

Cinema Composers: Career Trajectories for Creative Productivity in Film Music

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It was hypothesized that film composers, like classical composers, have career trajectories that are endogenously rather than exogenously driven (i.e., contingent on internal processes rather than external influences). Study 1 examined 153 composers who composed original film music or music adapted later for film. The correlations among the number of total hits and the ages at first hit, best hit, and last hit followed the same pattern as found for classical composers. Study 2 concentrated on a subset of 78 composers who were nominees or awardees for best score or song from the Academy of Motion Picture Arts and Sciences. The analyses indicated the same predicted configuration of correlations among the number of total nominations and the ages at first nomination, first award, last award, and last nomination. Furthermore, the longitudinal placement of the career landmarks corresponded closely across the two studies: first hit with first nomination, best hit with first award, and last hit with last award. The endogenous determination of the career course helps explain the poor association between exceptional film music and the corresponding film's cinematic success.

Keywords: cinema composers, film music, age, productivity, Oscars

Cinema composers have a somewhat ambivalent position as artistic creators. On the one hand, many film composers are formally trained musicians who appear to be continuing the European classical music tradition. For instance, eminent film composers like Max Steiner, Wolfgang Eric Korngold, Bernard Herrmann, Nino Rota, and John Williams have all composed so-called “serious” music, such as symphonies, ballets, and operas. Many also have been trained under recognized classical composers and have received formal training at prestigious conservatories. Thus, John Williams was privately tutored by Mario Castelnuovo-Tedesco and studied at Juilliard under Rosina Lhevinne. Furthermore, prominent classical composers will sometimes venture into film composition. Instances include Sergei Prokofiev, Aaron Copeland, Dmitri Shostakovich, Leonard Bernstein, Philip Glass, John Corigliano, and Tan Dun. In addition, successful film music is highly honored. For example, ever since 1935 the Academy for Motion Picture Arts and Sciences has bestowed Oscars for the categories of score and song. Sometimes, too, the best film music ends up as part of the play lists for bona fide classical music stations. As a case in point, John Barry’s “John Dunbar Theme” for the 1990 *Dances With Wolves* has become something of a staple on programs otherwise confined to the standard repertoire.

On the other hand, cinema composers have often been looked down upon in comparison to authentic classical composers. In contrast to the serious music written by composers who are now largely employed in university music departments, film music is far more immediately accessible. Thus, it seldom involves atonal, serial, or avant-garde compositional techniques. On the contrary,

in many ways film composers appear retrogressive, staunchly adhering to the lush symphonic style favored by the Romantic composers of the late 19th and early 20th century. Moreover, film music is inherently applied rather than pure. Rather than being entirely self-expressive in the manner of symphonic music in the classical repertoire, film music must fit the specific needs of particular segments of a given motion picture. As a consequence, effective cinema composers have to “write on command,” every such composition constituting an indisputable *pièce d’occasion*. Frequently this means that they must create in a great variety of musical styles—including jazz, blues, rock, folk, country, and other popular forms—suggesting that such composers may lack an identifiable style of their own. The low woodwinds that introduce the Overture to the 1941 *Citizen Kane*, the eerie electronic sounds of the theremins in the 1951 *The Day the Earth Stood Still*, the high-pitched violins violently accentuating the shower murder in the 1960 *Psycho*, and the poignant lament of the jazz saxophone in the 1976 *Taxi Driver* have virtually nothing in common—except that they are all the musical creations of Bernard Herrmann. Indeed, one can question whether film music can be considered a recognizable musical genre. When Rentfrow and Gosling (2003) studied the relation between personality and music preference, the researchers were obliged to ignore film music; “sound track music was excluded because sound tracks can contain the musical styles of practically every other music genre” (p. 10). So film composers—unlike those creating in any other music genre—might appear to lack the artistic integrity expected of a true creative individual.

So can cinema composers be considered to be genuine artistic creators in the same league as screenwriters and directors? Or are they more comparable to the technicians responsible for, say, special visual effects or sound effects editing? To frame more precisely the issue being raised I first need to examine the most relevant research findings.

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Empirical Research

The largest body of investigations entails laboratory experiments showing how music can influence both affective and cognitive aspects of the cinematic experience. For example, because music can evoke emotional reactions (Juslin & Sloboda, 2001), film music is often used to establish a specific affective mood or arousal state (e.g., Ellis & Simons, 2005; Pfaus, Myronuk, & Jacobs, 1986; for review, see Cohen, 2001). At the cognitive level, film music can facilitate comprehension of the cinematic narration (e.g., Boltz, 2001, 2004; Bullerjahn & Gldenring, 1994; Vitouch, 2001). Additionally, because both film and music have analogous temporal organization for the articulation of dynamic changes (e.g., a beginning, middle, and an end, and the time-wise placement of conflicts and their resolution), music can reinforce the course of the cinematic content (for relevant discussion, see Cohen, 2002; Rosar, 1994). Hence, music has a patent effect on visual perception (Iwamiya, 1994; Thompson, Russo, & Sinclair, 1994), an impact that can even apply to animated geometric figures (Marshall & Cohen, 1988). Furthermore, naive judges can successfully identify the correct relationship between the visual and musical components in cinema (Lipscomb & Kendall, 1994).

These diverse empirical findings are very valuable in clarifying how music contributes to a film's effectiveness, but the results do not say anything directly about whether film music must have high aesthetic merit to have these same positive consequences (Simonton, 2007). Instead, one can readily argue that truly great music might become a distraction, diverting attention away from image and dialogue toward the music itself. The movie theater requires background music, whereas the concert hall requires foreground music. Indirect support for this possibility comes from correlational studies that identify the film attributes that predict various success criteria, such as critical acclaim, movie awards, and box office performance (Simonton, 2007). Four prior investigations, in particular, have examined the success of films containing scores and songs that receive special recognition in the form of major music awards or award nominations:

1. The earliest study concentrated on the Oscars, assessing how Academy Awards in the major categories predicted two separate criteria of cinematic success, the best picture award and the number of stars the film received in movie guides (Simonton, 2002). Although nominations and awards for best score and best song displayed positive correlations with best picture awards and nominations, these correlations were small and, in the case of best songs, not always statistically significant notwithstanding the large sample size ($N = 2,323$). The outcome was even worse for the criterion of movie guide ratings: The score awards did not make a significant contribution to the prediction while the song awards were slightly negative predictors (see also Simonton, 2004a).
2. In the next investigation, factor analysis assessed how the honors bestowed by seven major organizations clustered across 1,327 nominated films (Simonton, 2004b). The score and song awards defined a separate *musical cluster* that was largely uncorrelated with the other factors, namely, the *dramatic* (direction, screenplay, acting, and

editing), *visual* (cinematography, art direction, costume, and makeup), and *technical* clusters (visual effects, sound effects editing, and sound). In addition, although the musical cluster exhibited a small positive association with the number of nominations and awards received for best picture, the music cluster had a negative association with the ratings the films received in movie guides.

3. The third study of 203 films showed that although awards received for score and song are both positively correlated with a film's budget—it costs money to pay for the services of renowned composers and songwriters—those film music honors did not exhibit significant correlations with best picture honors, critical acclaim, movie guide ratings, or box office earnings (Simonton, 2005a). In short, outstanding music was essentially irrelevant to any success criterion that concerns either film as art or film as business.
4. The final study ($N = 403$) introduced several methodological improvements over the preceding investigations, including the introduction of better sampling procedures and additional criteria and control variables (Simonton, 2007). Awards and nominations for best song proved to have no relevance to a film's success by any criterion, while awards and nominations for best score was predictive of awards and nominations in the best picture category, but not predictive of any other criterion, including assessments of critical acclaim and box office performance. In sum, there is no strong reason for believing that outstanding film composers are making a conspicuous contribution to the film's financial or critical success.

It deserves emphasis that the null results cannot be attributed to significance tests that lack sufficient statistical power. Because the sample sizes range from over two hundred to well over two thousand, even small effect sizes can be statistically significant. As an example, in three of the four correlational studies the association could account for less than 1% of the variance and still be statistically significant at the .05 level. So it appears that musical creativity and cinematic impact may be truly orthogonal. The question is, why?

Substantive Interpretation

Ironically, this seeming cinematic irrelevance may suggest that film composers are behaving more like classical composers than as direct contributors to filmmaking. That is, they appear to be composers first and cinema composers second, writing music to meet their own intrinsic standards rather satisfying the extrinsic needs of the films for which they are nominally writing music. As a result, the quality of their compositions can decouple from the quality of the films in which their music appears. To appreciate why the correspondence should be so minimal, we need to consider two basic facts.

First, any film is a collaborative rather than individualistic creation. As pointed out earlier, cinematic contributions fall into four largely orthogonal clusters, namely, the dramatic, visual, technical, and musical (Simonton, 2004b). Of these, the dramatic

contributions are by far the strongest determinants of a film's cinematic success, while the musical contributions are among the weakest determinants (Simonton, 2004a, 2004b, 2005a, 2005b). In other words, variation in achievement on the part of directors, screenwriters, actors, and film editors will be more strongly associated with most cinematic criteria than will performance variation among the score and song composers. And because the dramatic and musical clusters are largely uncorrelated, exceptional performance in the former will seldom correspond with exceptional performance in the latter.

Second, exceptional performance within each cluster will not be evenly distributed throughout the careers of the various collaborators. On the contrary, achievement in almost any domain of achievement can be characterized by a distinctive longitudinal course (Dennis, 1966; Lehman, 1953; Simonton, 1997). To begin with, creative output tends to be a curvilinear function of age, the period of peak productivity occurring sometime in the middle of the career (Simonton, 1988). In addition, specific spots in this longitudinal trend are associated with three career landmarks (Raskin, 1936; Simonton, 1991a). These landmarks are the creator's ages at the first major contribution, at the best single contribution, and at the last major contribution, where the middle career landmark is approximately coincident with the age at peak output. The career trajectories have been amply documented for classical composers (Dennis, 1966; Lehman, 1953; Simonton, 1977a, 1977b, 1991b). Most typically, the first landmark occurs in the late 20s or early 30s, the second in the late 30s or the early 40s, and the last in the early 50s, with the output rate maximizing in the late 30s (Simonton, 1991b). Similar trajectories have been demonstrated for directors and actors as well (Lehman, 1953; Zickar & Slaughter, 1999). Even so, there is absolutely no reason to suspect that the career trajectories of the numerous collaborators on a given film will always be synchronized. For example, a composer might be at the peak of his or her career while the other contributors are in the pre- or post-peak phases of their own careers. The result is superior music in an inferior movie. Or the asynchrony can happen in the inverse fashion, yielding a superlative film with a mediocre score and songs. Only when the composer's career peak happens to correspond with those of his collaborators would we expect great cinema and great music to coincide.

The foregoing two facts combined have a provocative implication: A film composer's creativity may be determined endogenously rather than exogenously. Instead of their musical creativity responding directly to the extrinsic demands imposed by particular films—such as great films providing the inspiration for great music—their output appears to emerge as the intrinsic outcome of the creative process itself. If valid, this conclusion can be translated into several theoretical predictions that can be subjected to empirical test.

Theoretical Predictions

Simonton (1997) has developed a combinatorial model of productivity that specifies how creative output changes over the career course through the actualization of a person's initial creative potential—an inherently internal or endogenous process. Moreover, this model has been successfully applied to the prediction of career trajectories of 120 classical composers (Simonton, 1991b). If the same model applies to the creators of film scores and songs,

then they will display a particular life cycle that is largely independent of the films in which their music appears. One consequence of this endogenous or intrinsic development would be the prediction that the career landmarks for cinema composers should closely match those for classical composers. That is, the first major contribution should appear around age 30, the best around age 40, and the last around age 50.

Perhaps more critically, the composer's career trajectory should be influenced by the same set of endogenous factors that influence the career course of classical composers. For instance, Simonton's (1997) model of creative productivity makes specific predictions about the longitudinal placement of the three career landmarks. One prediction is that total creative output has a negative correlation with the age at first major work, a zero correlation with the age at best work, and a positive correlation with the age at last major work. A second prediction is that the normally positive correlation between the ages of first and last major work must become negative after controlling for the age of best work. Both predictions have been confirmed for several disciplines (Simonton, 1991a, 1992, 1997), including classical composers (Simonton, 1991b). These confirmations are important because it can be proven mathematically that the second prediction only holds if the career peak is determined endogenously by career age rather than exogenously by chronological age (see Simonton, 1997, Appendix).

Study 1 of the current article will test the foregoing predictions. Additionally, this initial inquiry will make a direct comparison between two kinds of film music—original and adapted. Original music was composed specifically for the film in which it appears whereas adapted music was written for other purposes. Most strikingly, many compositions in the classical repertoire have become famous in movie sound tracks. A well-known example is the opening fanfare of Richard Strauss's *Also Sprach Zarathustra* that figures so prominently in Stanley Kubrick's 1968, *2001: A Space Odyssey*. These music adaptations provide a unique baseline for comparing original music. Is the most popular classical music adapted for film composed at the same age as the most successful cinema music composed originally for film? The answer should be affirmative if the best film music is endogenously driven by the composer's career trajectory rather than exogenous influence of the filmmaking collaboration.

Study 2 will concentrate on original film music that has received a nomination or award for best score or best song from the Academy of Motion Picture Arts and Science. Nonetheless, Study 2 will address a set of questions complementary to those addressed in Study 1. To be specific, if the longitudinal creativity of cinema composers parallels that seen in classical composers, will that same pattern be reflected in nominations and awards that the cinema composers receive for their work? If such recognition is based on the actual merit of the music rather than the success of the film for which the music was written, then the age at first major work should correspond with the age at first nomination and the age at last major work should correspond with the age at last nomination. Moreover, the age at best work should be proximate to the age at first award.

Finally, two predictions of the Simonton (1997) model should be again replicated. First, if the total number of nominations can be taken as a rough index of creative output, then the age at first nomination should be negatively correlated with the total number of nominations, the age at last nomination should be positively

correlated with that same variable, while the age at actual award should not correlate with that total count. Second, if the ages at first and last Oscar awards provide an indication of when composers did their best work, then the presumably positive correlation between the ages at first and last Oscar nomination will become negative after partialing out the former two variables. Again, these predictions should hold if cinematic creativity is endogenously driven.

In brief, Study 2 should corroborate the central findings in Study 1 using an alternative criterion of compositional achievement.

Study 1

Method

All composers in this investigation could claim one or more datable compositions recorded for at least one of several CD anthologies explicitly devoted to great film music (see Appendix for list). This selection criterion yielded a sample of 153 composers. These composers were then assessed on the two sets of variables: substantive and control.

Substantive variables. The three career landmarks were defined as the *age at first hit*, the *age at best hit*, and the *age at last hit*. Here *hit* simply means that the work was included in one or more anthologies of great film music; *best* indicates that the work was the most frequently anthologized of the composer's film compositions. If a composer had only one composition in any of the anthologies, then that was considered the composer's best work. In 17 cases it was impossible to identify the composer's single best work by this definition (i.e., two compositions had the same number of anthology inclusions).

In addition to these quantitative variables three zero-one dummy variables were defined to register the type of musical contribution. These were: (a) *original music* = 1 if the composition was created specifically for the given film, but = 0 if *otherwise*; and (b) *classical music* = 1 if the composition was created by a classical composer, but = 0 if *otherwise*.

The basic statistics for these variables are provided in the upper portion of Table 1. It should be inferred that 70% of the composers had created original music, and 25% were classical composers, the rest being composers of jazz, rock, blues, pop, hip/hop, and so forth.

Table 1
Variable Means, Standard Deviations, and Minimum-Maximum Values

	<i>M</i>	<i>SD</i>	Minimum	Maximum
Substantive variables				
Age first hit	39.24	9.49	17	65
Age best hit	40.89	9.55	21	65
Age last hit	43.29	11.24	21	72
Total hits	1.92	2.13	1	15
Original music	0.70	0.46	0	1
Classical music	0.25	0.44	0	1
Control variables				
Birth year	1909.75	50.09	1685	1975
Living	0.48	0.50	0	1

Note. $N = 153$ for all variables except for age best hit, where $n = 136$.

Control variables. To adjust for possible historical trends, *birth year* was defined simply as the composer's year of birth. A second variable was introduced to control for the fact that many of the composers are still living at the time of this investigation (cf. Simonton, 1998). In particular, *living* = 1 if alive and = 0 if *deceased*. The lower portion of Table 1 gives the descriptive statistics for these two variables. With respect to birth year, the earliest value is for Johann Sebastian Bach, while the latest value is for Lauryn Hill. Regarding the dummy variable, it can be inferred that 48% of the composers are still living contemporaries. This inference is compatible with the fact that the average year of birth is about 1910.

Results and Discussion

One set of statistics in Table 1 has immense substantive interest: the ages of the three career landmarks. Although the age at best hit is very close to expectation (the late 30s or early 40s) the first and last landmarks depart from earlier findings for classical composers (Simonton, 1991b). In particular, the age at first hit is much older than the expected interval (39 rather than the late 20s to early 30s) and the age at last hit is much earlier than the expected interval (43 rather than the late 40s to early 50s). Indeed, the difference between the first and last career landmarks is only about 4 years rather than more than 20 years that was anticipated. This discrepancy can probably be attributed to the greater selectivity of the data collected for the film composers. Where in this study the average film composer had only about two hits, the average classical composer in a study of 120 composers had six times that figure (Simonton, 1991b). When the criterion is more selective, the ages at first and last landmarks converge on the age at best landmark (Simonton, 1991a). In the extreme case of just one total hit, the three landmark ages become identical. Consequently, if the sample of film compositions had been more inclusive than the ages at first and last hits would probably demarcate a longer time interval.

Table 2 shows the Pearson product-moment correlation coefficients between the three career landmark measures and the substantive and control variables. As predicted, the total number of film music hits is correlated negatively with the age at first hit, positively with the age at last hit, but virtually zero with the age at best hit. This confirms the first distinctive prediction of the Simonton (1997) model. The second prediction was also confirmed, albeit this confirmation is not shown in Table 2: The correlation between the ages at first and last career landmarks is negative after controlling for the age at best hit (first-order partial $r = -0.21$,

Table 2
Pearson Product-Moment Coefficients: Age at Three Career Landmarks and Their Correlates

	First hit	Best hit	Last hit
Substantive variables			
Total hits	-0.21*	0.10	0.41***
Original music	0.18*	0.13	0.18*
Classical music	-0.15	-0.07	-0.12
Control variables			
Birth year	0.14	-0.06	-0.05
Living	-0.02	-0.10	-0.15

Note. $N = 153$ for first and last hit, but $n = 136$ for best hit.
* $p < .05$. ** $p < .01$. *** $p < .001$.

$p < .05$, whereas zero-order $r = 0.67$, $p < .001$). It is also noteworthy that the dummy variable for classical music is not significantly correlated with any of the three career landmarks. This outcome indicates that the ages of first, best, and last contribution do not substantially differ for classical and nonclassical (i.e., popular) composers in the current sample. This finding supports the earlier inference regarding the mean ages for these career landmarks. Because the selectivity imposed by the sampling criterion is identical for the two types of composers, their career trajectories appear more similar as well.

Nonetheless, two other results reported in Table 2 are unexpected. First, the original music dummy variable correlates positive with the ages of the three career landmarks, and the correlations are statistically significant for the first and last landmarks. Hence, original music for film tends to be composed at a slightly older age than adapted music for film. Second, neither of the two control variables displays a statistically significant correlation with any of the landmarks.

To obtain a better idea of the status of these effects, a multiple regression analysis was conducted for each of the three career landmarks. The analyses only retained those substantive and control variables that yielded statistically significant effects for at least one dependent variable. Moreover, all quantitative independent variables were placed in mean-deviation form to render the constant or intercept term more interpretable (i.e., the centercept; see Wainer, 2000). The outcome is shown in Table 3.

Notably, the age contrast between original versus adapted music not only overcame control for the other variables, but even proved statistically significant for the middle career landmark. In concrete terms, the composition of original music occurs about 4 to 6 years later. Another addition to the equations was the control variable that recorded whether the composer was still living. This was statistically significant for the last two career landmarks. Specifically, the best hit occurs 3.57 years earlier and the last hit 4.88 years earlier. Hence, the raw scores recording the ages for these career landmarks are likely underestimated for contemporary film composers who still may produce work superior to what they have already accomplished.

One result in Table 3 actually replicates that in Table 2: The more total hits attributable to a given composer the earlier in the career the first hit appears and the later in the career the last hit appears—but the longitudinal location of the best hit remains unchanged. In more detail, each increment to a composer's list of

hits subtracts about a year from the age at first hit and adds about two years to the age at last hit. It should also be pointed out that the correlation between age at first hit and age at last hit is still significantly negative after partialing out not just age at best hit but also the living control (second-order partial $r = -0.20$, $p < .05$). The latter addition is important given the variable's effect on the age at last work.

Taken altogether, the results provide qualified confirmation of the predictions specified earlier. On the positive side, cinema composers and classical composers do appear to have similar career trajectories according to certain criteria. Most notably, the ages of the three career landmarks do not differ between classical and nonclassical composers. Moreover, the factors that determine the longitudinal placement of the three landmarks were very similar. In both cases the number of total hits correlates negatively with the age at first hit and positively with the age at last hit; and in both cases the positive correlation between the last two variables becomes negative after controlling for the age at best hit.

On the negative side is the age gap between adapted and original music. One likely explanation for the developmental contrast is that the composition of original music for film requires the acquisition of special expertise in addition to what is necessary for the composition of music that was later adapted for use in a motion picture. Film composers must do more than conceive melodies, accompaniments, and orchestrations, for they must also learn how to coordinate their musical ideas with the extreme technical constraints of the silver screen. However much the artistic creator might want to write a piece that might have the optimal timing of 10.50 minutes, the music might have to fit a scene that can be only 3.21 minutes long. Even worse, the specific structure and content of the scene may require corresponding adjustments in the composition that violate what the composers would do differently in the absence of any cinematic limitations. A composer may need about a half decade to attain a sufficient level of mastery in this juggling act. To be sure, previous research has found that it takes about a full decade to acquire world-class expertise in a given domain of creative achievement (Simonton, 2000). Even so, this training period would be shortened by the overlap in skills and knowledge between pure and applied music composition.

Table 3
Multiple Regression Analyses: Predictors of Age at Three Career Landmarks

	First hit		Best hit		Last hit	
	<i>b</i>	β	<i>b</i>	β	<i>b</i>	β
Substantive variables						
Total hits	-1.03	-0.23**	0.38	0.09	2.02	0.38***
Original music	5.08	0.25**	4.15	0.20*	5.76	0.24**
Control variable						
Living	-2.33	-0.12	-3.57	-0.19*	-4.88	-0.22**
Constant	36.79		39.88		41.59	
R^2		0.10		0.06		0.23
Adjusted- R^2		0.08		0.04		0.22

Note. $N = 153$ for first and last hit equations, but $n = 136$ for best hit equation.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Study 2

Method

The sample consisted of that subset of the 153 composers in Study 1 who had also been nominated for or had received an Oscar for either best score or best song. The honors bestowed by the Academy of Motion Picture Arts and Sciences were selected because they have been conferred for the longest number of years and because they appear to enjoy the highest reliability and validity (Simonton, 2004a). The positive psychometric assets probably ensues from the fact that film composers who are members of the Academy are responsible for selecting nominees for the two major music categories. In any case, nominations and awards were determined using both the official Web site of the Academy of Motion Picture Arts and Sciences (n.d.) and the Internet Movie Database (n.d.). About half of the composers qualified, yielding a sample of 78.

The following five variables were carried over from Study 1: the substantive variables of age first hit, age best hit, and age last hit, and the control variables of birth year and living. In addition, five new substantive variables were defined: (a) *age at first nomination* for either score or song; (b) *age at first award* for either score or song; (c) *age at last award* for either score or song; (d) *age at last nomination* for either score or song; and (e) *total nominations* for either score or song. Here the three ages were all determined on the basis of the date of the film's release rather than the date of the award, which is almost always one year later. It is worth noting that the total nominations measure from Study 2 correlates 0.66 ($p < .001$) with the total hits measure from Study 1. So the two indicators converge in their assessments of individual differences in creative productivity.

Results and Discussion

Table 4 provides the basic descriptive statistics for the variables. Several conclusions should be drawn at once. First, the composers now were born between 1885 (Jerome Kern) to 1961 (Enya), the average birth year increasing by more than a quarter century, and with 58% of the sample still living. This is obviously a much more contemporaneous sample. Second, the ages of first, best, and last hit for this subsample has been shifted upward by about 2 to 3 years from what was seen for the same variables in Table 1. No doubt this shift largely reflects the fact that these statistics are now confined to original rather than adapted music for film. Third, the

age at first hit closely coincides with the age at first nomination, the age at best hit with the age at first award, and the age at last hit with the age at last award. The three appear roughly at ages 40, 43, and 46 or 47, respectively. This correspondence implies that the Oscar awards and nomination trace a career trajectory in a manner congruent with the three hit measures. The only oddity is the age at last nomination. This event occurs about 5 years after the last award and the last hit. So the last nomination may be acknowledging something beyond actual artistic creativity, a point that I will return to in the general discussion.

Table 5 presents the correlations between the four Oscar landmark criteria and the substantive and control variables. It first should be apparent that the pattern for total nominations essentially replicates what was found in Study 2 with respect to total hits. In particular, this variable correlates negatively with age at first nomination, positively with age at last award and last nomination, and zero with age at first award. Here age at first nomination functions like age at first hit, age at first award like age at best hit, and ages at last award and nomination like age at last hit. This provides additional endorsement of the predictions of Simonton's (1997) model. Also supporting the model was the finding, not shown in Table 5, that the age at first nomination correlated negatively with the age at last nomination once the ages at first and last award were partialled out (second-order partial $r = -0.32$, $p < .05$, whereas zero-order $r = 0.25$, $p < .05$).

The correlations involving the ages of the three career landmarks provide insight into the connection between creative achievement and professional recognition for that achievement. Specifically, (a) the age at first nomination and age at first award correlate most highly with age at first hit followed by age best hit; and (b) the age at last award and age at last nomination correlate most highly with age at last hit followed by the ages at first and best hit. Perhaps the only real surprise here is that the age at best hit does not have the highest correlation with the ages at first and last award. It is difficult to determine whether this result reflects the fact that the sample size is severely truncated for those composers for these correlations. It is possible that the subsample of 44 composers is not representative of the 78 in most of the other comparisons.

The variables were again subjected to a multiple regression analysis as in Study 2, only this time the three dependent variables in Table 3 become independent variables in equations for first

Table 4
Variable Means, Standard Deviations, and Minimum-Maximum Values

	<i>M</i>	<i>SD</i>	Minimum	Maximum	<i>n</i>
Substantive variables					
Age first nomination	40.15	8.24	21	63	78
Age first award	42.69	9.38	29	63	51
Age last award	46.94	10.35	29	66	51
Age last nomination	52.28	11.24	32	80	78
Total nominations	6.42	8.29	1	45	78
Age first hit	40.46	8.11	26	64	78
Age best hit	42.45	8.46	26	64	69
Age last hit	45.87	10.79	26	72	78
Control variables					
Birth year	1927.31	21.52	1885	1961	78
Living	0.58	0.50	0	1	78

Table 5
Pearson Product-Moment Correlation Coefficients: First and Last Oscar Nominations and Awards With Substantive and Control Variables

	First		Last	
	Nomination	Award	Award	Nomination
Substantive variables				
Total nominations	−0.31** (78)	−.08 (51)	.36** (51)	.51*** (78)
Age first hit	.36** (78)	.58*** (51)	.42** (51)	.26* (78)
Age best hit	.25* (69)	.44** (44)	.40** (44)	.37** (69)
Age last hit	.09 (78)	.27 (51)	.54*** (51)	.63*** (78)
Control variables				
Birth year	−.15 (78)	−.24 (51)	−.27 (51)	−.38** (78)
Living	−.10 (78)	−.18 (51)	−.14 (51)	−.22 (78)

Note. Number of cases for each correlation coefficient is given in parenthesis immediately beneath.
 * $p < .05$. ** $p < .01$. *** $p < .001$.

nomination, first award, last award, and last nomination. All quantitative independent variables were again placed in mean-deviation form (Wainer, 2000). The results were as follows: (a) age at first nomination was a negative function of total nominations ($b = -0.43$, $\beta = -0.43$, $p < .01$) and a positive function of age at first major hit ($b = 0.45$, $\beta = 0.46$, $p < .05$); (b) age at first award was a positive function of age at first major hit ($b = 0.53$, $\beta = 0.49$, $p < .05$); (c) age at last award had no predictors significant at the .05 level; and (d) age at last nomination was a positive function of last major hit ($b = 0.61$, $\beta = 0.60$, $p < .01$) and a negative function of the year of birth ($b = -0.20$, $\beta = -0.37$, $p < .05$).

Unfortunately, because the reduced sample size for these four analyses ($n = 44$), several potential predictors just barely escaped statistical significance by conventional standards (i.e., $p < .05$). Consequently, the analyses were repeated with the omission of the ages at first and last award. The outcomes of these trimmed-down analyses are as follows:

1. Age at first nomination is a negative function of total nominations ($b = -0.31$, $\beta = -0.31$, $p < .01$) and a positive function of the age at first hit ($b = 0.37$, $\beta = 0.36$, $p < .001$), with $R^2 = 0.23$ (adjusted $R^2 = 0.21$, $n = 78$) and a constant of 40.15. Hence, the first nomination will occur around age 40 for a composer who has about 6 nominations and whose first hit appeared also around age 40 (see Table 4). Each one nomination increment in total nominations lowers the predicted age by almost a third of a year, while each 1-year increase in the age at first hit raises the expected age of the first nomination by more than a third of a year. Hence, the effect sizes of the two predictors are about equal, albeit of opposite sign. The two variables together explain almost a quarter of the variance.
2. Age at first award is a positive function of the age at first hit ($b = 0.66$, $\beta = 0.58$, $p < .001$), with $R^2 = 0.34$ (adjusted $R^2 = 0.32$, $n = 51$), with a constant equal to

43.55. Thus, when the composer can claim his or her first hit around age 40 (see Table 4), he or she will receive the first Oscar for best score or song about 4 years later. Each year that the first hit is delayed will postpone the first Academy award by about two thirds of a year. Despite the participation of only a single predictor, over one third of the variance is accounted for.

3. Age at last award is a positive function of the age at last hit ($b = 0.47$, $\beta = 0.55$, $p < .001$), a negative function of birth year ($b = -0.23$, $\beta = -0.46$, $p < .05$) and a positive function of the living dummy ($b = 9.64$, $\beta = 0.46$, $p < .05$), with $R^2 = 0.36$ (adjusted $R^2 = 0.32$, $n = 51$), and a constant equal to 40.8. In words, a composer whose last hit occurred around age 46, who was born around 1927, and who is still living will likely have the last Oscar win at around age 41 (see Table 4). For each year that the age at last hit is extended, the age at last award will be increased by almost half of a year. Every decade added to the birth year will delay the age at last award by about 2 years. Lastly, those who are still living are likely to have the last award delayed by almost 10 years! Over two thirds of the variance is explained by these substantive and control variables.
4. Age at last nomination is a positive function of total nominations ($b = 0.34$, $\beta = 0.26$, $p < .05$) and a positive function of age at last hit ($b = 0.52$, $\beta = .050$, $p < .001$), with $R^2 = 0.45$ (adjusted $R^2 = 0.43$, $n = 78$), with the constant equal to 52.28. Hence, a composer with about 6 nominations and whose last hit appeared at about age 46 will be expected to have the last Oscar nomination appear about age 52 (see Table 4). Each additional nomination adds about a third of a year to this baseline, while each year's delay in the last hit will add about a half year. Just these two variables explain 45% of the variance.

The control variables played a much more minor role than was the case in Study 1. In fact, they only were relevant in the prediction of age at last award. They also had no impact on the prediction that the positive correlation between age at first nomination and the age at last nomination would become negative after partialing out both age at first award and age at last award. The partial correlation stayed almost identical after adding birth year and living (fourth-order partial $r = -0.31, p < .05$).

For the most part, above findings are consistent with expectation. The receipt of Academy awards and nominations for outstanding composition are closely linked with the actual output of high-impact music. This connection is especially true at the career's beginning. The Oscars are quick to recognize new musical talent. But the gap between musical creativity and professional recognition expands later in the composer's career so that the last nomination lags behind the last hit.

General Discussion

The two studies combined shed some light on cinema composition. In many respects, the creative careers of film composers follow a course very similar to that seen in classical composers. Indeed, their career course adopts a pattern comparable to what is typical of creativity in a diversity of domains (Simonton, 1997). In particular, evidence was obtained that productivity is negatively correlated with the age at the first career landmark, uncorrelated with the age at the second career landmark, and positively correlated with the age at the last career landmark. In Study 1 these predicted associations were confirmed using total hits, age at first hit, age at best hit, and age at last hit, whereas in Study 2 they were confirmed using total nominations, age at first nomination, age at first award, and age at last nomination—two rather divergent sets of operational definitions for the key variables. Moreover, in both studies the positive correlation between the ages at first and last career landmark was shown to become negative after partialing out the age at the middle career landmark. As Simonton (1997) has proven mathematically, this pattern of correlations among the core career variables only holds under very special circumstances. In the first place, the negative partial correlation can only emerge if the location of the career landmarks is a function of career age rather than chronological age. Furthermore, the zero correlation between output and the age at best contribution can only hold if the overall career trajectory has the same longitudinal form for all creators regardless of level of productivity.

Also of importance was the finding that the longitudinal placement of the Oscar nominations and awards displayed considerable congruence with the age-wise distribution of the first, best, and last hits. The first hit occurs at about the same age as the first nomination, the best hit at about the same age as the first award, and the last hit about the same age as the last award, albeit in the latter case with a lag of about one year. This tight congruence can help explain why outstanding film music is not strongly associated with exceptional films as judged by either critical acclaim or box-office success. The cinema composer's creativity pursues an endogenous career trajectory that runs independently of the films for which the music was supposedly written. As a consequence, some of the composer's best work may appear in mediocre films, and some of the composer's lesser work in great films. Only if the composer's trajectory runs parallel with the other major contributors to the film product will movie and music awards more highly correlate. To illustrate, film directors appear to

reach their career peaks sometime in their late 30s (Lehman, 1953; cf. Zickar & Slaughter, 1999). Yet film composers tend to peak in their early 40s. Hence, the collaboration between directors and composers might maximize when the former is slightly older than the latter. Such age correspondences may add another variable to the various factors that appear to optimize the effectiveness of cinematic collaborations (see Cattani & Ferriani, in press).

But what about the mean age at last nomination? This isolated datum seems disconnected from the three career landmarks, the event taking place about a half dozen years after the last hit. One explanation is that this final nomination represents an interaction between the quality of the film and the eminence of the film's composer. That is, a successful film may more likely earn a final nomination for the film's composer when the latter is already well known. If so, the composer's last Oscar nomination will more likely correspond with a film that receives nominations and even awards for best picture.

An alternative explanation for this exception is that a nomination might often be used to provide the Academy with one last chance to honor a film composer who has never yet received an Oscar. As a potential illustration, Ennio Morricone produced many remarkable film scores—including the 1964 *A Fist Full of Dollars*, 1984 *Once Upon a Time in America*, and the 1986 *The Mission*—but never won an Oscar. He had been repeatedly nominated for less outstanding work from the 1987 *The Untouchables* to the 2000 *Malèna*, but to no avail, until finally he received an honorary Oscar in 2007 for lifetime achievement in film music. Unlike the previous interpretation, this explanation would not require that the film itself be particularly good for the composer to receive the nomination.

Whichever of the explanations is correct, one key conclusion can still be drawn from this two-part investigation. Cinema composers, like classical composers, appear to be creating music according to a trajectory that is more endogenous than exogenous. This trajectory generates their first, best, and last hits that then receive outward confirmation at the Oscar ceremonies when the composers are honored with their first nomination, their first award, and their last award. Sometimes the production of creative music may correspond with an outstanding film—whether judged by critical acclaim or box-office performance. But just as often exceptional music will appear in motion pictures that are otherwise undistinguished. So the composers just do what they do best without regard to whether the resulting film is actually worthy of their creativity.

In a sense, filmmakers have replaced the patrons of earlier periods. Instead of getting a commission from a cultured aristocrat or wealthy connoisseur, the modern composer signs a contract with a producer to supply music for a film, making the movie theater the new venue for the debut of musical creativity. Perhaps this has become the only feasible career for a composer who wishes to write approachable music in a grand symphonic style. The choice is between writing film music for broad audiences or writing academic music for cognoscenti who want to read long essays that specifying why some highly esoteric and inaccessible music has immense theoretical interest. And, besides, a good film composer earns a great deal more income than even the best academic composer. So maybe the classical composers of yesteryear have become the cinema composers of today.

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Appendix

Film Music Sources

Below are the 10 music anthologies that provided the basis for the sampling criterion and for the measurement of total hits and the ages at first, best, and last hits. All were general compilations that purported to cover the full range of film music rather than some specialized genre, studio, or composer. The

number of CDs and the number of films represented are provided for each. If a CD has more than one track from the same film, it is only counted once.

Cinema century 2000. (1999). New York: Silva Screen Records America Inc. 4 CDs/56 films.

Cinema century: A musical celebration of 100 years of cinema. (1996). New York: Silva Screen Records America Inc. 4 CDs/58 films. (N.B.: Selection not identical to above.)

Films of the century. (2000). Beverly Hills, CA: Milan Entertainment Inc. 2 CDs/31 films.

Hollywood's greatest hits: Vols. 1 and 2. (1987, 1993). Cleveland, OH: Telarc International Corporation. 2 CDs/33 films. [N.B.: Contrary to the title, not all hits are from Hollywood films; e.g., it includes *Lawrence of Arabia* and *Umbrellas of Cherbourg*.]

The incredible film music box. (2005). London: Silva Screen Records Ltd. 4 CDs/55 films. (N.B.: Selection not identical to prior two Silva Screen anthologies.)

Movie music: The definitive performances. (1999). New York: Sony Music Entertainment Inc. 2 CDs/44 films.

Music from the movies. (2000). Hamburg, Germany: Deutsche Grammophon. 2 CDs/34 films.

National Public Radio: Milestones of the millennium: Music in film. (1999). New York: Sony Music Entertainment Inc. 1 CD/21 films.

Simply the best movie themes. (2004). Burbank, CA: Rhino Classical. 2 CDs/28 films.

The ultimate movie music collection. (2005). Cleveland, OH: Telarc International Corporation. 4 CDs/57 films. (N.B.: Selection is not identical to earlier Telarc compilation.)

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