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Artistic movement membership and the career profiles of Canadian painters

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Sociologists, psychologists and economists have studied many aspects of the effects on human creativity, especially that of artists, of the social setting in which creative activity takes place. In the last hundred and fifty years or so, the field of advanced creation in visual art has been heavily characterized by the existence of artistic movements, small groupings of artists having aesthetic or programmatic similarities and using the group to further their collective programme, and, one would suppose, their individual careers and creative trajectories. Certainly this is true of Canadian painting, and such movements as the Group of Seven or the Automatistes are at least as well-known to the general public as the individual artists belonging to them. We econometrically investigate the effect on career dynamics of artists as represented by the life-cycle pattern of prices obtained by their works at auction, in estimating a hedonic regression, pooled over a large sample of Canadian painters, in which variables representing the effect of a number of specific artistic groupings on the career price profiles of the members of the movements are included. Based on distinctions in the art historical and sociological literature among different categorizations of modern artistic grouping, we posit that the creativity effects of group membership can depend on the category of grouping to which an artist belongs, and distinguish between avant-garde movements and more general groupings of modern artists.

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1. INTRODUCTION

The study of the factors that contribute to heightened levels of accomplishment among those working in creative fields has given rise to an active and growing literature, especially in sociology and psychology (see, for example, Granovetter (1973), Csikszentmihalyi (1996), Uzzi and Spiro (2005), and Gardner (2011)). Cultural economists have also in recent years been investigating this subject, with several publications focussing on the issue of life cycles of creativity amongst visual artists. Many econometric studies have now been undertaken in which observable indicators of expert or art market judgments of the quality or worth of individual art works have been used to estimate career profiles of creativity level for different groupings of artists or for individual artists. A number of generalizations have been detected by investigators in these empirical results, and explanations proposed to account for them.

One element that is widely thought to be of utmost importance for creativity is the social atmosphere in which the creative worker is situated, and the resultant opportunities that may exist for interaction with other members of the creative field, such as other artists, critics, patrons, or collectors. Indeed, in Gardner's (2011) study of the careers of seven major creators in various fields, the importance of environment and social interaction with colleagues can be seen to be critical to each subject's most important creative breakthrough. Bourdieu (1992, 1993) and Joyeux-Prunel (2015), among many others, have emphasized the role of the social matrix in shaping and directing the creative efforts of modern artists.

In the literature on the economics of the visual arts, several authors have studied the importance for artists' careers of time spent living in artistic "clusters", viz., large cities such as New York or Paris with diverse and lively cultural sectors (see, for example Hellmanzik (2010); see also Perl (2005) for a historical portrait of the artistic community in New York City in its heroic immediate post-war era). Although major creative breakthroughs are in general associated with the presence of the creator in one or more major cluster cities at important points in their creative development, there is also evidence that such breakthroughs occur in the context of a much smaller collaborative nucleus. A regularity that one detects in the cases analyzed by Gardner (2011) is that creative peaks occur when the individual is engaged in a close collaboration with a small number of friends or associates who are interested in similar problems and are pursuing similar avenues to their solution.

Sociologists such as Granovetter (1973), Reagans and Zuckerman (2001), Uzzi and Spiro (2005), and Fleming, Mingo, and Chen (2007) and have developed models of different levels of creative networks and their importance in fostering original work. In this literature, the distinction is made between networks, or groupings, characterized by "strong", or "cohesive", connections among the members, and those characterized by "weak", or "brokered", connections. Both types of networks can exist simultaneously, and optimal creative results often occur within strongly connected groupings that are given scope to develop within a larger network characterized by many weakly connected actors. A similar distinction within the world of modern art has been observed by Joyeux-Prunel (2015) and Cottingham (2012, 2013), who make the distinction between cohesive avant-garde movements and a more diffuse type of grouping referred to by the latter author as "bourgeois professionalism". Many of the most important

advances in modern art have been associated with relatively cohesive avant-garde groupings (Bourdieu (1992, 1993), Poggioli (1969)).

In the field of the visual arts, a characteristic feature of the modern era, starting in the third quarter of the nineteenth century, is the avant-garde movement. Typically situated within a large cluster city, the movement is composed of a handful of artists who share some kind of similarity, whether it be aesthetic, stylistic, political, or otherwise, that sets its members apart, and defines their particularity, with reference to the broader local artistic community. Following the analysis of the authors cited above, the question presents itself as to the degree to which the life-cycle creativity pattern of an artist who belongs at some point in their career to a movement will be affected by the movement membership, and in particular, we can pose the hypothesis that the individual's career creativity profile has a peak that corresponds with the peaks of other artists who belonged to the same movement (see Galenson (2000) and Galenson and Weinberg (2000, 2001) for seminal studies of career valuation profiles for modern artists).

The economics literature on movement membership and its effect on creativity profiles is pretty limited at the moment. Accomminotti (2009) addresses the issue in considering major modern artists - those working in leading metropolitan clusters such as New York and Paris and figuring in the central narrative of the history of modern art. Using numbers of textbook illustrations as the measure of creative importance, he computes correlations across artists belonging to the same movements of time patterns of illustration frequencies over the artists' lifetimes and finds these correlations to be strong, and significant and important in accounting for career creativity patterns. Hodgson and Hellmanzik (2019) consider a similar set of major metropolitan artists,

this time using price as realized at auction as the measure of creative quality, and estimate hedonic regressions pooled across all artists in which pooled age polynomials are present along with polynomials in year of production pooled only across artists belonging to the same movement, for approximately twenty different modern movements. The results obtained are mixed: the movement polynomials are statistically significant for about half of the movements, suggesting that movement membership can have an important effect on the career creativity profile for some movements but not for all of them.

The mainstream history of modern art in metropolitan clusters, especially Paris and New York, has largely been a history of rapid aesthetic advance, where the most important and valuable art works are those produced by the members of an avant-garde (see Poggioli (1969)), and where originality and inventiveness are most highly valued. There are various reasons that have been proposed for why a structure of avant-garde movements will come into existence in such an environment (Bourdieu (1992, 1993)), but the question of what sort of structure of creative interaction will come into existence in a more peripheral, or provincial, urban centre, whose artists and collectors are aware of, and inevitably influenced by, developments in the metropolitan clusters, has been less analyzed, although important discussions are provided by Joyeux-Prunel (2015) and Cottington (2012, 2013). Indeed, Cottington's distinction between *avant-garde* and *bourgeois professional* as categories of modern artistic grouping was developed to characterize the nature of groupings that can arise in a marginal (from the standpoint of the progress of modern art) urban centre that is influenced by, and perhaps trying to "catch up" with, a metropolitan centre.

This last model of an art scene that is marginal or peripheral with regard to a major metropolitan creative cluster can well represent the Canadian case for much of its early history. By the time avant-garde movements were starting to appear in Paris in the 1870's (White and White (1993), King (2006)), Canada was transitioning from colonial to national status, and was still very lightly populated, with small urban centres and an extremely thin art market (Harper (1977), Reid (1988)). As Canada's cities grew in the subsequent decades, with populations of largely Anglo-Saxon Protestant and French Catholic origins, an art scene developed that was very heavily influenced by European methods and values. Canadian artists were trained in the European capitals, and the increasingly wealthy urban business class collected the major European artists, and so an awareness and eventually an acceptance of the European modernist ethos developed in the Canadian art market. Many modernist artistic groupings, or "movements", subsequently came into being, and came in fact to dominate the history of Canadian painting. We maintain in this study that, for important historical reasons to be outlined below, these groupings can be categorized into movements that fit, on the one hand, the avant-garde model described above (and to be more fully developed below), and, on the other, the "bourgeois professionalist" model of Joyeux-Prunel (2015) and Cottington (2012, 2013).

For reasons to be discussed below, in the context of the network models mentioned above, we maintain that it is only the first of these types of structures that should be expected to have an impact on the career creativity profile of the artists that belong to the grouping. We will empirically investigate this hypothesis using a categorization of eleven important modernist groupings that have been identified in various presentations of Canadian art history, based on

our reading of that history. In particular, we work with prices of sales at auction of paintings by hundreds of Canadian artists, and estimate hedonic regressions containing, in addition to many control variables, polynomials, pooled across members of each of our eleven groupings, of price as a function of year-of-creation. These polynomials will be interpreted as representing the career creativity effects of movement membership, for those artists belonging to each movement. The hypothesis that different types of groupings have different implications for the nature of artistic creation will correspond with the movement polynomial having more significant impacts on price in the case of avant-garde groupings than for the non-avant-garde ones. There is of course a maintained hypothesis implicit in our analysis that the price at which a painting sells at auction contains a signal of the quality, or creative originality, of the painting. This hypothesis has been questioned by many researchers, and we will discuss it more fully below.

In Section 2, we will present and discuss the literature on network models of creativity, modern art, and avant-garde movements, and attempt to justify our dichotomy between types of modernist artistic groupings, as well as its hypothesized importance for career creativity patterns. Section 3 contains a discussion and justification of our identification of price with quality and creativity, while in Section 4, we discuss Canadian art history, present our eleven groupings and their categorizations, within the context of the theoretical considerations developed in Section 2. In Section 5 we present our data set, econometric model, and empirical results, and add some concluding analysis and further remarks in Section 6.

2. NETWORKS, CREATIVITY, AND THE AVANT-GARDE

The generally accepted dominant paradigm of modernist artistic creation was established in Paris in the third quarter of the nineteenth century, when the reigning academic system of artistic production, dissemination, and critical judgment was replaced, in the visual arts, by a new framework, described for example by White and White (1993), who term it the “dealer-critic system”. How and why this system came into being in Paris at this time is analyzed by White and White (1993), but what we are concerned with here is the actual functional structure of the system, which has been analyzed in great detail by Bourdieu (1992, 1993) and Poggioli (1969). By the dawn of World War I, this structure governed all advanced artistic creation and its critical evaluation in Paris (Joyeux-Prunel (2015)), and was becoming the accepted paradigm among advanced artists, collectors, and critics throughout Europe, and, gradually, in North America, where it had definitively established itself by the end of World War II. Much of the discussion in this section draws heavily on the ideas of these authors.

Within this new paradigm, the most highly valued criterion of quality artistic creation was its innovative originality and its influence on the course of the mainstream of further creative innovation. To make their mark in the critical marketplace, artists had to be boldly original, pushing the envelope of artistic possibility in surprising new directions. To be truly original meant adopting a posture with respect to existing artistic paradigms that was antagonistic. A reigning stylistic current needed to be rejected as “old hat”, as bourgeois conventionality, and it was only through a hostile and shocking rejection of the status quo that new work could establish its originality and merit the attention of the “art world”, the complex of professional

experts belonging to what Bourdieu (1992, 1993) terms the field of artistic production: artists, dealers, critics, collectors, curators, etc.

It was this complex network of interested actors, the “field”, that ultimately rendered judgments as to which artistic creations were successful, were truly “original” or “creative”, and therefore of the highest “quality”. In what follows, we will drop the quotation marks from these words, and suppose that the field’s judgments of these properties are identical with the properties themselves, a point we will discuss further in Section 3, where we will also argue that, for the purposes of the historical econometric analysis undertaken below, prices of art works as realized in contemporary (with us) auctions can function as reliable indexes of the quality/originality/creativity of historic works of modern art.

The very structure of the field of modern art promotes a historical view of modernist artistic innovation in which each creation is retrospectively judged as being important to the extent that it was an original and seminal element of a chronological sequence of such innovations. The success of an artist depends on their ability not only to master this historic sequence, and size up the weak points in the latest stage of the sequence, that against which their own work will be presented as an overcoming, as an antagonistic advance, but also in their ability to attract attention to their work, to be able to convince the field’s top players that the new work is indeed original, creative, and likely to be subsequently seen to be historically important. This task must be accomplished in a very crowded marketplace, in which a great number of competitors are vying for the attention of critics, dealers, collectors and, indeed, of each other,

and where the inability to establish one's work as being of capital creative originality has the consequence of creative and financial oblivion.

We note that this characterization of artistic creation only applies to those artists belonging to the avant-garde field, to those who choose to situate themselves on the frontier of advanced artistic originality, creating previously unknown forms for which no market yet exists and where a high degree of risk is present as to whether any such market will ever develop. Bourdieu (1992, 1993) presents a detailed model of the various "positions" which an artist can occupy in the overall field of artistic work, but we will simplify to emphasize the dichotomy between what he terms artists who produce for already existing demand, and avant-garde artists, who create work for which no demand yet exists and then have to persuade the field that the work is worthy of having demand develop subsequently. The former category of artists, the "non-avant-garde" contingent, producing various types of commercial or applied art, or paintings derivative of long-accepted styles, for sale in tourist galleries, furniture stores, etc. (what Clement Greenberg (1961) termed as "kitsch"), can generally count on higher prices and a more secure income than an avant-garde artist (at least in the earlier stages of their career), but in foregoing the risk of failure that attends the career of the avant-gardiste, also foregoes the possibility of being considered a great and celebrated creative artist (the economic aspects of the career choice between avant-garde and non-avant-garde artist are analyzed by Cowen and Tabarrok (2000), and examples of two such artists are presented by White (1993) and White and White (1993), while the desire of artists to attain a long-lasting, even posthumous prestige, and the importance to this goal of being associated with a major movement or historically celebrated style, is emphasized by Lang and Lang (1988)).

The model career profile of a successful avant-garde (AG) artist as described by Bourdieu (1992, 1993) also underlies the analysis of Joyeux-Prunel (2015). The criterion of success is to produce a work or group of works that is generally recognized and accepted by the AG field as being important. This type of success, the acquisition of what Bourdieu calls “symbolic capital”, is generally not accompanied by immediate financial success, or the acquisition of “financial capital” (wrongly termed “economic capital” in the English translations of Bourdieu cited here). Indeed, financial success is considered by the field as suspect, and may lead it to dismiss the work as too commercial, as “kitsch”. The artist generally must struggle to attract the attention and approbation of the field, especially as the work most likely to be recognized as important must paradoxically be antagonistic towards the very field whose approval is ultimately being sought. There are a number of reasons, described below, why this acquisition of symbolic capital will be greatly abetted by the artist’s membership in an AG movement.

Bourdieu (1992, 1993) describes as “young” an artist who is in the process of acquiring this symbolic capital, but stresses repeatedly that this “youth” is to be defined in terms of position in the typical career trajectory, not in terms of biological age, and that the “youth” stage of an AG artistic career can in fact occur at virtually any biological age (indeed, for the Canadian artists in our study, it ranges from about 20 to 60 years of age). Once the creative breakthrough has been accomplished that procures the artist’s symbolic capital and general recognition, the artist more or less gradually enters the ranks of the “consecrated AG”, becomes generally recognized as a historically important figure, can now command significant prices in the primary art market (i.e. the market in which mostly new art works are sold for the first time, usually by the dealers who

represent the artists), and must choose how to convert the acquired symbolic capital into financial capital through the subsequent path or creative choices.

The choices available at this stage are well described by Wohl (2019), and range from continued and only slightly modified repetition of the stylistic characteristics that established the artist's reputation, to gradual modification and development of the style, but recognizably within the parameters of the original creative breakthrough, to radical breaks with the artist's own earlier style. These choices, which would generally be of roughly descending financial profitability, can be seen as ranging from the adoption of a position that is effectively "kitsch" to a continued "young AG" striving for relevance. In any case, the later work of a "consecrated AG" artist will always and necessarily be judged and evaluated with reference to the artist's original breakthrough contribution, by which the artist is almost always ultimately recognized and assessed historically.

Bourdieu (1992, 1993) notes that financial considerations can overwhelmingly push the artist into a more conservative position at this stage, in which the symbolic capital that was achieved through a period of financial denial must now be cashed in, exchanged for a life of relative material comfort. In effect, the artist faces once again the choice of identity between AG and commercial artist as outlined by Cowen and Tabarrok (2000), but now the "commercial" choice is to continue working in one's own earlier style. Bourdieu (1992, 1993) notes that, at all stages in this decision tree, the "AG option" is more likely to be chosen by an artist who is independently wealthy, and thus free of the condition of penury that accompanies the AG option. Joyeux-Prunel (2015, p. 132) also notes that many successful AG artists move out of the

AG and live out their existences in a materially comfortable post-AG position, for example Monet by the 1890's. This discussion has important implications for our analysis of the price-quality relationship in Section 3.

The model of an AG artist's career, as developed by, for example, Bourdieu (1992, 1993) and Poggioli (1969), is largely intended to describe the environment of advanced artistic creation as it existed in Paris during roughly a century starting around 1870. Paris had a very highly developed artistic field, in which, as we have mentioned, original innovation, especially in terms of the formal language of pictorial representation (or lack of representation), became the criterion of success for those artists wishing to establish themselves within the AG. A consciousness of modern art as a historical evolution of a series of formal styles, each one advancing on and possibly countering, the preceding one, quickly developed, and an artist, to be successful, had to convince the field of critics, collectors, and other artists, that his or her work belonged to the cutting edge, was part of an important and influential new current that was the most original among the competing new approaches.

For a variety of reasons aside from the creative impulse itself, which we discuss below, membership in a AG grouping of artists pursuing a similar new creative departure could be very helpful to the career of an individual artist, and indeed the concept of the AG movement (AGM) became central to the historical characterization of the evolution of modern art in Paris, and, to a great extent, and subsequently, in other western urban centres (Poggioli (1969), Joyeux-Prunel (2015)). An AGM is a grouping of artists pursuing a similar innovative artistic direction in which a specific aesthetic is proposed in a generally and openly adversarial attitude to an existing

dominant stylistic tendency (itself having been proposed at an earlier historic stage by an AGM whose members have since been recognized, and become members of the consecrated AG (Bourdieu (1992, 1993)).

The movement usually has a name, self-conferred or provided by sympathetic or hostile critics, which is reflective of the nature of its bold new aesthetic, and, if the movement comes to be successful, will enter the mainstream art historical narrative as representative of an entire phase in the evolution of modern art. Every successful movement is accompanied by a body of writings which specify and explain the originality and historical importance of the artistic style. These writings are often highly polemical in nature, and are provided by the artists themselves, sometimes in the form of manifestos (especially when, as is often the case, the revolutionary aesthetic is accompanied by, and purported to be in support of, some form of proposed political or social revolutionary action, itself being, according to some thinkers, such as Bürger (1984), an essential aspect of any true AGM), but more commonly by supportive critics, journalists, poets, etc. Indeed, many artistic movements are multidisciplinary in nature, and include members of the advanced literary field as close associates.

In this context, the existence of a movement is important in terms of providing a sufficient critical mass of artists working in a particular stylistic direction to allow this direction to be seen as important, as representing a new current in the market. It also aids in the mobilization of sympathetic critics (or, almost as important, the provocation of unsympathetic ones). In this respect, the movement can be seen as serving the mobilizational objectives of social movements generally, as analyzed in the essays collected by Zald and McCarthy (1987), where

movements are modeled as competing entities attempting to promote objectives that can involve social change or the achievement of personal goals by the members of the movement (so-called “exclusive” movements, p.127). The weight offered by the existence of a movement can be helpful in mobilizing the resources necessary for the attainment of the group’s objectives, such as, in the artistic case, critical attention, financial resources (from advanced collectors or sympathetic patrons, who may value their own ability to catch a “new wave” ahead of their peers). In Zald and McCarthy (1987, pp. 298-300), movement activity generally will be greatest in affluent bourgeois environments, where the financial and educational resources will be such that multiple competing advanced social movements can exist, and this characterization is definitely accurate as applied to movements in the creative fields.

There is one additional purpose served by a movement, that although not necessarily important in contributing directly to enhanced creativity, does connect with one aspect of network modelling of creativity in teams. Poggioli (1969) notes that the very nature of the AG programme can be psychologically difficult for an artist attempting to attain recognition. The individualistic nature of modern artistic creation, stemming from the Romantic notion of great art as individual expression, coupled with the competitive environment in which antagonism is an essential component, and in which the artist’s attempts to produce original creations will almost inevitably be greeted by critical rejection and derision from powerful quarters of the creative field, and where the financial situation of the artist may well be quite precarious, necessarily place the unestablished artist in a psychologically vulnerable position. The existence of a close circle of similarly positioned colleagues will not only aid the artist in gaining attention and recognition for the reasons outlined above, but also provides a sense of solidarity,

psychological, creative, and, importantly, financial. It also provides a secure and trusting environment in which the artist can present his or her most unconventional ideas for initial evaluation of their worth before they are presented in a public forum such as an exhibition of new art. The importance of the psychological protection offered by one's movement colleagues is also mentioned in the interviews of AG artists reported by Rosenberg and Fliegel (1965).

This last point is not only important for the psychological comfort it implies for the individual artist, but has also been noted as being an essential component of the creative process, and is mentioned, for example, by Fleming, Mingo, and Chen (2007), as a significant reason why important creative advances are most likely to occur within a tightly nuclear, cohesive creative team, characterized by "strong ties" (Granovetter (1973)). The literature theorizing the nature of creativity in teams (including also, for example, Reagans and Zuckerman (2001) and Uzzi and Spiro (2005)) analyzes the relative importance for the realization of creative problem-solving and artistic advances of different categories of creative networks, with a dichotomy established between those characterized by "weak" or "strong" ties. Strong ties are those linking a group of collaborators where cohesion is relatively tight, due to the presence of such features as friendship, mutual trust, demographic similarities, or common interests, values, and creative priorities, which are associated with a sense of solidarity, loyalty, or personal identity of the members with the grouping. In an environment characterized by loose ties, many of these features will be absent, but there still exists a recognizable community or field of actors seeking to pursue creative advances within the general parameters of the field, with some collaboration, or at least mutual acquaintances on the personal and professional levels, which allows all the

actors to have some awareness of the general progress of the field and of recent ideas and creations of one another.

In theory, each category of network has its strengths and weaknesses. Strong-tie groupings are thought to be important because they promote the concentration of the members on a fairly narrow and well-defined set of creative problems, for which the members have a largely similar viewpoint, which, together with mutual trust and solidarity, allows for a free and experimental exchange of ideas that is kept within the circle and thus protected from ridicule, or, perhaps, intellectual theft, from those not belonging to the circle. This model fits well what we refer to as an avant-garde artistic movement, as defined for example by Joyeux-Prunel (2015) or Cottington (2012, 2013), or what Zald and McCarthy (1987) call an exclusive movement. The weakness of a strong-ties grouping stems directly from its strength, which is that it can stagnate or dissolve very quickly, once the principal creative problem has been solved. The members have taken what they can from one another, and if they wish to pursue further creative work, must generally look elsewhere for fresh creative inspiration. Zald and McCarthy (1987, pp. 124-127) note that, within their general typology of social movements, those that are exclusive movements principally directed towards the personal goals of their members (i.e. artistic movements) are inherently unstable and tend to disappear once their goal is achieved. Successful avant-garde artistic movements are generally short-lived in practice, with the members seeking to pursue their individual creative directions quickly following the establishment in the art market of the new style promoted by the movement.

The most fertile creative environment seems to be one featuring a broad network of loosely tied actors, allowing for the flow of information about new creative advances, in which nuclear groupings of strongly tied individuals form based on the discovery or recognition amongst the members of specific similarities of interest or outlook. Such a network, termed a “small world”, is used by Uzzi and Spiro (2005) to model creative innovation in the Broadway theatre, a relatively large creative field in which tight creative partnerships form and dissolve as new creative opportunities arise and then are exhausted. This model seems to us to fit very well the functioning of such an AG cluster as Paris during its heroic period of high modernism. As we shall argue below, it also has pertinence for an analysis of movement activity in the Canadian art scene.

In the foregoing analysis, we have presented the model of creative innovation through AG movement groupings within a mature AG artistic cluster, of which the first was that which emerged in Paris in the nineteenth century (White and White (1993)), and which is the specific creative matrix that inspired the models of such researchers as Bourdieu (1992, 1993) and Joyeux-Prunel (2015). The question naturally arises as to the relevance of such a model for any place other than the Paris of 1870-1970, and especially for a younger country like Canada, which at the beginning of the period of the Parisian AG had just started its transition from British colony to independent nation-state, was lightly populated and largely lacking in the large, sophisticated urban bourgeoisie which is seen as necessary to support an AG artistic field.

As Paris was Europe’s artistic capital in the latter nineteenth century, its creative trends had international influence, as the AG model spread throughout Europe, then to North America and

beyond. This dissemination was effectuated through the influence of the many international artists who studied in Paris before returning home, as well as foreign critics and writers who studied in Paris or read its avant-garde journals and magazines, and through the advanced and invidiously competitive collectors, including some Canadians, who were keeping abreast of Parisian trends (Weitzenhoffer (1986) Durand-Ruel (2014)), and, subsequently, by the modern art museums and their curators, who were constructing a specific historical narrative of modern art through their permanent and temporary exhibitions, and the donations they were soliciting from top collectors (Robson (1988), Wijnberg and Gemser(2000)).

Joyeux-Prunel (2015) describes in detail the attempts in the period up to World War I to create an environment supportive of the creation of AG art in major urban centres other than Paris. In many cases, these attempts were not very successful. Indeed, the AG field as it came to exist and function in Paris was very much indigenous to Paris, and depended on a variety of underlying socio-economic conditions, and cultural traditions, which didn't exist elsewhere. The emphasis on formal innovation within a large field of sophisticated players was almost impossible to recreate anywhere else, or if so, only after a lengthy period of conditioning of whatever interested parties may have existed. Joyeux-Prunel (2015) points out that, due to the difficulty inherent in establishing an ethos of AG formal innovation in an environment where little tradition of advanced artistic creation, evaluation, or collection, existed at all, the best way for a Paris-inspired AG movement to come into existence in a foreign capital would be to unify around an aesthetic principle that, although not formally inventive by Parisian standards, was advanced by local standards, and distinguished itself from Parisian art by appealing to nationalist criteria of judgment. So a local interpretation of formal devices already existing in

Paris could be given meaning by being tailored to the expression or representation of sentiments specific to the home country. The World War I period was one in which nationalist sentiments ran high in many countries, and so real and meaningful originality could be found in the way in which the movement adapted recent Parisian formal advances to the needs of local expression. Joyeux-Prunel (2015) views this type of nationalist group as constituting a genuine manifestation of the AG creative spirit, and indeed we maintain below that the Canadian Group of Seven, which came together and developed its distinctive stylistic interpretation of the Canadian landscape during the war years, exemplifies this.

Aside from the AG nationalist groups that developed outside Paris, there was another type of grouping that arose in many cities, exemplified by groups like “les XX” in Brussels and the various central-European Secessions. These were groupings of artists inspired by and highly sympathetic towards Parisian modernism, and which developed in order to promote new aesthetic styles. These artists were generally not organized around a specific innovative formal style that was antagonistic to existing prevalent style, since they were in cities where very little in the way of an AG, or its associated infrastructure of modern galleries, critics, collectors, etc., existed. These groupings came into existence to promote the development of a market and environment favourable to modern art, and although their members were working in styles that were Paris-inspired, and possibly quite advanced, the groups were often somewhat eclectic, with various currents of recent Parisian art existing together, and without unifying aesthetic originality. This category of grouping is explicitly modelled and named by Cottingham (2012, 2013), in specific contradistinction to AG movements, as “bourgeois professional”, we associate it with the idea of “weak ties” described above, and would expect it to arise in a city where an

AG art field does not yet exist, serving the function of establishing a critical mass of artists interested in modernist aesthetics, with the possible outcome, if successful, of creating a “loose ties” network sufficiently dense to allow the coalescence of sub-groups into genuine “strong ties” AG movements.

In this dichotomy between AG movement and bourgeois professional grouping (which we will call the Canadian context a “modernist grouping” (MG)), we suppose that the most important and original creative advances occur within the AGM’s, and that the career creativity profile of an artist belonging to an AGM would be more significantly influenced by group membership than for a member of an MG. This is expected for the reasons outlined above, but there are also art-market considerations for why we expect AGM membership to have price effects not present for members of an MG. These are presented in the next section.

3. QUALITY, CREATIVITY, AND ART PRICES

The empirical study reported below adds to an existing line of enquiry as to prices in the auction market for modern art in which price is taken as an ordinal indicator of the quality of a work of art, possibly controlling for observable characteristic such as size, medium, genre, and date and location of the auction (see, for example, Galenson (2000), Galenson and Weinberg (2000, 2001), Hodgson (2011), and Hodgson and Hellmanzik (2019)). Furthermore, the terms “quality”, “creativity”, and “originality”, as applied to individual art works, are taken to be synonymous. We adopt the same approach here, this latter identity of terminology being used in consideration of the analysis of the foregoing section, in which creative originality is the

overriding criterion governing all judgments of value in the modern art field, and that the invidious striving amongst artists to distinguish themselves in the field through the originality of their creative breakthroughs is accepted by all participants in the field (critics, collectors, dealers, the artists themselves) as being the “Rule of the Game” (Bourdieu (1992)) that directs all activity.

The question of how prices are determined in the modern art field, and their relation, or lack thereof, with any sense of genuine quality, has generated much thought and analysis. Many observers of the contemporary art market maintain that it is difficult, even impossible, to discern any regularities governing the determination of prices. Caves (2000), in a lengthy and wide-ranging study of many sectors of the overall field of creative production, refers continually to the “nobody knows” character of all original creative production, by which he means that the ultimate judgment of the creative worth of any original work, of the influence or popularity that it will wind up having, and of its financial success, are all highly uncertain, and completely unpredictable, at the moment of its public unveiling. In the field of visual art, the implication is that the fixing of its price in the primary art market, i.e. the market in which a painting is offered and sold for the first time, by the artist or dealer, will be largely arbitrary and independent of what may wind up being judged to be the importance, originality, and influence of the work. The problem of the “nobody knows” principle for the fixing of prices in the primary market is studied in great detail by Velthuis (2005), who attempts, through an empirical analysis of the New York and Amsterdam contemporary art markets, to determine what regularities, if any, enter into the establishment of prices for newly created and marketed art works. Velthuis (2005) finds that a set of informal rules-of-thumb are used in which prices amongst a particular set of new works by an artist usually differ only based on certain physical characteristics, such as

size, with no attempt made to use price to distinguish relative quality. Ideally, as the artist's career progresses, the dealer will seek to gradually increase the prices, and collectors are often strongly discouraged from offering works they have purchased from the dealer or artist for sale in the "secondary" market, the resale market for art works that have already been sold at least once. Among the various possible sales venues in the secondary market, collectors are especially discouraged from selling through an auction house.

Another way in which the use of price as an indicator of quality in the art market has been questioned stems from the oft-noted price disparity between advanced, avant-garde art works, and works produced for the popular market. In particular, higher prices and a more secure livelihood, as noted above in our presentation of Bourdieu's (1992, 1993) model of the field, are often available to artists who choose the path of predictable, less adventurous, art (or of kitsch). This disparity was present at the very birth of the avant-garde in painting, as illustrated by King's (2006) description of the enormous gap between prices obtained during their lifetimes by the now mostly forgotten salon painter Meissonnier and the pioneering avant-garde giant Manet. Similar disparities are shown to be present in the Korean art market by Shin, Lee, and Lee, (2014), who find that works by more critically acclaimed artists tended to fetch lower prices at newly-established public auctions. To what extent this result connects with the avant-garde versus kitsch dichotomy present in Western art markets is not clear from a reading of the paper, whose authors caution against interpreting their results with reference to any other but the Korean market itself.

Price-quality disparities analogous to those described above between commercial and avant-garde artists can also be observed within the career price dynamics of individual successful AG

artists. In our earlier presentation of Bourdieu's (1992, 1993) model of the career profile of a successful AG artist, higher prices can typically be commanded for new work later in the life cycle, by which time the artist has become a member of the consecrated AG, is famous, and can cash in on his or her reputational capital. However, these later works are rarely considered by anyone to be more creative or important than the earlier works made while the artist was literally or figuratively "hungry", and fully engaged in the struggle to produce the big breakthrough that would signal a new phase in the historical evolution of the most advanced art. There are many representative examples in modern art, but we can mention the names of Monet or Picasso as typical cases, who came to be very affluent men in their mature years, but who struggled to make ends meet when they were producing what have come to be recognized as their definitive works.

This uncertainty as to the pricing of new works is not unique to the artistic field, but can occur in any market into which a new product is introduced, as noted by Scitovszky (1945). The quality or desirability of the product will be unknown to its potential consumers, and manufacturers seek to set the price in order to signal potential quality to consumers. This problem is especially strong for the case of luxury goods, where style is often more important than function, or can indeed be identified with it, as in the case of art works. Scitovszky (1945, p. 100) notes one exception in which price can be taken as a good indicator of quality, and this is in what he refers to as an "expert market", one in which the products for sale are well known by the potential consumers, and where some common standard of judgment of quality exists. This characterization is often thought to describe well the secondary art market, especially one in which considerable time has passed between the date of creation of the art works, and the date at which the sale takes place. Indeed, Caves (2000, p. 330) and Velthuis (2005, pp. 82, 160) do

make important distinctions between the primary and secondary markets when it comes to the price-quality relationship. For example, many would consider it reasonable to suppose that the auction market of today for paintings by major historical artists of a century ago is in this category, and this is indeed the maintained hypothesis underlying the papers mentioned earlier, such as Galenson (2000), and Galenson and Weinberg (2000, 2001), who find that quality rankings by career period as obtained from auction prices correspond well with those that can be inferred from art history survey books, as well as Hodgson (2011) and Hodgson and Hellmanzik (2019), in all of which auction prices realized many decades after the creation of the art works are being taken to include information as to the general judgment of the relative quality, and hence creative originality, of the individual paintings.

It is important to emphasize and understand that the career effects on price, at the individual-artist level, that are found in historical auction data, are logically and practically distinct from the career profile of prices realized by successful AG artists in the primary market, as we discussed earlier. The latter tend to have a profile that increases almost monotonically with age, as the artist's reputation and recognized historical importance grow in real time, with the consecrated artist converting symbolic into financial capital (Bourdieu (1992, 1993)). The former will peak at the phase of the artist's career that is judged in historical retrospect to have been the most creative, and which may have and typically will be a time of life in which the artist was barely managing to survive. The historical market also judges successful AG artists much more highly than it does producers of kitsch. These latter, even if well paid in their lifetime, tend to disappear quickly from the auction market, while the "winners" in the AG struggle for recognition have historical reputations, and auction price realizations, that only grow with time.

One only need consider the relative prices that are now fetched at auction by works created respectively by Meissonnier and Manet.

The process by which a modern artist becomes consecrated by art history and by the art market is a complex one that has generated much research, but it involves the joint behaviour of all the actors in the contemporary artistic field, as listed above, with an important role also played by the curators and donors of museums that collect modern art. The role of artistic movements, and the historical identification of the most important advances with the movements associated with them, even at the level of descriptive naming, has played an essential role in the identification of value in the historical account of modern art. In narratives of this history, whether in art history texts, or in the organization of permanent and temporary museum exhibitions, emphasis is placed on the stylistic currents as represented by the movements associated with them. The works of art that receive the greatest emphasis, under this narrative, are those created by the artists belonging to these movements, at the specific point of time at which the movement's creative breakthrough manifested itself. The actual historical process by which this particular definition of value came about, involving both specifically "market" players such as collectors and dealers, and critical institutions such as journals, academics, and museums, is described, for example, by Joyeux-Prunel (2015, pp 482-500), Robson (1988), Wijnberg and Gemser (2000), Lena and Pachucki (2013), and Lang and Lang (1988).

The discussion of the two previous sections may be seen as overdetermining the importance of movements to economic value, since on the one hand their role is seen as being an organizational or mobilization focal point, attracting the attention of the field and playing a polemical role in the gradual construction by the field of symbolic and, eventually, financial,

value. On the other hand, network analysis suggests that there are ontologically genuine ways in which creativity in problem-identification and –solving is facilitated by the existence of tight nuclear groupings within the context of a broader and more loosely connected field. This raises the question of the very meaning of the concept of creativity. Are the creative advances nothing more than those which have managed to cleverly negotiate for themselves the recognition of the members of a particular field? Csikszentmihalyi (1996) maintains that the only valid empirical measure of creativity that exists is recognition by the field, and we follow this logic in identifying this recognition with the judgment of the field as reflected in historical auction prices.

The network analysis presented above, along with the emphasis on the role of innovative formal breakthroughs in defining the history of modern art and the conferral of symbolic and financial value to individual art works, suggests that the works painted at the time of the creative breakthrough associated with the movement to which individual artists belong will come to be judged retrospectively as the most important and financially valuable of those artists' careers. Empirically, this implies that the timing of the career peak, in terms of price at historical auction, as a function of date of creation of the work, and after controlling for the various other observable characteristics associated with each particular sale of a painting at auction, should be similar for all members of an avant-garde movement. Furthermore, we would not expect such a similarity to necessarily occur among the members of modern art groupings not belonging to the AG category, such as bourgeois professional groupings (les XX, the Secessions, and their Canadian equivalents, to be described in the next Section), since these types of “loose tie” groupings aren't structured to generate specific creative breakthroughs, and historically

tend to be characteristic of an immature modern art field in which formal innovation is not present as a leading objective.

4. MOVEMENTS IN THE CANADIAN SCENE

The history of painting in Canada goes back to the earliest days of the colonial period in the seventeenth century, but it has only been since the mid-nineteenth century that there have existed urban centres in Canada large enough to support even the most rudimentary of art markets, and what we would think of as a modern art market in the European or American sense only gradually developed over the course of the twentieth century (see Sicotte (2002, 2005) for a description of the earliest commercial art gallery in Canada). The history of modern painting in Canada fits well into the centre-periphery model of artists' groupings as developed in Joyeux-Prunel (2015) and Cottington (2012, 2013), both in terms of the relationship of Canada to Europe (especially Paris), as well as that within Canada of regions to the major urban centres. Surveys of Canadian painting that discuss in one way or another all the groupings referred to in this paper include Harper (1977), Reid (1988), Leclerc (1992), and Leclerc and Dessureault (2005). In outline, this history starts with a handful of local painters, and advanced collectors and critics, who have had some contact with advanced modern painting in the metropolitan centre and seek to develop a network of interested parties in the peripheral locality. These efforts result in the formation of local artistic groupings interested in following and implanting locally the novel styles developed in the metropolitan capital (Paris, generally). These groupings take the form of what Cottington (2012, 2013) calls "bourgeois professional", in reference principally to London (England), but which we refer to simply as "modernist groupings", as Cottington's terminology does not seem to us to fit the Canadian situation especially well. Only

after these groupings have succeeded in promoting the development of a sufficiently dense local field of modern art will the conditions be present for the formation of true AG movements (the one exception to this rule being the possible early emergence during the World War I period of movements organized around a Paris-derived aesthetic that is adapted to the expression of a specifically nationalist message (Joyeux-Prunel (2015))).

We study eleven groupings that have been considered to be of some importance in historical accounts of Canadian art. We categorize each grouping, based on our own reading of the historical references, as being either an avant-garde movement (AGM) or a modernist grouping (MG). In nearly all cases, our categorization was not difficult to make, and we do not believe that it would be controversial to anyone who accepts the basic dichotomy itself. Although we discuss our data set more fully in the next section, we refer to Table 1, where the eleven groupings, along with included artists, are presented.

The Canadian Impressionists, Beaver Hill Group, and Contemporary Arts Society were composed of principally Montreal-based painters who were generally influenced by Parisian modernism (many of the artists had studied or lived there), and played an important role in the establishment of modern art in Montreal. However, none of these groups should properly be thought of as an avant-garde movement, a point explicitly made by the art historians Atanassova (2019) and Trépanier (1998, 1999). For more information on these artists, see for example Des Rochers and Foss (2015), Duval (1990), Prakash (2015), and Hill (1975). The Group of Seven has been referred to above. Its members are the most influential, well-known, and written-about of all Canadian painters, and a couple of examples of the enormous literature they have spawned would include Hill (1995) and King (2010). During, and shortly following,

World War I, they developed, and vigorously promoted, a distinctive and recognizable aesthetic style of representing the Canadian wilderness that was strongly influenced by late nineteenth-century Scandinavian nationalist adaptations of certain currents in Parisian Post-Impressionism.

The Automatists, Plasticiens, and Painters 11 emerged after World War II as textbook examples of avant-garde movements. Their formal innovations were original, even by international standards, and several members of each grouping had gallery representation in foreign capitals such as New York and Paris, were included in major exhibitions of contemporary art, and have works in the collections of such institutions as the Museum of Modern Art in New York and the Centre Pompidou in Paris. These movements, and their individual members, have been much studied and written about, and ample information can be found in such sources as Burnett (1986), Couture (1993), de Billy (1996), Gagnon (1988, 1998), Leclerc (1992), Leclerc and Dessureault (2005), Marchand (1995), Nasgaard (2007), Nasgaard and Ellenwood (2009), and Nowell (2010). The Prisme d'Yeux group was led by Alfred Pellan (Lefebvre (1986)) and was created as a short-lived counter-reaction to the AG Automatiste movement, led by Paul-Émile Borduas, who had broken away in the mid-1940s from the by then relatively conservative Contemporary Art Society (CAS). The Prisme d'Yeux promoted the maintenance in local modernist circles of the CAS school-of-Paris eclecticism, was hostile to the bold new departures of the Borduas group, and was seen even by critics of the day as conservative, one wag quipping that "un nouveau mouvement est né....rien de nouveau" ("a new movement is born...nothing new" (Ince (1982, p. 47)). The Prisme d'Yeux can be considered as a counter-movement in the sense of Zald and McCarthy (1987).

The remaining three groupings are the most recent, and the most difficult to analyze within the framework of this paper. First, the number of paintings that have appeared at auction are fewer, especially for the Av Isaacs and London (Ontario) Regionalists, not only because the relative youth of the artists means that there has been less opportunity for the art works to make their way to the secondary market. Second, these artists mostly emerged in the 1960's, by which time post-modernism had started to define the modern art field, together with its declarations of the "death of painting", so fewer paintings were made as the emphasis of artistic originality shifted to new media.

The Emma Lake and London groups are regional, in the sense that neither was based in major urban centres like Montreal or Toronto, but rather in the comparatively small cities of Saskatoon and Regina (in the sparsely populated province of Saskatchewan) in the in the first case, and London (Ontario) in the second. Emma Lake was the name of a resort where the Saskatchewan painters would get together every summer for a workshop. These painters were stylistically diverse and the nature of their association through periodic reunions of artists situated in different small cities makes it difficult to think of them as constituting a movement in our sense. Nevertheless, these were advanced modern artists who inspired a Clement Greenberg (1963) essay.

The Av Isaacs and London groups were multidisciplinary, both across artists and at the individual level. Indeed, the most important artist in either of these groups was Michael Snow, who achieved major importance as a painter, but is best known for his avant-garde experimental films, including the masterpiece *Wavelength*, made after his move to New York in the early 60's with his wife Joyce Wieland, who also distinguished herself as a filmmaker (Nowell (2001)). We

do not categorize either of these groups as a movement, although the London group was relatively cohesive, and possessed some of the characteristics of a social movement, as there was a high degree of social connection, friendship, and common devotion to ideological and sociopolitical causes (Lord (1969), Théberge (1982, 1997)). However, the aforementioned multidisciplinary makes it hard to discern any common formal aesthetic in their painting.

In the empirical analysis reported in the following sections, we are specifically interested in measuring the career profile of creative originality at the individual-artist level, with specific attention given to the effects on this profile of group membership, where, for all the reasons discussed above, we focus on the proposed distinction between avant-garde movements and modernist groupings. The profile effect of the former is hypothesized to be stronger than the latter, and our interpretation within the context of the econometric model to be described in Section 5 is that movement effects will be significant for the four AG movements we have identified, but not for the other groupings. This hypothesis is posited in the framework of a hedonic regression of prices of historical art works realized at present-day auctions, expressed as a function of several observed characteristics of the art work, including movement effects modelled as a polynomial function of the date of creation of the art work.

We justify our use of recent prices at auction as an index of the field's judgment of the historical quality and importance of an art work for the general reasons outlined in Section 3, but add here that these assumptions seem reasonable in the Canadian case because the modern art field in Canada, at least insofar as artists of European demographic background is concerned, has largely accepted and modelled itself on the ethos of modern art as a sequence of formal innovations that was developed in Paris and largely accepted in Western art history. The

consciousness among the Canadian public of the importance of movements such as the Group of Seven or the Automatistes is very strong, even among people not particularly interested in art. The traditions of a large art historical literature, commercial galleries, public auctions, and sophisticated collectors, are very strong in Canada, and we are confident in assuming that the contemporary auction market for historical Canadian art is an expert market in the sense of Scitovszky (1945). Published studies of major Canadian collectors show them to be well-informed, sophisticated, and passionate about the history of art in Canada (Montreal Museum of Fine Arts (2007), Shields (2008)).

5. DATA, ECONOMETRIC MODEL, EMPIRICAL RESULTS

We started by identifying 417 Canadian artists that we define to be of some historical importance through being mentioned in such general surveys as Harper (1977), Reid (1988), Leclerc (1992), Leclerc and Dessureault (2005), and Nasgaard (2007), or in one of the movement-specific monographs cited in Section 4. This is an expanded version of the data set used in Hodgson and Vorkink (2004) and Hodgson (2011). We obtained records of sales at auction of oil or acrylic paintings for these artists for the years 1976-2017 from Westbridge (1981-2018) and for 2017-2020 from westbridge-fineart.com, and retained for the present study only artists for whom at least five sales with a date of production were available. This leaves us with 224 artists and a total of 14,149 observations. Of these artists, we have, based on our reading of the art historical texts cited in Section 4, placed 107 of them into the specific groupings discussed above, all of which are listed in Table 1. The remaining non-movement-classified artists are listed in the Appendix.

Our principal model will be the following pooled hedonic regression:

$$(1) \quad y_i = x_i' \beta + \sum_{s=1}^{11} I(i \in s) (\gamma_{1s} z_i + \gamma_{2s} z_i^2) + \varepsilon_i,$$

for $i=1, \dots, N$, with $N=14,149$, and where y_i is the log-hammer-price for sale i , x_i is the vector of covariates described below, and β the associated parameter vector, and where $I(i \in s)$ indicates that the artist associated with observation i is assigned to movement s , z_i is the year of production of painting i , and γ_{1s} and γ_{2s} are the quadratic parameters pooled over all artists in movement s , and ε_i is the mean-zero error, assumed to be uncorrelated with the regressors and uncorrelated but possibly heteroscedastic. The covariate vector x_i includes many dummy variables (for the categories other than time period one dummy is excluded to avoid multicollinearity): one for each of the 45 auction years from 1976 to 2020, 223 for artists, 16 for medium/support, 41 for auction houses, and 8 for genre of subject matter, as well as height, width, and surface area measures, and quadratic functions in age that are pooled across the three cohorts of artists born before 1880, between 1880 and 1919, and 1920 or later (see Hodgson (2011) for an analysis that uses this same specification).

Our principal interest concerns the movement effects as measured by the parameters $\{\gamma_{1s}, \gamma_{2s}\}_{s=1}^{11}$. We note that the estimates of these parameters measure the effect on the log-price of a painting, an effect constrained to be the same across all members of a movement, of the date-of-creation of the art work, after controlling for the other covariates included in the regression, including the available physical characteristics of the painting itself, as well as the date and auction house where the sale occurred, and also controlling for generalized age

effects. We emphasize that the date of the sale generally occurs much later, usually decades so, than the date of creation, and that our goal in this model is to measure the effect of the date of creation on quality and originality as judged much later.

A limited version of this specification, including three movement-specific polynomials, is estimated by Hodgson (2011) in the context of a study focussing on age-valuation profiles for Canadian artists. The model (1), and the other auxiliary models mentioned below, are all estimated by ordinary least squares (OLS), after downweighting each observation by the square root of the total number of observations for the associated artist, and, due to the likely presence of heteroscedasticity in the errors, White's (1980) robust standard errors are used.

Before turning to model (1), which principally analyses price effects for artists within a particular movement, we consider two modified versions of the model in which we look at cross-artist or cross-movement effects. In Table 2, we report the results of the estimation of a model like (1), but in which the movement-polynomials are excluded, and where we focus on individual-artist rankings. As there is a dummy variable associated with artist identity included in the regression, for 223 artists, with A.Y. Jackson excluded, we can use the point estimates to establish an estimated value-ranking of the artists, where the numerical parameter estimate itself measures the relative valuation of an artist with respect to Jackson. We have reported the top 30 artists in Table 2, and indicated what category of grouping they belong to, if any. The ranking positions themselves are not necessarily statistically significant, and the p-values only indicate significance of the comparison of an artist with respect to Jackson.

We can see from Table 2 that the highest rankings are overwhelmingly occupied by members of AG movements, especially the Group of Seven and the Automatistes. Ten of the top 18 artists belong to one of these two groupings. The lower part of the Table is largely shared by members of modernist groupings and non-group members. Overall, it does seem that the importance of these groupings, particularly the AGMs, in narratives of Canadian art history, is reflected by their valuations in the contemporary auction market for historic paintings.

The time span over which we have taken our sales data is fairly long, at 45 years, and the question naturally arises as to the stability of judgments of value over so long a period. Posterity's judgment of the creativity, originality, and influence of a particular art work or category of art can change (Csikszentmihalyi (1996)), a point noted for example by Findlay (2014) in his discussion of the contemporary art market, in which even the perceived relative quality of works created in different periods of the career of an artist like Monet can change. This revaluation of art of the past can occur due to art historical discoveries, as in the case of Vermeer in the late nineteenth century, or to the interest that contemporary advanced artists may take in partially forgotten or disregarded sectors of past art, such as the influence on the abstract expressionists of late Monet, of Ingres on Degas and Picasso, or of the early Italian Renaissance on the Pre-Raphaelites.

We consider the possibility of evolution of contemporary judgments of the past in two ways, the second of which will be discussed below in the context of our estimation of model (1). For the moment, we consider a model like that reported in Table 2, but where now the individual-artist dummy variables have been removed and replaced by eleven dummies representing each of the eleven groupings from Table 1. Furthermore, the parameters associated with these dummies

are allowed to change after 2000, so we estimate two sets of value rankings at the movement level, one for the sales up to 2000, and one for the sales afterwards, where rankings are based on the point estimates of the movement-level parameters. The resulting rankings are reported in Table 3. The order is not necessarily statistically significant, and so the parameter estimates have been omitted. A Wald test for the null hypothesis of constancy of these parameters across the two time periods was calculated, and is highly significant, as indicated in the footnote to the table. Looking at the second and third columns of Table 3, some degree of jockeying for position can be noted in the mid- to lower- regions of the rankings, but the positions of the Group of Seven and Automatistes at the top are solid.

The results of the estimation of our principal model (1) are provided in Table 4. Since the object of our analysis in this study is the year-valuation effects as pooled across members of our eleven movements as defined in Table 1, we only report in Table 4 estimates and associated statistics concerning the parameters $\{\gamma_{1s}, \gamma_{2s}\}_{s=1}^{11}$ of the movement-level quadratic functions in (1). From the second-to-last column of Table 4, we see that the quadratic polynomial parameters are jointly significant at the 1% level for 5 of the eleven groupings, including all four of what we categorize as avant-garde movements. Two modernist groupings have parameters jointly significant at the 5% level, and one at 10%. Of the four movements for which the parameters are also both individually significant, three of them are in the AGM category, viz. the Group of Seven, the Automatistes, and Painters 11.

Overall, these results do suggest that the inclusion of the movement effects is of significance for the valuation of the resultant art works. That there is importance for the quality and originality

of the work that results from creativity gains due to collaboration with like-minded artists is also supported by the fact that the more explicitly avant-garde groupings, with clear aesthetic programmes driving the very existence of the movements, are the ones where the statistical importance of including group effects is the strongest.

The pooled movement-level year-valuation profiles, as implied by the estimated quadratic parameters for all eleven groupings, are plotted in panels (a)-(k) of Figure 1. In each case the date range runs from the year in which the oldest member of the movement turned 20 to that in which the youngest member would have turned 80. We note also that, as these profiles are identified only up to a parallel vertical shift, we have used the normalization of setting the peak value equal to zero. For the groupings in which the quadratic parameters are individually and jointly significant, we estimate a concave year-valuation profile with a clear estimated year of peak creativity (Figure 1 (a-c, k)). These peaks are of course subject to random estimation error, but they correspond fairly well with the period of initial activity of the movements, the estimated peaks being slightly later for the Group of Seven and Painters 11, slightly earlier for the Automatistes, and about right for the London Regionalists. For the fourth AG movement, the Plasticiens (Figure 1 (f)), whose most comprehensive and influential group exhibition occurred in 1959, the estimated profile indicates a very sharp decline in valuation, to a degree that the implied profile isn't even concave.

As discussed above with reference to the movement rankings presented in Table 3, it is possible that the field's judgment of intra-artist creative relationships can evolve, with the relative importance of different periods in the career of an artist or movement being revaluated over

time. To assess the importance of this phenomenon, we estimate a modified version of equation (1) in which the parameters of the movement-level quadratic function are allowed to change after 2000. The resulting structural change test statistics are reported in the final column of Table 4, where we see that the null hypothesis of parameter constancy can be rejected for most of the groupings, suggesting that there is evolution in retrospective judgments. However, the actual magnitude of the change in the value of the parameters after 2000 is quite small, with only negligible changes in the point estimates or implied career valuation profiles. The estimates are therefore not reported.

6. CONCLUSIONS

The history of the market for modern art in such mainstream international art centres as Paris and New York is one in which stylistic innovation and creative originality were the most highly valued properties. An artistic avant-garde developed in which it was essential to success for the artist to demonstrate a bold originality that stood in contrast to all past artistic conventions, even the most recent. For various reasons, most of the major artists found it most useful to the attainment of these objectives to form small nuclear groupings whose members were pursuing similar aesthetic strategies, and it has become the norm to refer to all such groupings as “movements” (Poggioli (1969)). Accominotti (2009) and Hodgson and Hellmanzik (2019) focus on the role that belonging to a movement may have played, through creative collaboration, in augmenting the quality and originality of the work produced by the artist while belonging to the movement. We consider here a peripheral market where the introduction of Parisian avant-garde modernism occurred with a significant time lag, and where the existence of transitional

groupings as described by Joyeux-Prunel (2015) and Cottington (2012, 2013), though playing an important historic role in the establishment of a community of modern artists, may not have necessarily contributed significantly to the creative accomplishments of the individual artists in the way that a fully-defined avant-garde movement would. Our empirical results are broadly consistent with such a view.

This study only includes artists who wound up in art history books, having been judged to have made some sort of original contribution to the progress of Canadian art. The existence of so many groupings, and the nature of their importance for intra- and inter-artistic career success, does not inform us about the importance of groupings to success *per se* in the modern art market, as for this it would be necessary to compare the successful artists with unsuccessful ones, and in particular to try to assess the nature of the artistic movements formed, or not formed, by artists who did not succeed in having lasting influence. This undertaking seems very difficult, if not impossible, by its very definition, since artists who fail are the ones who do not survive in the historic record. Their paintings disappear quickly from the auction market and their names from the historical accounts. Historical evidence on these artists, on the prices and market success they achieved in their lifetimes, and the manner by which they disappeared, is either completely lacking or very hard to obtain. The general question of how and why an artist attains the status of historical oblivion is of great interest, but by its very nature very difficult to study empirically.

The history studied here is that of artists of almost entirely European origin, pursuing artistic forms and styles originated in Europe, within standards of judgment also developed in Europe.

The overall universe of artistic creation in Canada includes other sectors that are of great

importance, especially First Nations art. The process by which First Nations artists are trained, and the standards of judgment and valuation that exist in these communities, as well as the role of collaboration and artistic groupings in creating value and meaning, is a separate and fascinating area of study for which the present analysis does not purport to offer any insight. Certainly a comparison and contrast of the relative modes of definition and creation of value in First Nations as opposed to Europe-based art communities would be an interesting extension of our line of study, as would the investigation of similar comparisons in other societies, such as Australia.

APPENDIX – LIST OF PAINTERS INCLUDED IN POOLED MODEL BUT NOT ASSIGNED TO A MOVEMENT

(listed in alphabetical order, with lifespan and number of observations in parentheses)

Carl Ahrens (1862-1936, 17), Edmund Alleyn (1931-2004, 47), William Atkinson (1862-1926, 84), J.M. Barnsly (1861-1929, 27), Robert Bateman (1930-, 15), Maxwell Bates (1906-1980, 181), William Beatty (1869-1941, 119), Frederic Martlett Bell-Smith (1846-1923, 57), George T. Berthon (1847-1892, 5), B.C. Binning (1909-1976, 45), David Blackwood (1941-, 16), Bruno Bobak (1923-2012, 17), Molly Lamb Bobak (1922-2014, 42), David Bolduc (1945-2010, 24), Claude Breeze (1938-, 6), Fred Brigden (1871-1956, 6), Bertram Brooker (1888-1955, 17), Archibald Browne (1862-1948, 29), Emily Carr (1871-1945, 152), Paraskeva Clark (1898-1986, 26), F.S. Coburn (1871-1960, 302), Alex Colville (1920-2013, 24), Charles Comfort (1900-1994, 90), William Cresswell (1818-1888, 21), Jean Dallaire (1916-1965, 69), Georges Delfosse (1869-1939, 11), Joseph Drapell (1940-, 6), Rodolphe Duguay (1891-1973, 24), Alma Duncan (1917-2004, 7), Allan Edson (1846-1888, 19), Patterson Ewen (1925-2002, 34), Ivan Eyre (1935-, 22), A.S. Falardeau (1822-1889, 7), Gathie Falk (1928-, 8), Harold Feist (1945-, 7), John C. Forbes (1846-1925, 7), Jonathan Forrest (1962-, 6), Tom Forrestall (1936-, 13), J.W.L. Forster (1850-1931, 8), Michael Forster (1907-2002, 18), Marc-Aurèle Fortin (1888-1970, 115), Paul Fournier (1939-, 14), Joseph Franchere (1866-1921, 11), John A. Fraser (1838-1898, 6), Charles Gill (1871-1918, 10), Betty Goodwin (1923-2008, 8), Richard Gorman (1935-2010, 18), Kate Graham (1913-2008, 9), John Hall (1943-, 10), John Hammond (1843-1939, 152), Robert Harris (1849-1919, 52), Doug Haynes (1936-2016, 14), Yvonne McKague Housser (1897-1996, 50), E.J. Hughes (1913-2007, 146), Charles Huot (1855-1930, 10), Gershon Iskowitz (1921-1988, 63), Otto Jacobi (1812-1901, 91), Alex Janvier (1935-, 33), Donald Jarvis (1923-2001, 9), C.W. Jeffreys (1869-1951, 5), Illingworth Kerr (1905-1989, 322), Harold Klunder (1943-, 7), John Koerner (1913-2014, 9), Cornelius Krieghoff (1815-1872, 203), William Kurelek (1927-1977, 72), Ludger Larose (1868-1915, 24), Ozias Leduc (1864-1955, 14), Jean-Paul Lemieux (1904-1990, 219), Pegi Nichol Macleod (1904-1949, 17), Thomas Mower Martin (1838-1934, 46), Henri Masson (1907-1996, 304), Marmaduke Matthews (1837-1913, 14), Clark McDougall (1921-1980, 14), Isabel McLaughlin (1903-2002, 21), David Milne (1882-1953, 128), Janet Mitchell (1912-1998, 46), Edmund Morris (1871-1913, 9), Norval Morriseau (1931-2007, 169), Ernst Neumann (1907-1956, 17), Marion Nicholl (1909-1985, 17), Lucius R. O'Brien (1832-1899, 13), Daphne Odjig (1919-2016, 46), Will Ogilvie (1901-1989, 8), Toni Onley (1928-2004, 78), Paul Peel (1860-1892, 78), Sophie Pemberton (1869-1959, 10), Henri Perré (1828-1890, 5), Christopher Pratt (1935-, 14), Mary Pratt (1935-, 28), William Raphael (1833-1914, 51), Carl Ray (1943-1978, 5), George Reid (1860-1947, 78), John Russell (1879-1959, 15), Henry Sandham (1842-1910, 15), Allen Sapp (1928-2015, 212), William Sawyer (1820-1899, 9), Carl Schaefer (1903-1995, 35), Charles H. Scott (1886-1964, 11), Marian Scott (1906-1993, 20), Robert Scott (1941-, 5), Jack Shadbolt (1909-1998, 190), Gordon Smith (1919-2020, 125), David Sorensen (1937-2011, 11), William Leroy Stevenson (1905-1966, 14), Takao Tanabe (1926-, 99), Tony Tascona (1926-2006, 9), David Thauberger (1948-, 23), Joanne Tod (1953-, 7), Robert Varvarande (1922-, 5), Frederick Arthur

Verner (1836-1928, 100), Horatio Walker (1858-1938, 43), Charles Caleb Ward (1831-1896, 10), Lowrie Warrener (1900-1983, 13), Homer Watson (1855-1936, 31), W.P. Weston (1879-1967, 126), Robert Whale (1805-1887, 6), Curtis Williamson (1867-1944, 7), W.J. Wood (1877-1954, 7), Percy Woodcock (1855-1936, 10)

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Table 1: Artists by movement

Artist	Year of Birth	Year of Death	Number of Observations
Group of Seven (CM)			
Frank Carmichael	1890	1945	69
A.J. Casson	1898	1992	642
Lemoine Fitzgerald	1890	1956	34
Lawren Harris	1885	1970	262
A.Y. Jackson	1882	1974	1093
Frank Johnston	1888	1949	170
Arthur Lismer	1885	1969	414
J.E.H. MacDonald	1873	1932	358
Tom Thomson	1877	1917	52
Fred Varley	1881	1969	72
Automatistes (CM)			
Marcel Barbeau	1925	2016	40
Paul-Emile Borduas	1905	1960	86
Marcelle Ferron	1924	2001	133
Pierre Gauvreau	1922	2011	16
Fernand Leduc	1916	2014	20
Rita Letendre	1929	still alive	126
Jean McEwen	1923	1999	165
Jean-Paul Mousseau	1927	1991	12
Jean-Paul Riopelle	1923	2003	548
Painters Eleven (CM)			
Jack Bush	1909	1977	129
Hortense Gordon	1887	1961	24
Tom Hodgson	1924	2006	32
Alexandra Luke	1901	1967	9
J.W.G. MacDonald	1897	1960	65
Ray Mead	1921	1998	34
Kazuo Nakamura	1926	2002	62
William Ronald	1926	1998	134
Harold Town	1924	1990	128
Walter Yarwood	1917	1996	12
Canadian Impressionism (U)			
Henri Beau	1863	1949	24
Harry Britton	1878	1958	27
Franklin Brownell	1857	1946	65
William Blair Bruce	1859	1906	16
William Brymner	1855	1925	29
W. H. Clapp	1879	1954	43
Maurice Cullen	1866	1934	104
Clarence Gagnon	1881	1942	163
Farquhar Knowles	1859	1932	35

Laura Muntz Lyall	1860	1930	32
Helen McNicholl	1879	1915	21
James Wilson Morrice	1865	1924	35
Robert W Pilot	1898	1967	357
Arthur Rozaire	1879	1922	27
Marc-Aurèle de Foy Suzor-Coté	1869	1937	155
Prisme d'Yeux (U)			
Leon Bellefleur	1910	2007	163
Jacques de Tonnancour	1917	2005	61
Albert Dumouchel	1916	1971	11
Alfred Pellan	1906	1988	37
Jeanne Rhéaume	1915	2000	37
Gordon Webber	1909	1965	8
Plasticiens (CM)			
Louis Belzile	1929	2019	17
Rodolphe de Repentigny	1926	1959	12
Charles Gagnon	1934	2003	11
Yves Gaucher	1934	2000	16
Jacques Hurtubise	1939	2014	21
Jean-Paul Jerome	1928	2004	23
Guido Molinari	1933	2004	44
Fernand Toupin	1930	2009	55
Claude Tousignant	1932	still alive	19
Contemporary Arts Society (U)			
Fritz Brandtner	1896	1969	19
Miller Brittain	1912	1968	13
Stanley Cosgrove	1911	2002	291
Louise Gadbois	1896	1985	65
Jack Humphrey	1901	1967	25
John Lyman	1886	1967	23
Louis Muhlstock	1904	2001	17
Jean Palardy	1905	1991	14
Goodridge Roberts	1904	1974	187
Jori Smith	1907	2005	63
Philip Surrey	1910	1990	44
Beaver Hall Group (U)			
Andre Bieler	1896	1989	66
Nora Collyer	1898	1979	31
Adrien Hebert	1890	1967	38
Prudence Heward	1896	1947	11
Randolph Hewton	1888	1960	18
Edwin Holgate	1892	1977	90
John Johnstone	1887	1930	46

Mabel Lockerby	1887	1976	6
Mabel May	1884	1971	48
Kathleen Morris	1893	1986	26
Lilias Torrance Newton	1896	1980	7
Hal Perrigard	1891	1960	59
Sarah Robertson	1891	1948	7
Albert Robinson	1881	1956	129
Anne Savage	1896	1971	26
Adam Sherriff Scott	1887	1980	32
W.T. Topham	1888	1966	8
Emma Lake Group (U)			
Ronald Bloore	1925	2009	21
Ted Godwin	1933	2013	20
Roy Kiyooka	1926	1994	8
Dorothy Knowles	1927	still alive	97
Ernst Lindner	1897	1988	11
Kenneth Lochhead	1926	2006	38
Arthur McKay	1926	2000	8
William Pehudoff	1919	2013	54
Otto Rogers	1935	2019	26
Av Isaacs Group (U)			
Dennis Burton	1933	2013	31
Graham Coughtry	1931	1999	17
John Meredith	1933	2000	28
Gordon Rayner	1935	2010	11
Michael Snow	1919	still alive	8
Joyce Wieland	1931	1998	11
London Regionalists (U)			
Jack Chambers	1931	1978	7
Ron Martin	1943	still alive	16
Tony Urquhart	1934	still alive	20

Table 2: Hedonic covariates, model without movement effects, top 30 artists

Artist	Number obs.	Parameter	Std error	% change relative to Jackson	Std error
1. Tom Thomson (AG)	52	1.668***	0.269	430.16***	142.62
2. Frank Carmichael (AG)	69	1.152***	0.102	215.82***	31.90
3. Lawren Harris (AG)	262	0.922***	0.092	151.43***	23.13
4. Paul-Émile Borduas (AG)	86	0.760***	0.104	113.83***	22.24
5. Emily Carr	152	0.741***	0.271	109.80*	56.89
6. David Milne	128	0.505***	0.082	65.86***	13.63
7. Jean-Paul Riopelle (AG)	548	0.487*	0.251	62.74	40.85
8. Fred Varley (AG)	72	0.390***	0.104	47.70***	15.36
9. Cornelius Krieghoff	203	0.373	0.253	45.21	36.73
10. James Wilson Morrice (MG)	35	0.344	0.281	41.06	39.64
11. Alex Colville	24	0.264	0.364	30.21	47.40
12. E.J. Hughes	146	0.0569	0.0751	5.85	7.95
13. A.J. Casson (AG)	642	0.0177	0.0394	1.79	4.01
14. A.Y. Jackson (AG)	1093	0	-	0	-
15. Edwin Holgate (MG)	90	-0.0563	0.0724	-5.47	6.84
16. Jean-Paul Lemieux	219	-0.0579	0.0768	-5.63	7.15
17. J.E.H. Macdonald (AG)	358	-0.142	0.245	-13.24	21.26

18. Arthur Lismer (AG)	30	-0.207***	0.044	-18.70***	3.61
19. Kathleen Morris (MG)	81	-0.210	0.144	-18.94	11.67
20. Ozias Leduc	14	-0.249	0.378	-22.04	28.69
21. Christopher Pratt	14	-0.250	.280	-22.12	21.81
22. Helen McNicholl (MG)	21	-0.253	0.308	-22.35	23.92
23. Clarence Gagnon (MG)	163	-0.309***	0.075	-26.58***	5.51
24. Albert Robinson (MG)	129	-0.373***	0.0877	-31.13***	6.04
25. Marc-Aurèle Fortin	115	-0.384***	.0940	-31.89***	6.40
26. Alfred Pellan (MG)	37	-0.393***	0.135	-32.50***	9.11
27. Paul Peel	78	-0.444*	0.252	-35.85**	16.16
28. B.C. Binning	45	-0.645***	0.128	-47.53***	6.72
29. Maurice Cullen (MG)	104	-0.646***	0.252	-47.58***	13.21
30. William Kurelek	72	-0.667***	0.258	-48.68***	13.24

1. Asymptotic significance at 10% (*); at 5% (**); at 1% level (***)
2. member of: AG – “avant-garde” mvmt; MG – “modernist” grouping
3. $R^2 = 0.9738$; $\bar{R}^2 = 0.9731$

Table 3: Rankings of movement by parameter point estimate for periods 1976-2000 and 2001-2020, model with movement dummies and no individual artist dummies

Ranking	1976-2000	2001-2020
1	Group of 7	Group of 7
2	Automatistes	Automatistes
3	Emma Lake	Cdn. Impressionism
4	Painters 11	Plasticiens
5	Cdn. Impressionism	Beaver Hall
6	London Reg.	London Reg.
7	Prisme d'yeux	Painters 11
8	Plasticiens	Prisme d'yeux
9	Beaver Hall	Emma Lake
10	Av Isaacs	Av Isaacs
11	Contemp. Arts Soc. (U)	Contemp. Arts Soc.

1. Ranking position not necessarily statistically significant
2. Wald statistic for joint structural change = 28.93*** (null asymptotic distribution = χ^2_{11})

Table 4: Parameter estimates, model with movement career effects

Movement	Year	Std err	Year squared	Std err	Wald	Structural change
Group of 7 (AG)	2.13***	.377	-5.52× 10 ⁻⁴ ***	9.71× 10 ⁻⁵	44.72***	10.54***
Automatistes (AG)	3.40***	1.13	-8.78× 10 ⁻⁴ ***	2.86× 10 ⁻⁴	136.11***	28.49***
Painters 11 (AG)	3.97***	.580	-1.01× 10 ⁻³ ***	1.48× 10 ⁻⁴	57.95***	20.24***
Cdn Impressionism (MG)	.0494	.440	-1.03 × 10 ⁻⁵	1.14× 10 ⁻⁴	5.90*	7.76**
Prisme d'yeux (MG)	-.607	.989	1.55 × 10 ⁻⁴	2.52× 10 ⁻⁴	0.51	21.43***
Plasticiens (AG)	-1.48	1.49	3.66 × 10 ⁻⁴	3.76× 10 ⁻⁴	33.41***	3.85
Contemp. Arts Soc. (MG)	-.505	.892	1.27× 10 ⁻⁴	2.28× 10 ⁻⁴	3.01	36.70***
Beaver Hall (MG)	.817	.659	-2.14× 10 ⁻⁴	1.70× 10 ⁻⁴	9.01**	8.49**
Emma Lake (MG)	.0316	0.970	-1.09 × 10 ⁻⁵	2.46× 10 ⁻⁴	4.56	4.76*
Av Isaacs (MG)	.574	.778	-1.52× 10 ⁻⁴	1.98 × 10 ⁻⁴	8.56**	2.54
London Reg. (MG)	14.6***	5.72	-3.72× 10 ⁻³ **	1.45× 10 ⁻³	12.35***	10.83***

1. significant at 10% (*); at 5% (**); at 1% level (***)
2. AG – “avant-garde” mvmt; MG – “modernist” grouping
3. $R^2 = 0.9746$; $\bar{R}^2 = 0.9739$
4. Wald statistics for joint significance (column 6) and structural change after 2000 (column 7), null asymptotic distribution = χ^2_2

Fig. 1a: Group of Seven

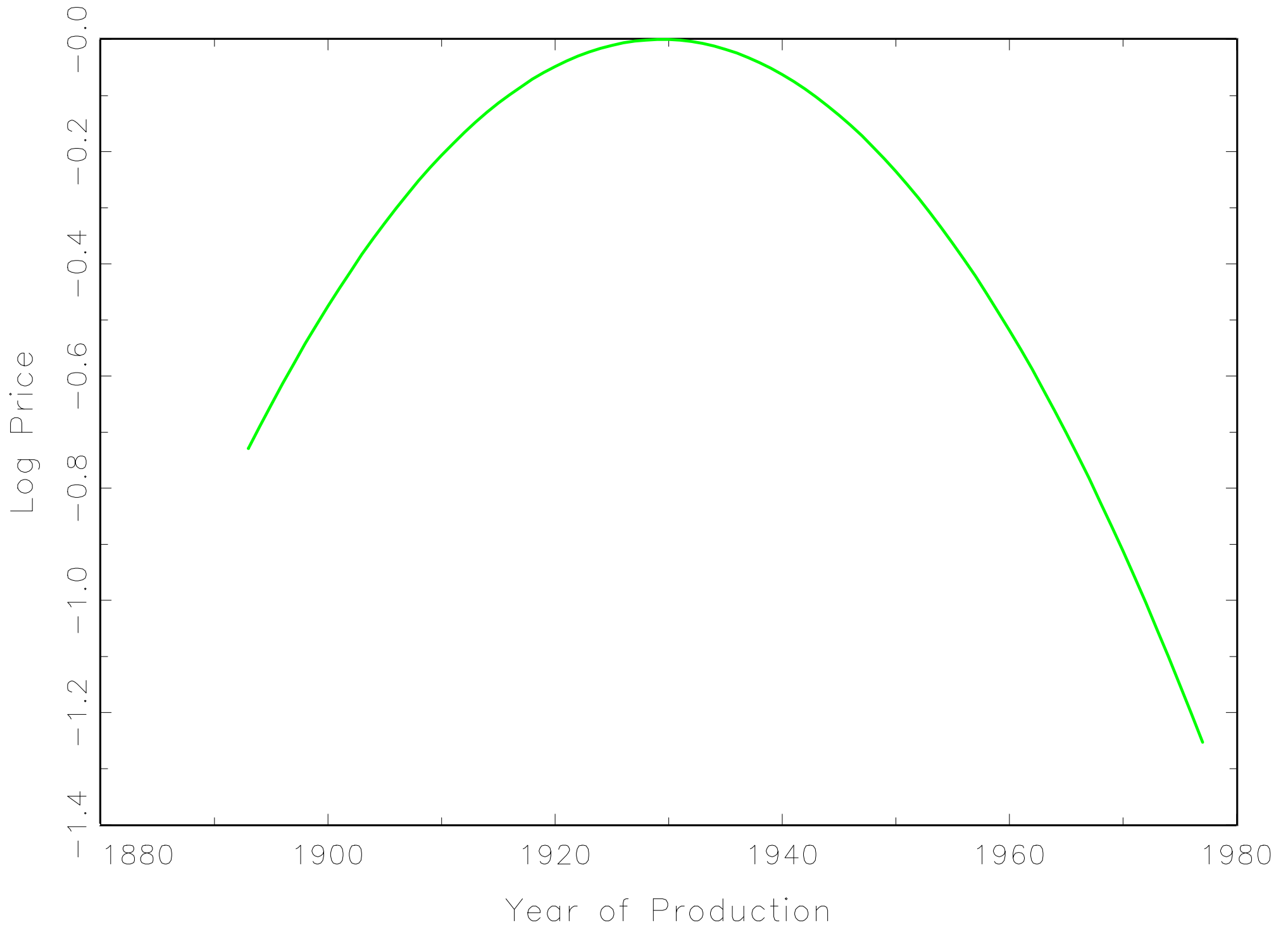


Fig. 1b: Automatistes

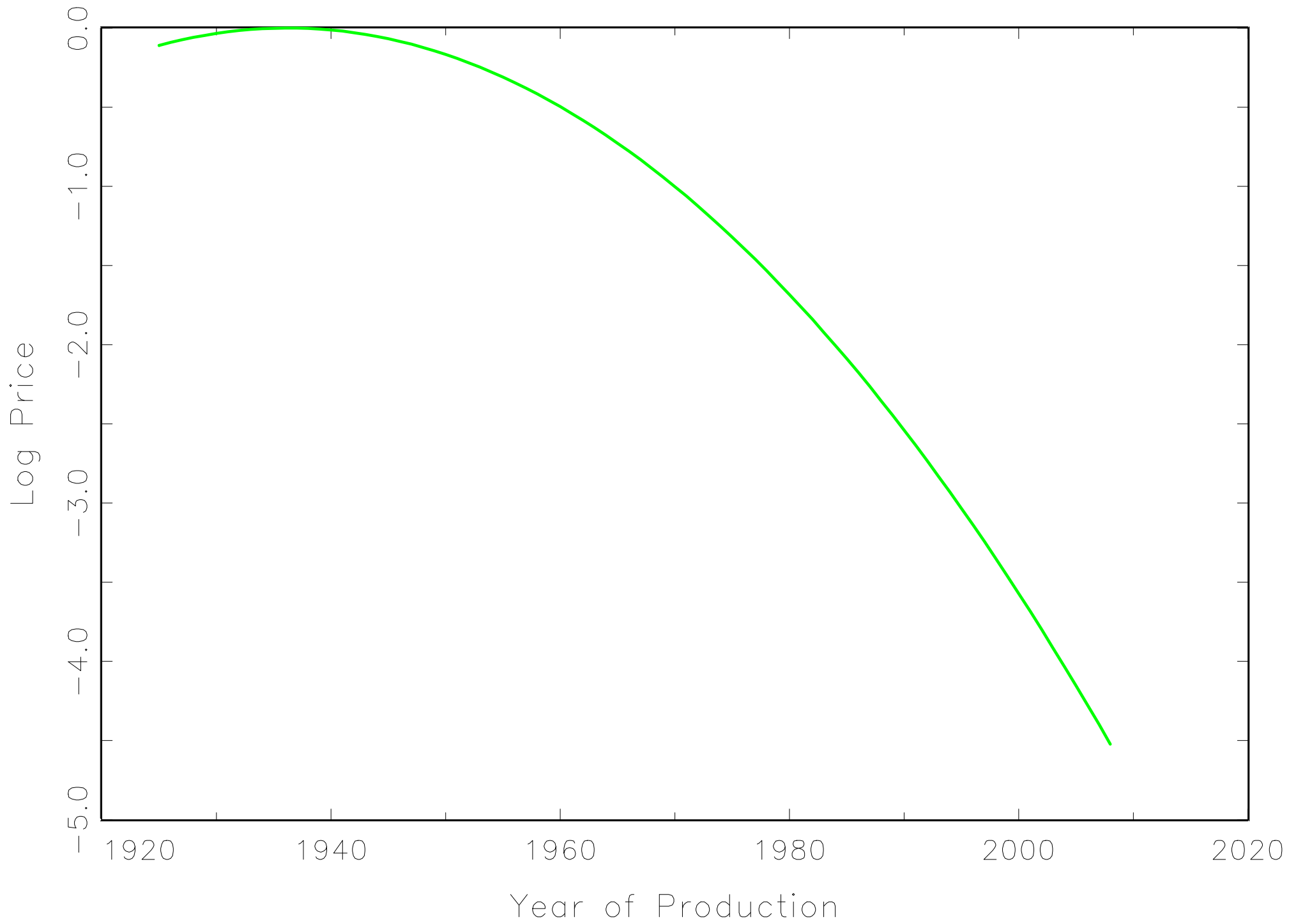


Fig. 1c: Painters Eleven

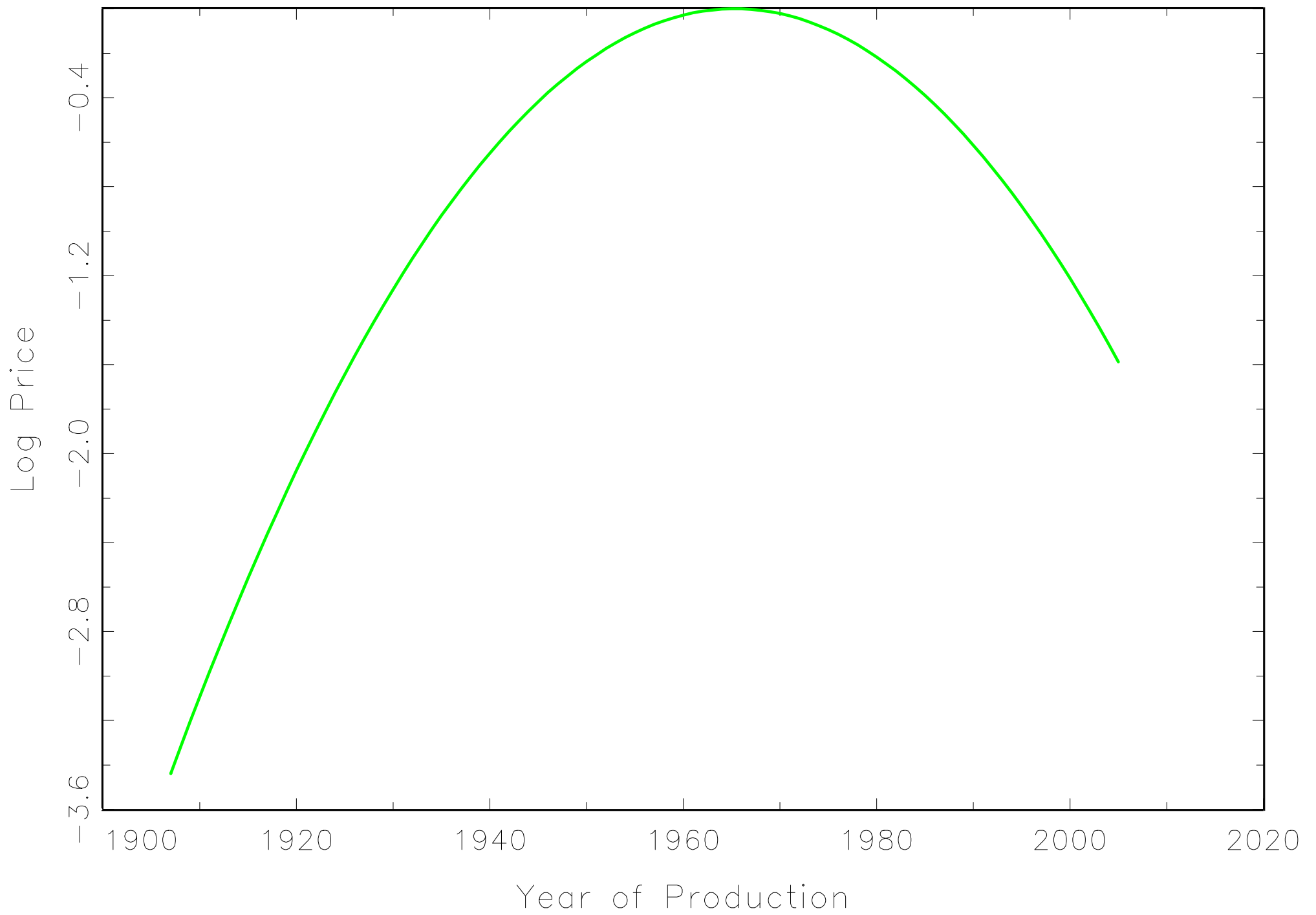


Fig. 1d: Cdn. Impressionism

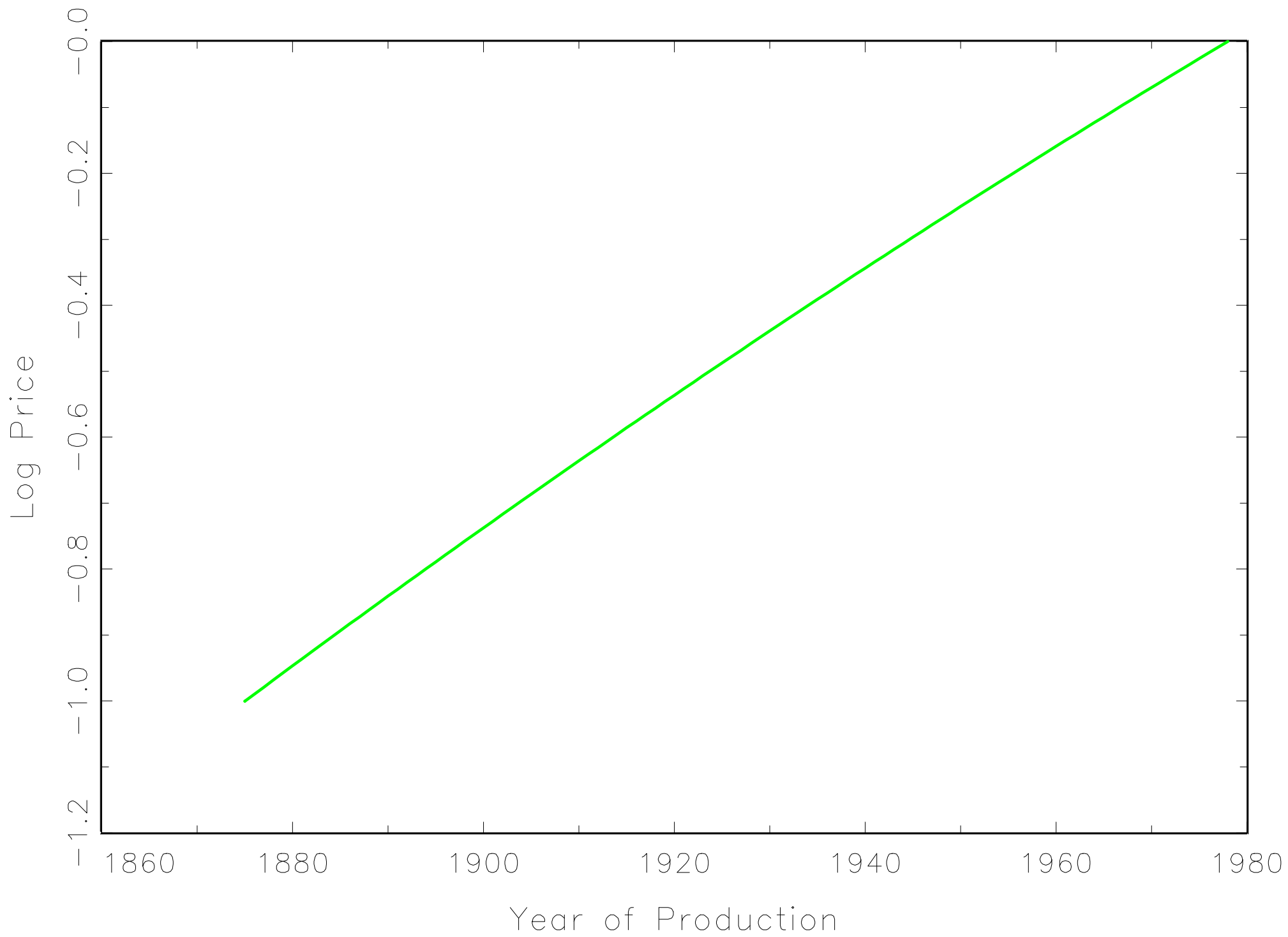


Fig. 1e: Prisme d'Yeux

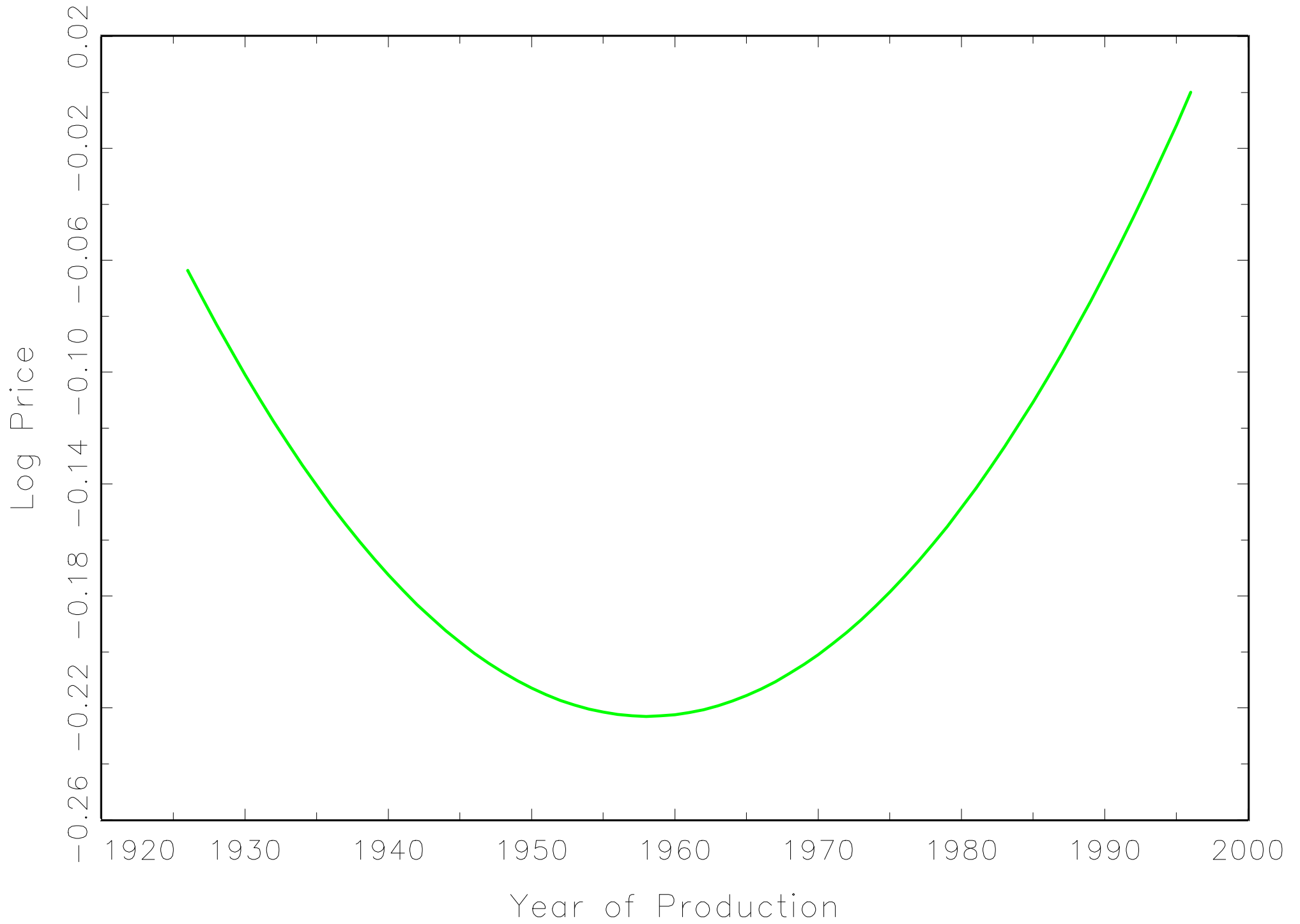


Fig. 1f: Plasticiens

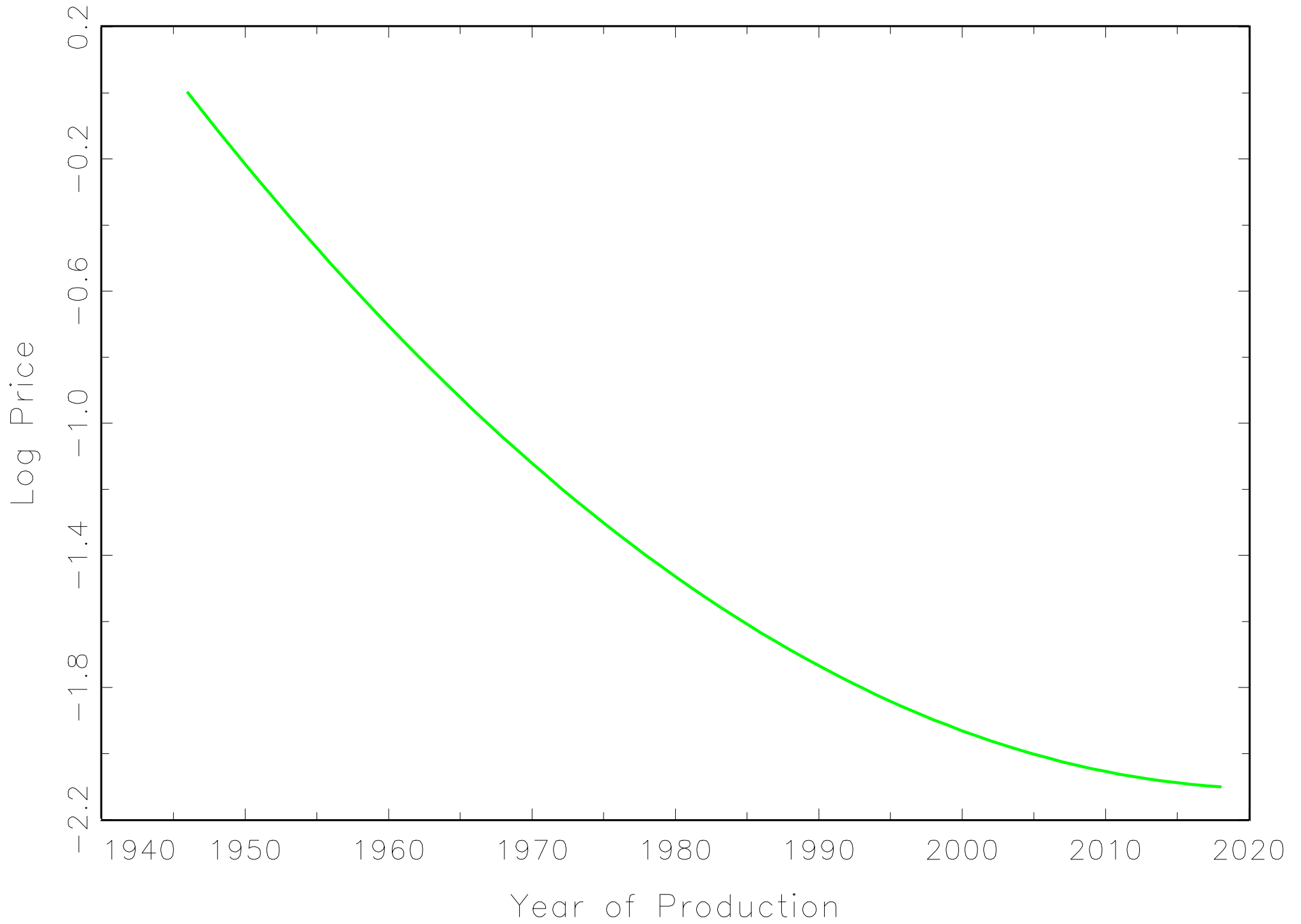


Fig. 1g: Contemporary Arts Soc.

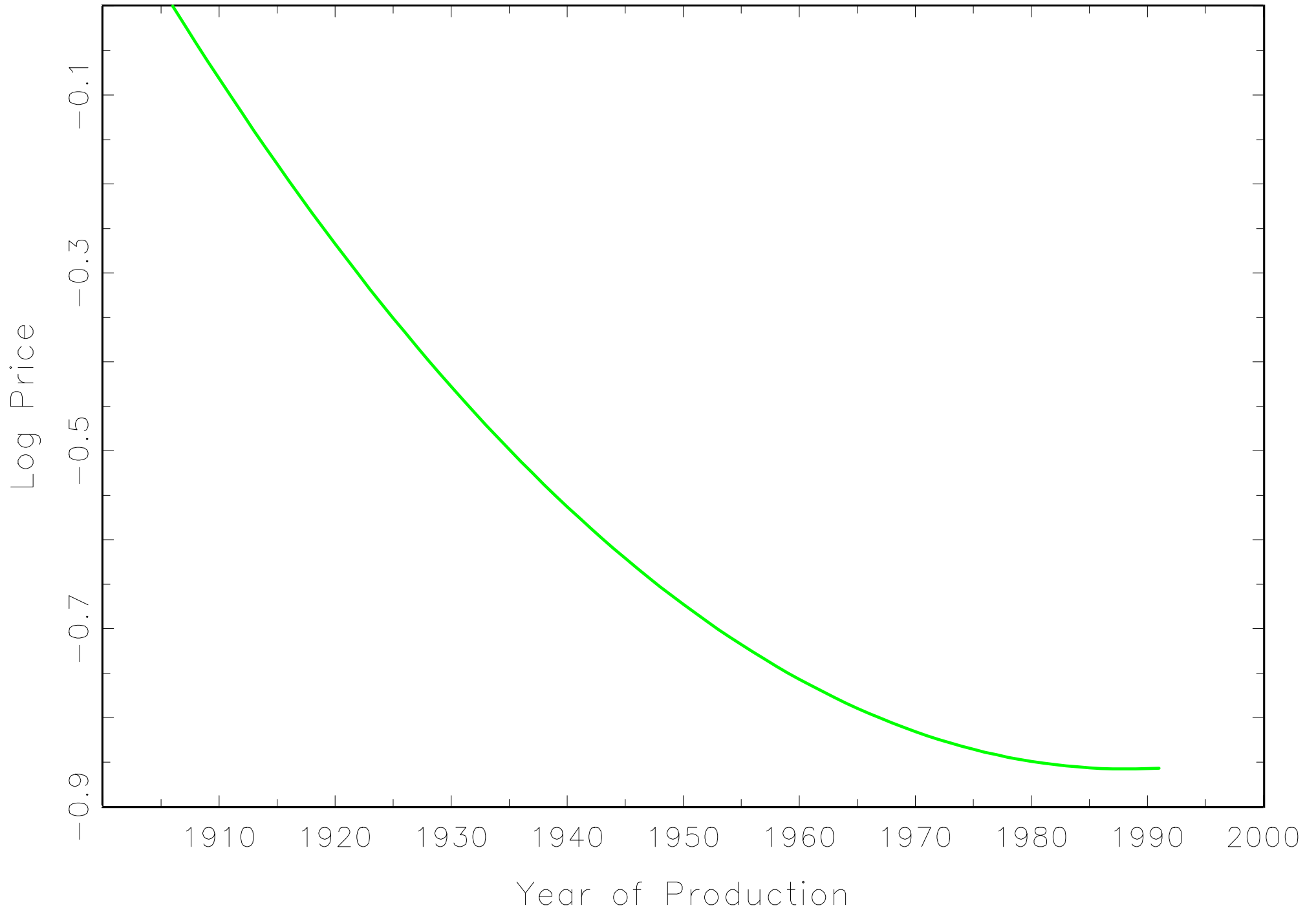


Fig. 1h: Beaver Hall Group

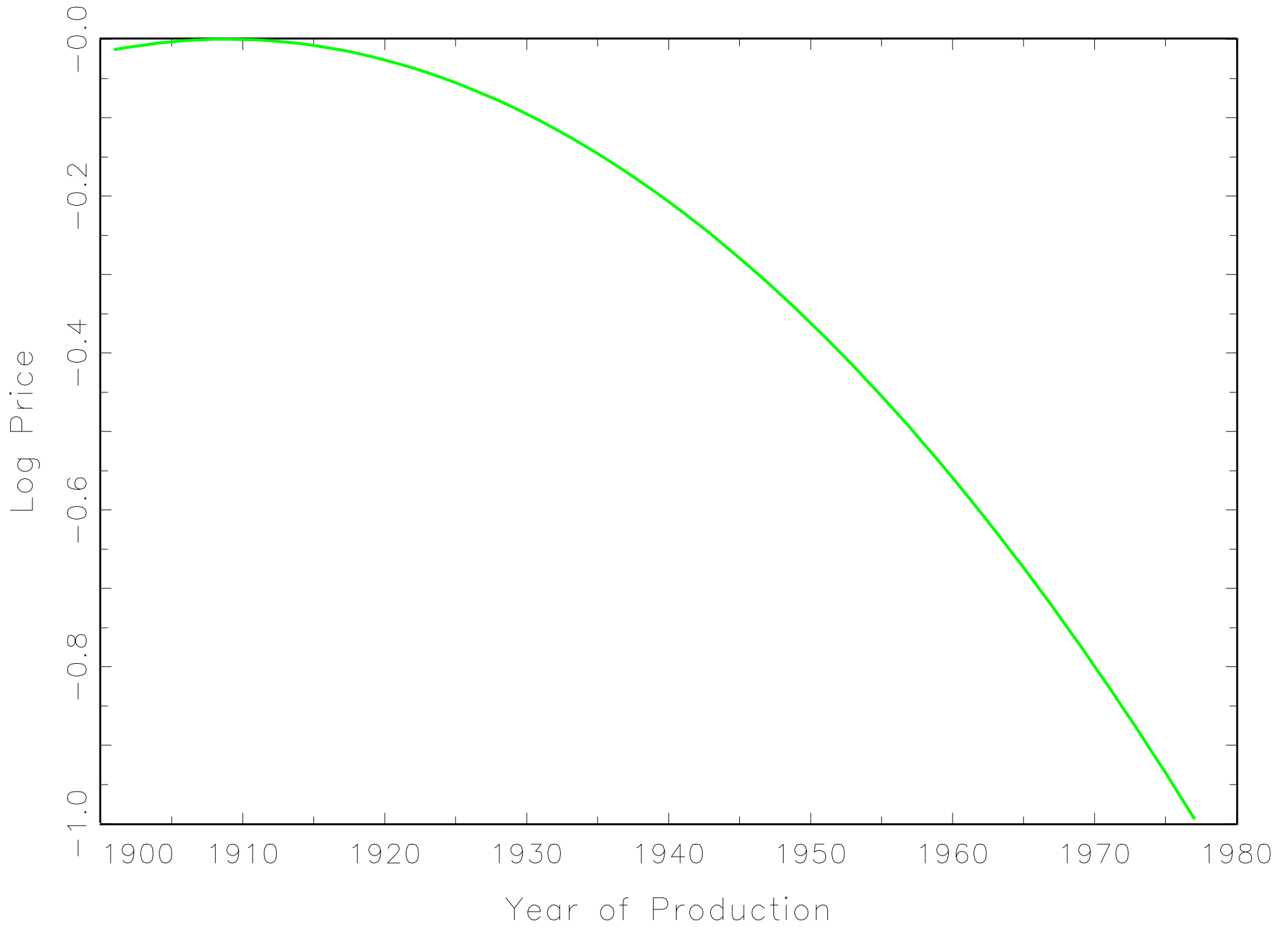


Fig. 1i: Emma Lake Group

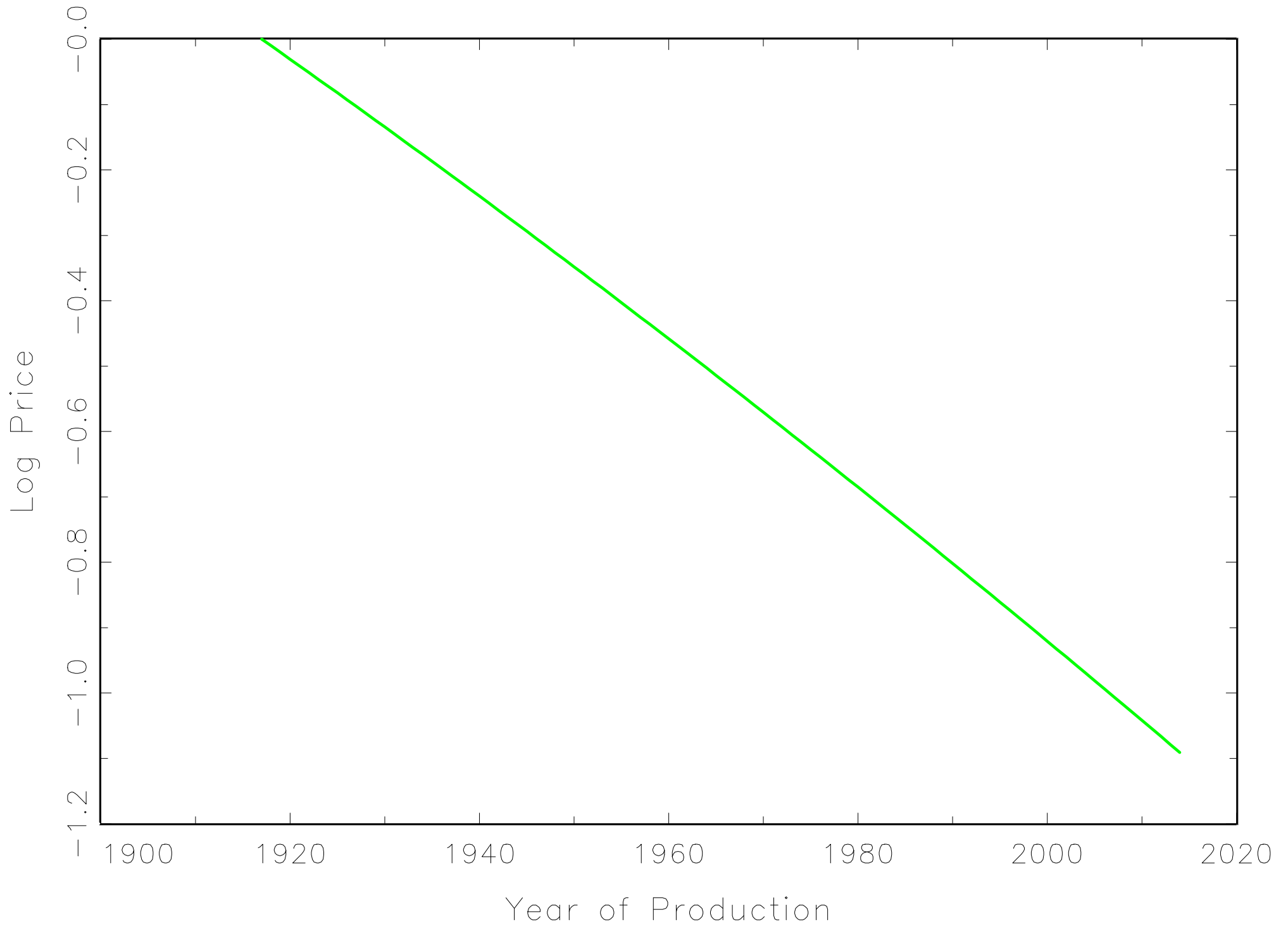


Fig. 1j: Av Isaacs Group

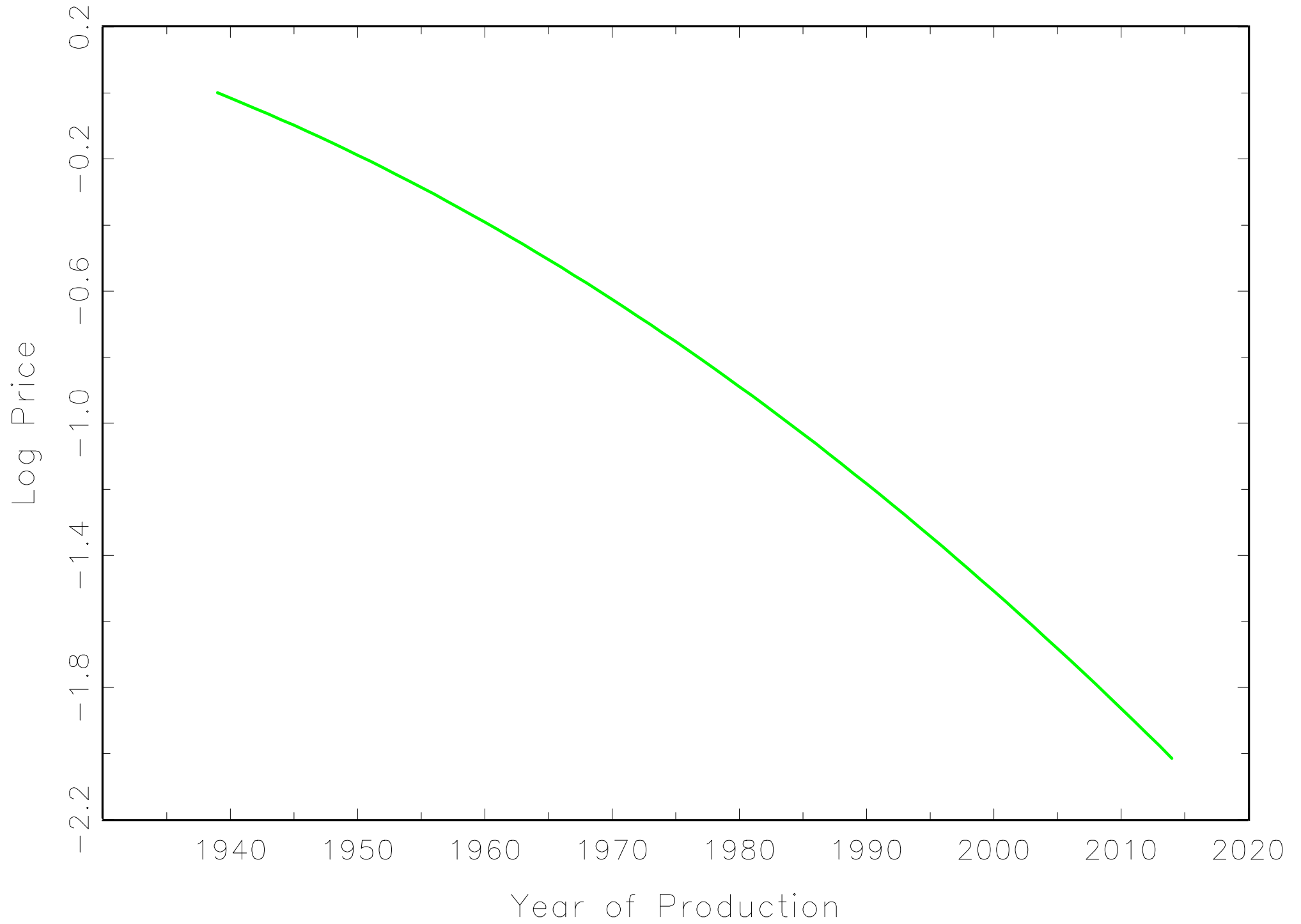


Fig. 1k: London Regionalists

