 30s, and in the cohorts that followed the leading painters became more likely to execute their most valuable paintings while still in their 20s.

The shift over time in the careers of these painters appears to have been a result of changes in the nature of painting, driven by changes in the institutions and the market for fine art. The earliest painters considered in this study entered a profession based heavily on tradition, in which success depended to a great extent on imitation and repetition of conventions passed down from one generation to the next. Baudelaire and later critics, and Manet and later painters, contributed to the transformation of painting, so that innovation became a principal determinant of an artist's importance. Critics played a key role in raising the demand for innovation in modern art, as many leading literary figures wrote in praise of innovative painters, and in some cases even proposed new artistic goals to them. The artists themselves became eager for change; from the Impressionists on, aspiring artists increasingly came to Paris not to study in the classrooms and studios of the official Ecole des Beaux-Arts, but instead to seek out the innovative painters of the

38

day, and to work in informal groups with them and with their own contemporaries. And perhaps some impetus for change came from the new private art galleries. Although their number grew slowly as the public's demand for the new art lagged behind its rapid development, the possibility the galleries appeared to hold out of developing a career more rapidly than had been feasible in the past may have spurred some young artists to develop their own distinctive styles more quickly.

The innovations in modern art that occurred in the late nineteenth century had an important implication for artists' careers. The trend in painting, away from naturalistic representation of visual sensations, and toward the symbolic expression of ideas and emotions, resulted in a progressive abandonment of the traditional emphasis on the importance of practice and study, in favor of an approach that stressed the primary significance of generating new ideas. The increasingly conceptual basis of artistic innovation made it possible for painters to make important contributions at younger ages than in the past: youth became less of a barrier to doing significant work, and indeed was often an advantage, as modern art tended to become one of the disciplines in which dramatic improvements in the existing technology are often made by the young.¹¹²

Endnotes

I am grateful to Britt Salvesen, Lester Telser, and David Weir for discussions of the issues treated in this paper, and to Thomas Walker, Mark Schmeller, Sean Buckley, Shahrina Chowdhury, Rebecca Kalmus, Julie Lee, Sharon Liu and John Storm for research assistance.

- Clive Bell, "The Debt to Cézanne," in Francis Frascina and Charles Harrison, eds., *Modern Art and Modernism* (New York: Harper and Row, 1982), p. 75; Clement Greenberg, *Affirmations and Refusals*, 1950-56 (Chicago: University of Chicago Press, 1993), p. 83.
- 2. Theodore Reff, "Painting and Theory in the Final Decade," in William Rubin, ed., *Cézanne: The Late Work* (New York: Museum of Modern Art, 1977), p. 13; Meyer Schapiro, *Paul Cézanne* (New York: Abrams, 1952), p. 27.
- 3. John Russell, *The Meanings of Modern Art* (New York: Museum of Modern Art, 1974), p. 97.
- 4. John Golding, *Cubism: A History and An Analysis, 1907-1914*, Third edition (Cambridge: Harvard University Press, 1988), p. xiii.
- 5. The six books surveyed are: George Heard Hamilton, 19th and 20th Century Art (New York: Abrams, 1970); Russell, Meanings of Modern Art; H.H. Arnason, History of Modern Art, Third edition (New York: Abrams 1986); Robert Hughes, The Shock of the New (New York: Knopf, 1982); Sam Hunter and John Jacobus, History of Modern Art, Third edition (Englewood Cliffs, NJ: Prentice-Hall, 1992); Daniel Wheeler, Art Since Mid-Century (Englewood Cliffs: Prentice-Hall, 1991).
- 6. These artists were Chagall, Gris, Miro, Modigliani, Picasso, Soutine, van Gogh, and Whistler.
- 7. These artists were Boudin, Corot, Daubigny, Daumier, Delacroix, Jongkind, Millet, and Théodore Rousseau.
- 8. These artists were Caillebotte, Cassatt, Guillaumin, Morisot, and Sisley.
- 9. *Le Guide Mayer* (Lausanne: Sylvio Acatos, annual).
- 10. The sale price recorded in *Mayer* and used in this study is the hammer price. This normally includes the commission charged by the auction house to the seller, but not the premium charged to the buyer. *Mayer* does not report prices for works that were bought in, i.e. that were not sold for failure to reach their reserve prices.

- 11. Prices were converted to constant 1983 dollars using the CPI.
- 12. The .10 level is used as the criterion for statistical significance.
- 13. Note the agreement between the peak ages estimated here and the estimates for seven artists given by Madeleine de la Barre, Sophie Docclo, and Victor Ginsburgh, "Returns of Impressionist, Modern and Contemporary European Paintings, 1962-1991," *Annales d'Economie et de Statistique*, No. 35 (1994), Table 5, p. 161.
- 14. All values in the figures were calculated for paintings on canvas, 24" x 24", sold in 1990-94, in constant (1983) dollars. Each profile is bounded by the ages at the second and 98th percentiles of the age distribution produced by all the works of the artist in the sample analyzed; this is done to avoid obtaining extreme estimated prices at very high and low ages at which there are few observations to constrain the estimates.
- 15. General surveys of all art history are therefore included among these books, as well as these devoted entirely to modern art.
- 16. Many of the books used to make Table 3 treated only modern art. Since Courbet and Manet are often considered the first modern painters, these books typically do not cover earlier artists. Sample members older than Manet with the exception of Pissarro, who became a member of the Impressionists were consequently not included in this part of the study.
- 17. No entry is given for the single year when two or more years are tied for most illustrations. In nearly every case, these ties occur because the numbers of illustrations are very low, and the results are consequently of little interest.
- Michael Fried, *Manet's Modernism* (Chicago: University of Chicago Press, 1996), pp. 1-2; George Heard Hamilton, *Manet and his Critics* (New Haven: Yale University Press, 1954), p. 18.
- E.g. see Paul Hayes Tucker, ed., *Manet's Le Déjeuner sur l'Herbe* (Cambridge: Cambridge University Press, 1998); T. J. Clark, *The Painting of Modern Life* (Princeton: Princeton University Press, 1984), Chap. 2, "Olympia's Choice;" and Bradford R. Collins, ed., *12 Views of Manet's Bar* (Princeton: Princeton University Press, 1996.)
- 20. E.g. see Greenberg, *Affirmations and Refusals*, p. 173; Richard Shiff, *Cézanne and the End of Impressionism* (Chicago: University of Chicago Press, 1984), p. 56; David Carrier, *Artwriting* (Amherst: University of Massachusetts Press, 1987), p. 43.
- 21. John Rewald, Georges Seurat (New York: Wittenborn, 1943), p. xvii.
- 22. Harold Van Doren, "Introduction," in Ambroise Vollard, *Degas: An Intimate Portrait* (London: Allen and Unwin, 1928), p. 13.

- 23. Rewald, *Georges Seurat*, pp. xvii-xviii. Compare the similar statement of Meyer Schapiro: "Seurat's art is an astonishing achievement for so young a painter. At 31 -Seurat's age when he died in 1891 - Degas and Cézanne had not shown their measure. But Seurat was a complete artist at twenty-five when he painted the *Grande Jatte*;" Schapiro, *Modern Art* (New York: George Braziller, 1982), p. 104.
- 24. E.g. see Harrison C. White and Cynthia A. White, *Canvases and Careers: Institutional Change in the French Painting World* (Chicago: University of Chicago Press, 1965); Patricia Mainardi *The End of the Salon: Art and the State in the Early Third Republic* (New York: Cambridge University Press, 1993).
- 25. Charles Baudelaire, *The Painter of Modern Life and Other Essays* (New York: Da Capo Press, 1964). On Baudelaire's influence on painting in his time, see e.g. Clark, *The Painting of Modern Life*; Nigel Blake and Francis Frascina, "Modern Practices of Art and Modernity," in Frascina, et. al., *Modernity and Modernism: French Painting in the Nineteenth Century* (New Haven: Yale University Press, 1993), pp. 50-140. For one instance of persisting impact of Baudelaire's essay over time, see John Richardson, *A Life of Picasso, Volume 2: 1907-1917, The Painter of Modern Life* (New York: Random House, 1996), Chap. 1.
- 26. Baudelaire, Painter of Modern Life, pp. 1,13.
- 27. Hamilton, Manet and His Critics, pp. 95-6.
- 28. *Ibid.*, p. 146.
- 29. Louis Emile Edmond Duranty, "The New Painting," in Charles Moffett, ed., *The New Painting: Impressionism 1874-1886* (San Francisco: Fine Arts Museums of San Francisco, 1986), pp. 41-2.
- 30. Stéphane Mallarmé, "The Impressionists and Edouard Manet," in Moffett, *The New Painting*, p. 29, 33.
- 31. J. K. Huysmans, "L'Exposition des Independants in 1880," in Frascina and Harrison, *Modern Art*, pp. 45-48.
- 32. Norma Broude, ed., *Seurat in Perspective* (Englewood Cliffs, NJ: Prentice-Hall, 1978), p. 40.
- 33. John Rewald, *Post-Impressionism: From Van Gogh to Gauguin*, Second edition (New York: Museum of Modern Art, 1962), p. 481.
- 34. Arthur C. Danto, *Embodied Meanings* (New York: Farrar, Straus, and Giroux, 1994), p. 85.

- 35. John Rewald, ed., *Camille Pissarro: Letters to his Son Lucien* (New York: Da Copo Press, 1995), pp. 99-100.
- 36. Rewald, *Post-Impressionism*, p. 114.
- 37. Rewald, Post Impressionism, pp. 368-72.
- 38. Rewald, *Camille Pissarro*, p. 276; John Rewald, *The History of Impressionism*, Revised ed. (New York: Museum of Modern Art, 1961), pp. 292-94, 578-79.
- 39. Daniel Guérin, *Paul Gauguin: The Writings of a Savage* (New York: Da Capo Press, 1996), p. 219.
- 40. *Ibid.*, pp. 286-7.
- 41. The nine Salons held during 1861-70, for example, exhibited an average of 3,780 paintings, and the nine held during 1872-90 had an average of 4,280; Mainardi, *End of the Salon*, pp. 19-47.
- 42. White and White, *Canvases and Careers*, p. 150.
- 43. John Rewald, *Studies in Impressionism* (New York: Harry N. Abrams, 1985), p. 199.
- 44. Rewald, *Camille Pissarro*, p. 174.
- 45. Vincent van Gogh, *The Complete Letters of Vincent van Gogh*, Vol. 2 (London: Thames and Hudson, 1958), p. 515.
- 46. Rewald, *History of Impressionism*, p. 560.
- 47. Robert Jensen, *Marketing Modernism in Fin-de-Siècle Europe* (Princeton: Princeton University Press, 1994), Chap. 3.
- 48. Rewald, *Camille Pissarro*, p. 23.
- 49. Compare White and White, *Canvases and Careers*, p. 151, with Jensen, *Marketing Modernism*, pp. 51-2.
- 50. *Ibid.*, p. 134.
- 51. Michael C. Fitzgerald, *Making Modernism: Picasso and the Creation of the Market for Twentieth-Century Art* (Berkeley: University of California Press, 1995).
- 52. Brassaï, *Picasso and Company* (New York: Doubleday, 1966), p. 132.

- 53. On this relationship in a later era, see Diana Crane, *The Transformation of the Avant-Garde: The New York Art World, 1940-1985* (Chicago: University of Chicago Press, 1987); David W. Galenson, "The Careers of Modern Artists: Evidence from Auctions of Contemporary Paintings," National Bureau of Economic Research, Working Paper 6331 (December, 1997).
- 54. White and White, *Canvases and Careers*, p. 17; Albert Boime, *The Academy and French Painting in the Nineteenth Century* (New Haven: Yale University Press, 1971).
- 55. Anne Coffin Hanson, *Manet and the Modern Tradition* (New Haven: Yale University Press, 1977), p. 44.
- 56. Hamilton, *Manet and his Critics*; Moffett, *The New Painting*.
- 57. Rewald, *Camille Pissarro*, p. 50.
- 58. Briony Fer, "Introduction," in Frascina, *Modernity*, pp. 21-30.
- 59. John Rewald, *The History of Impressionism*, Revised edition (New York: Museum of Modern Art, 1961), Chaps. 4-5.
- 60. White and White, *Canvases and Careers*, pp. 116-17.
- 61. Steven Adams, *The Barbizon School and the Origins of Impressionism* (London: Phaidon, 1994), p.98.
- 62. Rewald, *History of Impressionism*, p. 111.
- 63. *Ibid.*, Chap. 9.
- 64. E.g. *ibid.*, pp. 70-1; Ambroise Vollard, *Renoir: An Intimate Record* (New York: Knopf, 1925), p. 30.
- 65. Paul Tucker, "The First Impressionist Exhibition in Context," in Moffett, *The New Painting*, pp. 93-104.
- 66. Linda Nochlin, ed., *Impressionism and Post-Impressionism*, 1874-1904: Sources and Documents (Englewood Cliffs, NJ: Prentice-Hall, 1966), p. 34.
- 67. *Ibid.*, p. 53.
- 68. *Ibid.*, pp. 31, 34.
- 69. *Ibid.*, p. 42.

- 70. Rewald, *History of Impressionism*, pp. 95-6; John House, *Monet: Nature into Art* (New Haven: Yale University Press, 1986), Chap. 7. An early historian of the Impressionists, Théodore Duret, who identified Monet as the leader of a group that also comprised Pissarro, Renoir, and Sisley, observed that they "were not the originators of open-air painting; but their great innovation was to establish as a fundamental system a practice that other painters, including Constable, Corot, and Courbet had used only exceptionally and incidentally ... The exclusive use of bright color, and the continuous practice of painting in full light in the open air, formed a new and daring combination, which gave rise to an art possessing certain novel features;" *Manet and the French Impressionists* (Philadelphia: J. B. Lippincott, 1910), pp. 71-2, 118-19.
- Nochlin, *Impressionism*, p. 42. Painting in the open air had only become practical around 1850, with the first commercial appearance of paint in metal tubes; David Bomford, et. al., *Art in the Making: Impressionism* (London: National Gallery Publications, 1990), pp. 39-40. Renoir later remarked that "Paints in tubes, being easy to carry, allowed us to work from nature, and nature alone. Without paints in tubes, there would have been no Cézanne, no Monet, no Sisley or Pissarro, nothing of what the journalists were later to call Impressionism;" Jean Renoir, *Renoir, My Father* (Boston: Little Brown, 1958), p. 77.
- 72. Kenneth Clark, *Landscape Into Art*, Second edition (New York: Harper and Row, 1976), pp. 170-76.
- 73. E. g. Daniel Wildenstein, *Monet* (Koln: Taschen, 1996); Joel Isaacson, *Claude Monet: Observation and Reflection* (Oxford: Phaidon, 1978); Clement Greenberg, "The Later Monet," in *Art and Culture* (Boston: Beacon Press, 1961), pp. 37-45.
- 74. Ambroise Vollard, *Cézanne* (Mineola, NY: Dover Publications, 1984), p. 24.
- 75. Rewald, *History of Impressionism*, pp. 292-4.
- 76. John Rewald, *Paul Cézanne, Letters*, Fourth edition (New York: Da Capo Press, 1976), p. 231.
- 77. Roger Fry, *Cézanne: A Study of His Development* (Chicago: University of Chicago Press, 1989), p. 3.
- 78. Rewald, Paul Cézanne, pp. 293, 299, 302, 329-30.
- 79. E. g. see Rewald, *Post-Impressionism*, pp. 308-10; Shiff, *Cézanne and the End of Impressionism*, Chap. 12; William Rubin, "Cézannisme and the Beginnings of Cubism," in Reff, *Cézanne*, pp. 151-202.
- 80. Schapiro, Paul Cézanne, p. 10.
- 81. Vollard, *Degas*, p. 96.

- 82. Richard Thomson, *The Private Degas* (London: Herbert Press, 1987), p. 9.
- 83. George Moore, Impressions and Opinions (New York: Brentano, 1913), p. 229.
- 84. Marcel Guérin, ed., *Lettres de Degas* (Paris: Bernard Grasset, 1931), p. 107.
- 85. George Heard Hamilton, *Painting and Sculpture in Europe, 1880-1940*, Revised edition (Harmondsworth, Middlesex: Penguin, 1972), p. 49.
- Paul Signac, From Eugène Delacroix to Neo-Impressionism," in Floyd Ratliff, *Paul Signac and Color in Neo-Impressionism* (New York: Rockefeller University Press, 1992), pp. 244-45.
- 87. Broude, Seurat, p. 31.
- 88. Signac, "From Eugène Delacroix," p. 247.
- 89. The painting is reproduced in 24 of the 33 textbooks analyzed above (see Table 3), more than any other painting executed in the nineteenth century.
- 90. William Innes Homer, *Seurat and the Science of Painting* (Cambridge: MIT Press, 1964), p. 181.
- 91. Broude, Seurat, p. 55.
- 92. Rewald, Camille Pissarro, p. 64.
- 93. *Ibid.*, p. 44.
- 94. *Ibid.*, p. 97.
- 95. *Ibid.*, p. 164.
- 96. Rewald, *Post-Impressionism*, p. 481.
- 97. Maurice Malingue, ed., *Paul Gauguin: Letters to his Wife and Friends* (Cleveland: World Publishing, 1949), pp. 35, 100, 132.
- 98. Van Gogh, *Letters*, Vol. III, pp. 28-31.
- 99. Van Gogh, *Letters*, Vol. III, p. 6.
- 100. Rewald, Post-Impressionism, p.368-71.
- 101. Marcel Giry, *Fauvism: Origins and Development*(New York: Alpine Fine Arts, 1982), p. 104.

- 102. Ibid., p. 250.
- 103. Golding, Cubism, p. 51.
- 104. Alfred H. Barr, *Picasso: Fifty Years of His Art* (New York: Museum of Modern Art, 1946), p. 270.
- 105. The painting is reproduced in 30 of the 33 books analyzed above, more than any other painting by an artist in this study.
- 106. Beth Gersh-Nesic, *The Early Criticism of André Salmon* (New York: Garland, 1991), p. 40. "Ce sont des problèmes nus, des chiffres blancs au tableaux noir. C'est le principe posé de la peinture-équation." The translation is mine.
- 107. Douglas Cooper, The Cubist Epoch (London: Phaidon, 1971), p. 42.
- 108. *Ibid.*, Chap. 3.
- 109. Golding, *Cubism*, pp. 141-3.
- 110. Cooper, Cubist Epoch, p. 11.
- 111. Golding, *Cubism*, p. 51.
- 112. See Dean Keith Simonton, *Scientific Genius: A Psychology of Science* (Cambridge: Cambridge University Press, 1988), pp. 66-74.

Artist	Inter.	Age	Age²	Age ³	Age ⁴	Age ⁵	Size	Support	R ²	u	Age sig.
Arp	598 (2.00)	.592 (.125)	013 (.003)	8.1x10 ⁻⁵ (1.7x10 ⁻⁵)			.655 (.102)	587 (.196)	.764	87	.000
Bissière	-4.53 (8.55)	1.015 (.769)	036 (.025)	5.5x10 ⁴ (3.4x10 ⁴)	-2.9x10 ⁻⁶ (1.7x10 ⁻⁶)		.499 (.090)	644 (.176)	.596	140	.0001
Bonnard	7.523 (.271)	.006 (.002)	I		-		.710 (.042)	797 (.140)	.492	656	.02
Boudin	-29.75 (10.81)	2.830 (.894)	075 (.027)	8.6x10 ⁻⁴ (3.5x10 ⁻⁴)	-3.6x10 ⁻⁶ (1.7x10 ⁻⁶)		.296 (.030)	-1.270 (.096)	.436	1,070	.0001
Braque	-36.98 (12.79)	5.116 (1.430)	216 (.061)	.004 (.001)	-4.2x10 ⁻⁵ (1.3x10 ⁻⁵)	1.6x10 ⁻⁷ (5.0x10 ⁻⁸)	.788 (.042)	655 (.110)	.685	392	.000
Caillebotte	4.486 (1.005)	.018 (.017)	1		-		1.099 (.139)	440 (.569)	.536	110	.31
Cassatt	-9.920 (4.213)	.995 (.304)	020 (.007)	1.3x10 ⁻⁴ (4.7x10 ⁻⁵)	1		1.184 (.146)	320 (.218)	.670	146	.0002
Cézanne	4.587 (8.765)	070 (.864)	.019 (.031)	-4.9x10 ⁴ (4.7x10 ₄)	3.5x10 ⁻⁶ (2.6x10 ⁻⁶)		.615 (.081)	-1.428 (.164)	.591	278	.000
Chagall	-8.503 (4.403)	1.875 (.455)	074 (.018)	1.4x10 ⁻³ (3.2x10 ₋₄)	-1.2x10 ⁻⁵ (2.8x10-6)	3.9x10 ⁻⁸ (1.0x10 ⁻⁸)	.704 (.030)	966 (.051)	.658	976	.000
Corot	-54.99 (29.99)	6.307 (3.135)	241 (.127)	.004 (.002)	-4.1x10 ⁻⁵ (2.4x10-5)	$\frac{1.4 \times 10^{-7}}{(9.0 \times 10^{-8})}$.487 (.056)	.211 (.256)	.301	379	.17

Appendix: Regression Analysis of Auction Prices, by Artist

Age ²			Age ³	Age ⁴	Age ⁵	Size	Support	R ²	u	Age sig.
ا (<u>۲</u>	599 (.438)	.014 (.011)	-1.1x10 ⁻⁴ (8.9x10 ⁻⁵)			.621 (.092)	1	.340	152	.23
8.512 (5.218)	2 8)	486 (.299)	.013 (.008)	-1.7x10 ⁻⁴ (1.0x10 ₋₄)	8.7x10 ⁻⁷ (5.2x10 ⁻⁷)	.380 (.070)	-1.673 (.851)	.331	136	.15
-21.69 (9.46)	6 (9	.716 (.313)	010 (.004)	5.3x10 ⁻⁵ (2.4x10 ⁻⁵)		.729 (.204)	.526 (.423)	.508	49	.03
-9.57 (2.62)	N	.428 (.121)	009 (.003)	9.1x10 ⁻⁵ (2.9x10-5)	$-3.5 x 10^{-7} (1.2 x 10^{-7})$.590 (.078)	513 (.153)	.330	409	.0001
-12.86 (8.92)	2)	.730 (.458)	020 (.011)	2.5x10 ⁴ (1.4x10 ₄)	-1.2x10 ⁻⁶ (6.5x10 ⁻⁷)	.071 (.163)	-1.33 (.344)	.427	76	.03
19.01 (11.51)	1 51)	-1.06 (.683)	.029 (.020)	-3.9x10 ⁻⁴ (2.8x10-4)	2.0x10 ⁻⁶ (1.6x10 ⁻⁶)	.621 (.100)	521 (.258)	.641	92	.20
10.73 (1.65)	<u>ر</u>	533 (.080)	.012 (.002)	-1.4x10 ⁻⁴ (2.1x10-5)	5.9x10 ⁻⁷ (9.0x10 ⁻⁸)	.675 (.056)	-1.35 (.152)	.657	354	.000
078 (.018)	8)	-		1	8	088 (.178)	-4.28 (.608)	766.	10	.14
8.84 (1.16)	.(0	397 (.053)	.009 (.001)	-8.8x10 ⁻⁵ (1.2x10.5)	3.5x10 ⁻⁷ (5.0x10 ⁻⁸)	.641 (.039)	-1.11 (.050)	.530	1,128	.000
90. ²	90.48 (34.67)	-4.82 (1.84)	.126 (.048)	002 (6.2x10-4)	8.2x10 ⁻⁶ (3.1x10 ⁻⁶)	.766 (.079)	941 (.180)	669.	195	.000
24	104.74 (24.46)	-5.90 (1.37)	.142 (.033)	001 (2.9x10 ⁻⁴)		.999 (.109)	457 (.270)	TTT.	140	1000.

Artist Inter. Gris (384.73)										
641.24 (384.73)	Age	Age²	Age ³	Age⁴	Age ⁵	Size	Support	\mathbb{R}^2	u	Age sig.
	-115.09 (66.02)	8.13 (4.48)	280 (.150)	.005 (.002)	-3.1x10 ⁻⁵ (1.6x10 ⁻⁵)	.657 (.069)	-1.16 (.176)	.767	175	.0001
Guillaumin -76.04 (19.97)	8.20 (2.01)	308 (.078)	.006 (.001)	-4.9x10 ⁻⁵ (1.4x10-5)	1.7x10 ⁻⁷ (5.0x10 ⁻⁸)	.397 (.041)	-1.070 (.067)	.573	651	.0001
Herbin -3.52 (2.76)	.972 (.262)	032 (.009)	4.5x10 ⁻⁴ (1.3x10 ₋₄)	-2.2×10^{-6} (6.5 \times 10^{-7})		.540 (.058)	472 (.122)	.553	511	.000
Jongkind 60.38 (21.55)	-6.71 (2.57)	.320 (.119)	007 (.003)	8.0x10 ⁻⁵ (2.9x10-5)	-3.4×10^{-7} (1.2×10 ⁻⁷)	.510 (.052)	996 (.093)	.644	385	.0001
Léger -96.42 (15.94)	$ \begin{array}{c} 10.52 \\ (1.77) \end{array} $	398 (.076)	.007 (.002)	-6.29x10 ⁻⁵ (1.6x10-5)	2.1x10 ⁻⁷ (6.0x10 ⁻⁸)	.695 (.032)	986 (.059)	.746	1,084	.000
Manet 6.90 (1.17)	.062 (.017)		1	1		.677 (.150)	582 (.373)	.428	83	.0004
Masson -3.57 (4.07)	.858 (.334)	024 (.010)	2.7x10 ⁴ (1.2x104)	-1.1x10 ⁻⁶ (5.6x10 ⁻⁷)		.624 (.043)	740 (.083)	.606	512	.000
Matisse -64.11 (21.46)	7.17 (2.35)	279 (.099)	.005 (.002)	-4.7x10 ⁻⁵ (1.9x10-5)	1.06x10 ⁻⁷ (7.0x10 ⁻⁸)	.078) (078)	631 (.207)	.621	269	.000
Millet -1.93 (2.98)	.489 (.135)	006 (.002)	1		8	.779 (.142)	.424 (.335)	.523	59	.003
Miró 50.41 (9.75)	-4.40 (1.02)	.179 (.041)	003 (.001)	3.1x10 ⁻⁵ (7.4x10 ₋₆)	-1.06x10 ⁻⁷ (3.0x10 ⁻⁸)	.495 (.036)	-1.053 (.075)	.529	620	1000.
Modigliani -5.51 (6.59)	1.42 (.84)	054 (.034)	7.0x10 ⁻⁴ (4.4x10 ⁻⁴)	1	8	1.185 (.121)	-1.464 (.214)	.751	149	.02

i.

-

Age	₹	Age ²	Age ³	Age ⁴	Age ⁵	Size	Support	R²	u	Age sig.
$\begin{array}{c ccccc} 4.91 &201 & .004 \\ (0.87) & (.037) & (.001) \end{array}$		8 <u>.</u> 8		-3.5x10 ⁻⁵ (7.7x10.6)	1.2x10 ⁻⁷ (3.0x10 ⁻⁸)	1.198 (.090)	575 (.248)	.559	539	.000
1.165 028 2.1 (.604) (.016) (1.1	@0	5	2.2x10 ⁴ (1.4x10 ⁴)			.874 (.111)	858 (.195)	.582	140	.003
-4.06 .215 (1.09) (.054) (.			005 (.001)	5.7x10 ⁻⁵ (1.5x10-5)	$-2.4 \times 10^{-7} $ (7.0×10 ⁻⁸)	.714 (.047)	178 (.109)	.618	423	.000
.442017 (.179) (.008) (.			3.1x10 ⁻⁴ (1.7x10-4)	-2.8x10 ⁻⁶ (1.7x10-6)	9.92x10 ⁻⁹ (1.05x10 ⁻⁸)	.806 (.027)	722 (.065)	.625	1,170	1000.
-4.71 .223			005 (.002)	5.2x10 ⁻⁵ (2.1x10-5)	-2.1x10 ⁻⁷ (9.0x10 ⁻⁸)	.822 (.039)	896 (.083)	.714	698	.0001
6.21291 (.176) (.			.007 (.004)	-7.0x10 ⁻⁵ (4.1x10-5)	$\begin{array}{c} 2.9 \mathrm{x} 10^{-7} \\ (1.7 \mathrm{x} 10^{-7}) \end{array}$.898 (.118)	129 (.174)	.486	136	.02
1.26038 (.290) (.009) (4.8x10 ⁴ (1.2x104)	-2.2×10^{-6} (5.9×10 ⁻⁷)		.966 (.033)	647 (.115)	.561	1,079	.000
5.29206 (1.76) (.068)	066 (68)	-	.004 (.001)	-3.4x10 ⁻⁵ (1.2x10-5)	1.2x10 ⁻⁷ (4.0x10 ⁻⁸)	.651 (.038)	453 (.081)	.605	520	.000
.001 (.015)					1	.910 (.170)		.633	43	.92
028 (.017)			i		1	.731 (.210)	.331 (479)	.307	43	.12
.223 · (.064)					I .	1.06 (.297)		.748	24	.003

Age sig.	1000.	.000	.000	.0002	.000	.000	6
A S					-		
u	287	208	156	188	590	568	26
R²	.593	.571	.781	.520	.612	.420	.816
Support	-1.39	-1.05	-1.08	786	824	.698	-1.12
	(.217)	(.611)	(.142)	(.207)	(.108)	(090)	(.682)
Size	.608	1.14	.549	.760	.483	.544	355
	(.093)	(.087)	(.066)	(.108)	(.059)	(.046)	(.370)
Age ⁵	3.4x10 ⁻⁶ (1.9x10 ⁻⁶)	-	-3.7x10 ⁻⁶ (2.6x10 ⁻⁶)	1	1	$\frac{1.6 \times 10^{-7}}{(1.0 \times 10^{-7})}$	7.9x10 ⁻⁶ (3.1x10 ⁻⁶)
Age ⁴	-7.7x10 ⁻⁴	2.3x10 ⁻⁵	6.9x10 ⁻⁴	1.9x10 ⁴	3.4x10 ⁻⁶	-3.9x10 ⁻⁵	002
	(4.2x10-4)	(1.5x10 ⁻⁵)	(4.9x10-4)	(6.0x10 ⁻⁵)	(8.2x10 ⁻⁷)	(2.2x10-5)	(.001)
Age ³	.071	003	050	019	-8.2x10 ⁴	.004	.166
	(.037)	(.002)	(.037)	(.006)	(1.7x10 ₋₄)	(.002)	(.066)
Age²	-3.18	.168	1.77	.698	.073	165	-7.35
	(1.60)	(.110)	(1.36)	(.222)	(.013)	(.082)	(2.96)
Age	70.75	-3.67	-30.13	-10.77	-2.81	3.51	158.1
	(34.67)	(2.50)	(24.75)	(3.51)	(.436)	(1.65)	(64.4)
Inter.	-613.25	33.40	204.6	67.29	48.06	-19.63	-1308.7
	(296.97) (34.67)	(20.90)	(177.5)	(20.33)	(5.21)	(12.86)	(541.7)
Artist	Sisley	Soutine	Tanguy	Toulouse- Lautree	Vlaminck	Vuillard	Whistler

Notes: Regressions were estimated by ordinary least squares; standard errors are given in parentheses. The dependent variable is the natural logarithm of the price of each painting, in constant 1983 dollars.

The age variables measure the age of the artist at the date the painting was executed.

The size variable is the natural logarithm of the surface area of the painting in square inches.

The support variable equals one for works on paper, and 0 for works on canvas.

All equations include a series of binary date variables to control the date of sale of the painting, in five-year periods. Estimated coefficients are not reported due to space constraints. The reference category is 1990-94.

significance" reports the significance levels for t-tests or F-tests of the null hypothesis that all age coefficients in the reported For each artist, the equation reported is that for which the polynomial in age yielded the highest adjusted R². "Age equation are simultaneously equal to zero.

Source: Le Guide Mayer (Lausanne: Sylvio Acatos, annual), editions for auctions held 1970-97. See text.

















.







.

•

1

.