

THE ARTS IN THE “NEW ECONOMY”*

WILLIAM J. BAUMOL

New York University and Princeton University, USA

Contents

Abstract	340
Keywords	340
1. Introduction	341
2. Technical innovation and its effects on the arts	342
2.1. Artistic creation and “modern art”	342
2.2. Dissemination	343
2.2.1. Availability of the arts to consumers	343
2.2.2. Artistic products in international trade	345
2.3. Preservation	346
2.4. Funding problems and the cost disease	346
3. Pricing issues for the arts in the new economy	348
3.1. Repeatedly sunk costs and pricing problems	348
3.2. Pricing under copyright and compensation of creative activity	351
3.3. Efficient component-pricing	353
4. Other problems contributed by the mass media	355
4.1. Superstars	355
4.2. Contraction of secondary performance venues	356
5. Concluding comment	357
References	357

* With deep thanks to my colleague, Sue Anne Batey Blackman, for her contributions to this chapter. When the editors of this volume invited me to prepare this piece, they suggested a grand evaluation of what the field of arts economics had accomplished, what work was currently under way and what most urgently still needed to be done. Though my longevity in the field appears to make this an appropriate assignment for me, the work has already been carried out with exemplary competence, notably in a well-known piece by David Throsby (1994), in a more recent article by Mark Blaug (2001), and, by implication, in the superb compendia edited by Ruth Towse (notably 1997), as well as the writings of Alan Peacock (e.g., 1992), and Bruno Frey and Werner Pommerehne (e.g., 1989). Evidently, the ground is well covered and there is no urgent need for yet another entry.

Handbook of the Economics of Art and Culture, Volume 1

Edited by Victor A. Ginsburgh and David Throsby

Copyright © 2006 Elsevier B.V. All rights reserved

DOI: 10.1016/S1574-0676(06)01011-8

Abstract

The revolutionary growth in economic prosperity and technological change that underlie the “new economy” have profoundly affected the arts. They have evidently contributed new and previously unimaginable methods of dissemination and preservation. But they have even had revolutionary effects on goals and standards. They have substantially affected training. These developments also raise profound problems for financial support and pricing. The paper characterizes these developments and suggests the nature of the relationships. It also provides a brief discussion of relevant pricing principles dealing with the trade-off between encouragement of creativity and facilitation of dissemination.

Keywords

arts financing, art dissemination, art preservation, new media, artistic standards and technological progress, pricing of reproduction rights

JEL classification: Z11

1. Introduction

The “new economy” – whose hallmark is extraordinary technological change – is a very real phenomenon, one whose manifestations and consequences are so mind-boggling that we have had to readjust ourselves to it by a complete revision of expectations. As a consequence, we have simply grown to take it for granted. But in my view it is not something that began only in the second half of the twentieth century. Rather, the unprecedented world of the new economy emerged perhaps some two centuries earlier and has since been accelerating at a dizzying pace. The available historical statistics, such as they are, suggest that by the eighteenth century real per-capita incomes barely exceeded those of Imperial Rome, which translates on average into more than 1500 years of near-zero growth. Then in the 18th century per-capita incomes in England rose some twenty or thirty percent. Nineteenth century incomes increased 100 to 200 percent in much of Western Europe and the US. As for the 20th century, it has been argued by knowledgeable observers that the oft-suggested 600 or 700 percent rise is a gross *underestimate*.

What has this extraordinary growth in economic wealth to do with the arts? The answer is that it has brought with it opportunities, capacities and *problems* that our ancestors could never have imagined. One writer on the accomplishments of the “new economy” (in my broad, longer-period connotation) has cited as a characteristic example the fact that before the 18th century no one had ever dreamed that a person could travel faster than on horseback, much less communicate across oceans instantaneously.¹ For the arts, it is easy to provide examples of comparable wonders: Today we can readily experience (somewhat imperfectly) a performance by Caruso, and I have heard the voice of Johannes Brahms.

Thus, economic circumstances powerfully influence both innovation and the arts. The state of the economy cannot produce creativity, but it can stimulate the exercise of creativity and facilitate dissemination and utilization of its products. On the other side, economic conditions can starve and otherwise handicap creative activity and condemn its products either to very limited use or even to oblivion. Clearly in the case of innovation – interpreted in Joseph Schumpeter’s sense to encompass the entire innovative process from the birth of new ideas to the full utilization of their products – the market economy has produced an outpouring of novel products and processes not remotely paralleled in any other form of economic organization.² And the new economy has undoubtedly affected the arts by stimulating technological developments that have even served to create new art forms. But it has also revolutionized the means of dissemination

¹ This is not quite true. There were dreamers who went beyond what was known. As early as the 13th century Roger Bacon, in a remarkable and much quoted passage, had foreseen a future that provided ships and wagons driven by machines that would move “. . . with incredible speed and without aid of beast, flying machines . . . [and machines that] make it possible to go to the bottom of seas and rivers” [quoted in White (1962, p. 130)].

² See further in Baumol (2002).

and the options for preservation and has influenced the amounts and sources of funding of the arts. Most obviously, the new economy has surely freed artists from dependence on royal and noble patronage and led them to turn for funding to perhaps equally risky new sources, including the marketplace.

I will focus here on two general subjects: the influence of technical innovation on the arts, and the consequences – actual and prospective – for the arts' ability to obtain funding in the marketplace. In particular, I will deal with several themes, including changes in the general orientation of the arts, their dissemination and preservation, and the compensation of artists. My discussion of the last of these topics will perhaps be the most substantive. That is because funding, pricing and other associated matters are most squarely in the terrain of the dismal science, and so lend themselves most easily to its analytic ministrations.

2. Technical innovation and its effects on the arts

2.1. Artistic creation and “modern art”

Patently, the attributes that most fundamentally characterize developments in the arts that have accompanied the new economy are exploration of the abstract and pursuit of the unconventional. And though some may consider the hypothesis outrageously philistine, it is at least plausible that these reorientations were initially stimulated to a considerable degree by technological developments. Is it so plainly untrue that the introduction of photography helped to undermine the pursuit of accurate or at least persuasive representation of reality in the visual arts? Even if the availability of photographic images did not lead artists directly into seeking other directions, surely the market must have driven them to new orientations by depriving them of purchasers – those clients who were no longer so anxious to pay for handmade and reasonably accurate depictions of reality, notably in portraiture.

Developments in other art forms such as discordant and atonal music, unconventional writings like those of James Joyce or Gertrude Stein, and modern dance forms introduced by Isadora Duncan and Martha Graham surely only followed in the wake of the first radical departures in the visual arts – the Impressionists, *les fauves*, the secessionists and their ilk – whose success in *épatant le bourgeoisie* must certainly have served to invite the practitioners of the other arts to follow. Evidently these remarks are a vast oversimplification; yet it surely cannot be a pure coincidence that the determined effort of creative artists to break so radically with their past seems totally unprecedented. There is apparently no parallel before the industrial age, which heralded the beginnings of the new economy. Of course, much of what I have said so far rests purely on conjecture and casual observation. This means that it merits no more than acceptance as a hypothesis that can serve as a subject for research by cultural economists. Technology's stimulus of artistic reorientation can probably never be determined by formal research methods and objective evidence, though there is much here that can be studied and

tested. And the subject is surely significant, for what is at issue is what may well prove to be the most dramatic example of the influence of economics on the orientation of the artist.

But there are other forms of reorientation in the artistic media themselves. The new economy has provided artistic creation with new tools, some of them already profoundly affecting what artists can do, some offering promise for the future. The introduction of motion pictures, for example, has played a significant role in the creative process, in addition to its enormous contribution to dissemination and preservation. As is widely recognized, a screen performance has fundamental differences from a performance on the stage. A straightforward film of a staged play usually constitutes uninspired cinematography. Moreover, film provides a rich menu of possible new approaches, and the history of the cinema provides a multitude of well-recognized examples. The cinema really is a new art form that had to be thought through and mastered. Arguably, many decades of cinematic creation were required before those engaged in the activity began to see its possibilities clearly and learned how to act on them. Television was a clear runner-up.

And there are more-radical breaks. Composers such as Milton Babbitt now regularly create works to be performed by electronic instruments such as the synthesizer guided by the computer. Indeed, there have even been experiments in composition using computers as the composers. Painting in which the computer serves as the medium is now widely available and promises to open roads to new directions. Computer painting and graphics open up vast possibilities, though it may be argued that up to now these media have exercised rather more control of the artist than the artist has been able to exercise over the media. Computers can now also be used to compose and guide the performance of intricate lighting design for the dance. Choreographer Mimi Garrard and visual artist James Seawright, for example, have created a powerful program for this purpose. Undoubtedly, all these are only beginnings, and there are in prospect artistic instruments and art forms that we have not yet imagined.

2.2. Dissemination

2.2.1. Availability of the arts to consumers

Printing with movable type (as invented belatedly in Europe) is generally recognized as a revolution in the dissemination of ideas and ultimately of literature. But while it has been credited with having become in relatively short order a stimulus for upheaval in religion and politics, its speed in making reading matter widely available was considerably less than is generally realized. The early books produced with movable type were hardly inexpensive, and since the vast bulk of the population was illiterate, printing's initial role in the spreading of writings was severely circumscribed. In any event, the printed page was not inherently different from the page produced by a medieval scribe. The difference was only (!) that once one produced a single printed page, it became

relatively easy to provide many others (and to do so without a successive accumulation of copying errors).

But from the 19th century on, there have been revolutions in artistic dissemination that faced far fewer constraints and that, in terms of their break with the past, were even more dramatic. Recordings, film, radio, television, and now the Internet, have produced magical change – total breaks with anything known in the past. Yet the speed with which we have come to take almost for granted these mass media and the new means of communications is itself impressive. Of course, many people do not yet have access to the Internet, but even in remote villages in inaccessible geographic locations movies are shown and people gather round the community's television set. Telephone service, too, has penetrated widely, and machines for the playing of recorded music are available. This evidently means that music and drama are obtainable as never before, and in ways that constitute a complete change from past experience.

When a Renaissance monarch was negotiating for a bride, he could demand a likeness prepared by a painter, and would obtain one that had taken weeks to produce, perhaps weeks to transport, and was probably an idealized version of the subject. Today, the ways around these difficulties are many and obvious. As one economist has remarked as an illustration of the point, "Could Thomas Aquinas have . . . dispatched [a letter] to 1000 recipients with the touch of a key, and begun to receive replies within the hour?"³ These new means of communication are not only able to transmit the written word. They bring music, paintings and photographs to particular intended recipients or they can be broadcast to the world. Not only are announcements of art exhibits in distant places readily available, the Internet user may be able to download reproductions of some of the exhibited items. And, from anywhere in the world, the armchair art enthusiast may now view art collections like the Tate Gallery (<http://www.tate.org.uk>), and even take a virtual tour of the Louvre Museum (<http://www.louvre.fr>). A personal example is constituted by my own recent paintings, executed entirely on the computer and posted on my web page, which regularly elicit comments from China and elsewhere from people I do not know.⁴

Why spell out these observations, when I am well aware that any reader of this piece will already know all this? There are two reasons. First is the fact that these incredible developments have become so commonplace, if not quite totally banal. Second is the more obvious observation that the new economy has, indeed, made all forms of art accessible to a degree beyond anything previously experienced. This is clearly a benefit to the creative artists, who surely do not want have their works "... born to blush unseen and waste [their] sweetness on the desert air".⁵ But at the same time the explosion in the dissemination of the arts is the source of serious difficulties that threaten to exacerbate significantly the unceasing economic problems of the arts, as I will discuss later.

³ J. Bradford DeLong, *The Economic History of the Twentieth Century: Slouching toward Utopia?*, draft copy, <http://www.j-bradford-delong.net>, accessed September 2001.

⁴ www.econ.nyu.edu/user/baumolw/ (advertisement).

⁵ From Thomas Gray, "Elegy Written in a Country Church-yard"; see Tovey (1904, p. 33).

2.2.2. *Artistic products in international trade*

Not only do economic and technical influences affect the arts, but the arts have achieved a new and expanded role in the economy – the relationship has become a two-way street. Rather than being the almost exclusive preserve of a narrow privileged group, the arts have expanded in the consumption patterns of society as a whole. Their contribution to GDP and to employment has evolved, and their role in other arenas has evidently changed as well, sometimes markedly. The dissemination revolution has been one of the foundations of these developments, most strikingly shown by the emergence of artistic products as significant elements in international trade. It used to be understood with good reason that only agricultural and manufactured products lent themselves readily to international exchange. An artistic activity such as the performance of drama or orchestral music is neither a manufactured nor an agricultural product. Neither medical examinations nor haircuts supplied in the UK are readily consumed by the inhabitants of Los Angeles, and so for a similar reason it used to be true in the nineteenth century that the New York Philharmonic Orchestra felt itself under little competitive threat by an orchestra whose home base was Berlin.⁶

Matters have now changed for many of the services. For example, engineers in Seattle may now email the specifications for a new product part to New Delhi, where the blueprints will be drawn up within 24 hours and transmitted instantly, again via e-mail, to a manufacturing plant in Ireland. But it is in the popular art forms that the most dramatic manifestation of this change is to be found. Though these activities could surely have been no more than a flyspeck in the national economic accounts of the US in the 19th century, nowadays via the vast “entertainment” universe – including movies, videos, television programs, sound recordings, computer software, and the publishing industry – the popular art forms constitute an important economic activity. They are now a principal US export – with revenues from foreign sales reported to be somewhere between about \$25 billion [US Census Bureau (2003)] and \$85 billion [International Intellectual Property Alliance (2002)], depending on the definition of the scope of this sector. Indeed, the very substantial competitive incursions made possible by easy dissemination of these art forms have become a contentious and much publicized political issue in a number of countries. It is felt that cultural exports, particularly from the US, threaten native artistic activities and undermine distinctive local culture and its traditions. The response has sometimes been the adoption of quotas that affect both performance and imports.⁷ But for the issue under discussion here, these competitive incursions constitute clear testimony to the degree to which the new economy has been able to modify the role of the arts in the economy.

⁶ Still, one must make such statements cautiously. It is noteworthy that what has been described as the worst riot in the history of New York City occurred in 1849 in Astor Place near Broadway and caused widespread injury and property damage. It involved a battle between the partisans of two popular actors, one American, the other British, performing in theaters located near one another.

⁷ See further in Chapter 33 by Acheson and Maule in this volume.

2.3. *Preservation*

The broadly interpreted “new economy” has evidently also changed preservation of the arts beyond anything previously experienced and probably beyond anything previously anticipated. This was in fact brought out by the example mentioned earlier: the revolutionary role of sound recording. We presumably never will have any clear idea of what medieval song really sounded like, and can only make surmises about some of the improvisation and ornamentation in 18th century musical performance. We do not know how Elizabethans pronounced the English language, despite clever conjectures from what must ultimately be shaky evidence such as rhyme in 16th and 17th century English poetry and current speech patterns in relatively isolated communities. Certainly, we have little idea about how a contemporary performance of *Macbeth* would have sounded.

Worse yet, there were creative products that were rendered completely ephemeral by the absence of means of preservation. The works of 19th century choreographers clearly do not survive except via tradition whose modifications and evolution one cannot readily evaluate. Film and the invention of dance notation have since changed all that. There are, of course, limits to what film can describe of an activity in which three dimensions are so fundamental. But if the new forms of preservation cannot tell us everything, they can at least give the viewer a good idea of earlier practices, and can offer enough information to later choreographers to permit them to do a reasonably good job in reconstructing the work of their predecessors.

The computer and the accompanying developments of storage capacity have done far more. There is now virtually no effective limit to what can be taken into the world’s collective cultural memory. The contents of entire libraries can be transferred to minuscule recording media. More and more works of art are preserved in some image form, so that nowadays when a painting turns out to be missing, its likeness is nevertheless apt to be readily available. The Mellon Foundation, under the leadership of William Bowen, is engaged in a major digitization project in remote areas of China, partly to preserve their inaccessible art works, partly as a demonstration project for others to undertake.⁸ In sum, future “Seven Wonders of the World” will not be so readily lost, their configurations available only to frustrated conjecture as has been the case in the past.

2.4. *Funding problems and the cost disease*

The last of the influences of the new economy on the arts that will be discussed here is financial. Growing wealth in the industrialized nations may have facilitated the financing of the arts, but other influences have made it more difficult. For example, ease of

⁸ However, the declaration of victory may be premature. Programmers have indeed invented fantastic methods that can store works enduringly in binary code. But computer programs are replaced and superseded with remarkable rapidity. It is not clear that in 50 years anyone will be able to read what we painstakingly store today. Specialists are deeply concerned about this problem, and have not yet provided a solution.

copying has made it harder in many artistic fields to recover costs and earn a living in the marketplace. Furthermore, given what I and my associates have perpetrated in the past in our writings on cultural economics, I will no doubt be expected to argue that it is primarily through the “cost disease of personal services” that the new economy creates financial problems for the arts. Taken at face value, this is indeed true; the cost disease asserts that, at least for live performance,⁹ costs are expected to rise cumulatively and almost constantly, and surely that is the *bête noir* of the impresario and the producer. Yet, as will be argued below, the new economy brings both the disease and the means that enable society to deal with it. In other words, the cost disease is, and yet need not be, a primary concern for funding of the arts.

First, a few words on the relation of the new economy to the cost disease are called for. It is easily argued that without the advent of the new economy, in the broader sense in which I am using the term here, there would be no cost disease. It may be recalled that the explanation of this phenomenon lies in the pattern of productivity growth; the reason live artistic performance – like health care, education and other activities with handicraft attributes – suffers from the cost disease is simply that the growth in their productivities, i.e., their rate of labor saving, inherently tends to be markedly less rapid than that of other products in the economy. With their productivity falling behind, it is mere tautology that their relative real cost – that is, the relative input quantities they require – must be rising. If input prices throughout the economy are determined in markets that are at least moderately competitive, the relative monetary costs of those outputs must rise as well. Before the advent of the new economy, when productivity growth was truly negligible in virtually every economic activity, the differences in these growth rates hardly mattered. Thus, if there were any cost disease, it would have been a very minor disturbance that hardly merited attention. It is in the new economy with its unprecedented and accelerating growth that the issue becomes significant.

Happily, the nature of the source of the problem brings with it the means by which the effects of the disease can be dealt with. Even the activities that are beset by the disease generally benefit from *some* productivity growth, however modest. But if even these, along with most of society’s other economic activities, are experiencing productivity growth, it follows that the community *can* afford more of each and every one of its outputs, if it chooses to allocate its purchasing power appropriately. With more output per hour of labor in every field of endeavor, there is no necessity to cut back on the consumption of *any* of the products. It is only a sort of money illusion that tells us we must cut back on the arts (or health care or education). Thus, it is the new economy and its sensational productivity growth that presents us with the cost disease problem, and it is that very productivity growth that provides us with the means to cope with its consequences.

⁹ It will also be recalled that the mass media are not generally immune from the disease, because the handicraft components of the activities entailed in their operation tend asymptotically to dominate their budgets. On this see, e.g., Baumol, Blackman and Wolff (1989, Chapter 6).

3. Pricing issues for the arts in the new economy

The profound upheavals in the circumstances of the arts under the influence of the new economy have to a substantial degree been favorable, making the arts easier to create, to disseminate and to preserve. But some of these developments also have another side that threatens to handicap rather than help the arts. These issues have been recognized and analyzed by economists, but there is an underlying structure to these problems that seems not to be universally recognized. It is best brought out by analogy with another side of the new economy: the important role of innovation and the problems of its financing.

It is not without reason that the term “innovative” is often used to describe a new piece of music, a recently published novel, or some other product of artistic endeavor. In music or dance or literature, a creative contribution has one inviolate attribute – it cannot replicate some previous work. Unlike the production of automobiles or shoes, in which identical products can be turned out in apparently endless succession, the choreographer’s efforts (like the research and development division of a firm) must provide creations, each of which differs significantly from each and every one of the other products in the arena. “Innovation is a heterogeneous product”, runs Baumol’s third tautology, and the tautology is evidently applicable to artistic production. Now, this requirement of heterogeneity is the source of a number of problems both for practice and for analysis. We are all aware of the complications it poses for value theory particularly in general equilibrium form, problems that have only begun to be dealt with in recent years. And it may be that such problems help to explain the paucity of formal theoretical analysis of pricing in the arts. Perhaps cultural economists working on these problems may conceivably find it helpful to turn for guidance to the growing literature on general equilibrium analysis of monopolistically competitive markets and the equally valuable literature in the theory of technical innovation.

3.1. Repeatedly sunk costs and pricing problems

But that is not the issue here, since my concern is more with practice than with theory. And from this point of view there are at least two critical issues. One is the public-good property of information, a property shared with many outputs in the arts, and the second is the role of sunk investment of a special sort – not the kind of once-and-for-all sunk outlay that economists quite rightly tend to ignore as irrelevant ancient history once it has been incurred. For in technical innovation as in artistic creation, the need never to replicate, or at least not to do so precisely, means that investment is required each time an output emerges. That investment is sunk in the production of that novel item. Thus in both fields the need to sink costs is inescapably a frequently repeated if not continual phenomenon. Moreover, it is a phenomenon that appears to have grown in magnitude in the new economy. The investments that are routinely incurred in the production of a new film or in preparation to launch a new television series dwarf anything previously experienced in live theater, at least in absolute magnitude. In the launching of a popular

song via CD, the size of the advertising outlay can also be staggering; the CD manufacturers and distributors complain that the production of a brief video publicizing the piece becomes a major cost component.

For the economics of these activities, repeatedly sunk costs are fundamentally different from the sunk costs more usually mentioned in the literature – those that are incurred only once, as, for instance, in the purchase of a license required to open a business enterprise. The economic literature stresses that such costs once incurred are irrelevant for current pricing decisions because by their nature it is now too late to do anything about them, even if management feels it has made a mistake in undertaking the outlays in the first place. If the firm does not subsequently earn the amounts required for recoupment, that is the investors' hard luck. But when sunk costs must constantly be repeated, they must be covered by current prices or by some other means – otherwise a profit-seeking firm will refuse to repeat the outlay when the time for it comes, and a non-profit enterprise will not be able to do so.

This normally means that prices in these fields can be expected to exceed marginal costs because, as will be noted again in the next section, neither increased use by current users nor an increase in the number of users requires any increase in the sunk outlays; that is, these outlays constitute no part of the marginal cost figures.¹⁰ Even in the non-profit arts organizations we find that prices do often exceed marginal costs; for example, the price of a ticket to concerts by a performing group whose auditoriums are not filled to capacity will usually substantially exceed the virtually-zero cost of admission of another attendee. Indeed, in such circumstances discriminatory prices are frequently required to make ends meet. In the arts, such pricing typically takes the form of discounts to students, the elderly and other special groups, last-minute price reductions, and other familiar variants.

Of critical importance here is the relative magnitude of the sunk cost in comparison with the other costs. This is so because of the public-good property, which means that the sunk costs are not increased by additional use or additional users; in dance, for example, the effort that went into choreographing and rehearsing are not increased either by a rise in the number of attendees at a particular performance or by an increase in the number of performances. Hence, if the repeatedly sunk costs are very substantial relative to other costs, their recoupment will require prices that are well above the marginal costs.

¹⁰ Clearly, repeatedly sunk costs are generally not considered by firms to be the same as costs sunk once and for all, but rather as costs of operation of the firm. That is, they cannot simply be disregarded by a profit-maximizing firm on the usual argument that they are no more than a piece of unchangeable and therefore irrelevant ancient history. Nevertheless, repeatedly sunk costs do not enter marginal costs, because they are not a function either of scale of output nor of number of customers. Thus, the cost of producing the sets of a stage play do not rise with an increase in attendance, at least up to the capacity of the theater, nor with the number of performances per week nor even in the number of performances in total (at least until replacement is needed).

This, in turn, gives rise to two other difficulties. The first is the classical problem of public goods: Even if such higher prices were feasible in the market, their welfare consequences are questionable at best. Higher prices discourage use – that is the economic role they serve in the presence of scarcity. But in goods with public-goods properties, the standard form of scarcity vanishes. A public good has the property of a Hanukkah oil lamp, kept continuously alight without depleting the fuel supply. Additional attendees in a half-filled auditorium do not increase production costs, so why ration attendance with prices that exceed the marginal costs that an added attendee imposes? That is one part of the normative side of covering the sunk costs, even if they are regularly replicated. But of course if there is inadequate recovery of costs that must be repeatedly sunk, will not the supply process be undermined, with all potential attendees the losers?

In practice, there is another problem that often can prove even more urgent. The need to sink costs repeatedly threatens survival of firms if competition drives prices towards marginal costs. Fortunately, the market mechanism will generally permit recoupment even where entry costs are the same for all entrants, because no prospective entrant will be willing to begin operations in an arena where the prospects for recovery of sunk outlays are dim. Hence, contrary to the standard conclusion, here the threat of entry will not preclude either prices that exceed marginal costs or even prices that are markedly discriminatory.

But where all firms are not created equal, low marginal costs when combined with substantial sunk costs are an irresistible temptation to entry. However, the entrants do not seek to operate on the same terms as those of the already incumbent suppliers. The entrants brought in by the cost disparities are those who seek to profit by covering the marginal costs and escaping the sunk investments. In short, they are the “pirates”, those who hope to prosper parasitically from the sunk investments repeatedly incurred by the providers of innovations and artistic creations.

In technical innovation, the problems just described are often rendered acute by great disparity in the magnitudes of the two pertinent types of costs. In computer software, for example, estimates are that even the most successful firms’ annual expenditures on R&D can amount to something like 20 percent of revenues. But the marginal cost of supplying a copy of a new computer program to an additional user is negligible – it can amount to a fraction of a dollar. In some of the arts, such disparities can also be large. For instance, in the theater the cost of mounting a new production can equal a substantial proportion of the running costs for a year of performances. But in other art forms, partly because the creative artists traditionally often bear much of the sunk cost themselves, the monetary portion of the costs that need to be repeatedly sunk may not be so substantial.

Here, yet another feature of the supply process becomes critical. In a number of art-forms the middleman plays an important, often an indispensable, role, and it is from the sunk costs incurred by the middleman that the financial issue just discussed takes its most acute form. This is most obviously so in the mass media. The firms that make and distribute musical recordings are a clear example. In popular music, just the investment in the video to publicize a new recording, as already suggested, can be very large – it

can run upwards of a million dollars. And the bulk of the real remaining costs, including the efforts of the performing artist, are incurred in the production of the recording, all adding up to a substantial sunk cost that needs to be repeated each time an additional recording is turned out. Indeed, since both musical performances and computer programs are distributed on CDs, the reasons for the comparably negligible marginal cost should be equally obvious here. Similar relationships now hold in movies, where expenditure of many tens of millions of dollars per production is common and well recognized. But the creation of a tape of a movie that can be played on the home VCR is, once again, negligible.

Even if the financial problems stemming from the difference between sunk outlays and marginal costs are not of very direct importance for the creative artists themselves, they are generally urgent for the middleman enterprises. Furthermore, the significant role of the intermediary firms in many of the arts means that when the problems affect the one type of enterprise, they must ultimately have a reflection upon all. Financial pressures that fall initially upon the middlemen will not remain confined to them alone; ultimately, they will be shared by others – composers, choreographers and most severely by those in the weakest position to defend their interests. I will return to this part of the story presently.

3.2. Pricing under copyright and compensation of creative activity

Copyright is, of course, the instrument that has been invented to protect the rights of creative artists and to stimulate the creative process. In practice, it is directly helpful primarily to those who work in the “popular arts”, since the market for the work of artists in less popular venues is, as we know, generally quite limited. But even the latter are affected indirectly by the support they receive from the mass media. Script writing, composition of background music for film and television, and classical music recordings do at least help to finance activity in what may dispassionately be referred to as the “elite art forms”. But the amounts that the mass media are willing and able to pay out in these ways is dependent on what they are able to earn from their activities in the more popular art forms and the degree of protection of those earnings that is contributed by the copyright laws.

Recent developments in the new economy have put enormous strains on these protective powers. Among the accomplishments of the new economy that have already been stressed is the remarkable progress in ease of reproduction, including the reduction of its costs to negligible levels, and the ease and speed of transmission of the reproduced material. The photocopier has already caused great difficulties for publishers, as has the Internet for the producers of recorded music. There is very likely to be a race between the design of means to prevent illicit reproduction and the instruments the reproducers have at their disposal. The outcome is unpredictable, but the relative position of the two groups may well oscillate with the advantage going from one to the other and then back as time passes.

One extreme outcome may be partial collapse of current commercial institutions and invasion of the fields by amateurs who undertake the activities out of dedication and personal interest rather than pursuit of gain. The free software (“shareware”) movement, most notably the development of the Linux operating system, may be a foretaste of such a future. So far the prosperity of firms such as Microsoft, some of the film studios and the recording industry indicates that the prospect is not yet imminent, and shows that some such enterprises have managed via technical devices and with the support of the courts to stay one step ahead of the pirates. But where such protection of the financial interests of the major suppliers is effective, there is the danger that matters may swing too far in the other direction. A copyright, after all, is nothing else than a grant of monopoly power, however virtuous its purpose. The question as usual comes down to a matter of pricing. What price ideally should the copyright holder be permitted to charge?

If the issue is a mere matter of recoupment of sunk costs and efficiency of resource allocation in the standard sense, economic analysis provides a solution which is now well known: the Ramsey price, which is the second-best price consistent with a given revenue requirement constraint. In the simplest case in which the cross elasticities of demands are all zero, the supplier’s socially-ideal product prices will exactly exceed marginal costs in inverse proportion to the demand elasticities of the products, up to the point where the resulting rise in revenues is just sufficient to recoup the sunk costs. For middleman firms this may be the right solution, though as we will soon see, here ideal pricing policy runs into another fundamental complication.

But before getting to this, a bit more can usefully be said about the Ramsey price of an artwork with public-good properties. In the extreme case of the ideally-pure public good, the marginal cost of increased usage will be zero, as in the case of an added audience member in an uncrowded theater or an additional reader of a poem or viewer of a painting. Then, the second-best pricing solution to the simplest Ramsey model clearly becomes

$$\frac{P - MC}{P} = \frac{P}{P} = 1 = \frac{1}{E} = E = -\frac{\frac{dQ}{dP}}{\frac{Q}{P}}, \quad \text{or} \quad \frac{Q}{P} = -\frac{dQ}{dP}. \quad (1)$$

That is, in this case the second-best welfare solution is to set price so that the quantity of sales elicited is that at which demand is unit-elastic. This means that the more responsive the quantity demanded of the product in question is in absolute terms to changes in price, i.e., the greater the value of $-dQ/dP$, the lower the price should be relative to the quantity sold. The intuitive explanation is that the objective here is to raise prices above their first-best levels sufficiently to increase revenues so as to cover the unavoidable costs, but to do so with minimum distortion of quantities demanded from their first-best magnitudes, the magnitudes that would be elicited by zero prices. This means that prices should be positive¹¹ but lowest for those items whose demand quantities are most substantially modified from their first-best magnitudes.

¹¹ Price evidently should be zero for any good for which the demand elasticity is infinite; for more on Ramsey pricing of pure public goods, see Baumol and Ordover (1977).

On the other hand, where the objective of price setting is not recoupment of some determinate sum but stimulation of creativity, we do not know the answer. Partisans of the arts will be tempted to say “the more the better”, and in practice one may well argue that the typical compensation of the creative artist is sufficiently niggardly as to leave us in the range where this answer is valid. But it is conceivable that the allocation of talent to creative activity will be excessive. This is an obvious possibility in the case of technical innovation where the greater part of the labor force still must be engaged in production for the present rather than for the future, for the future is what invention primarily serves. But there are economists who argue that even now the pressures of the new economy are apt to result in excessive allocation of resources to innovation, because the loss of value of still-usable but obsolescent assets is what creative destruction entails. *A*’s innovation is likely to render obsolete an asset that is not her own, but rather belongs to other individuals, *B*, *C*, and *D*, who have no role in *A*’s activities. Thus, creative destruction is a detrimental externality and like other such externalities in a free market it is likely to lead to excessive output of the externality-creating product.¹²

In the arts, it can also be argued that there is no shortage of creative activity. There is a profuse stream of plays written without let-up, and paintings (albeit of uneven quality) are produced in vast numbers. The problem, apparently, is not further stimulation of the supply but creation of venues in which the products of creative activity in the arts will be seen and appreciated. In short, not only are we unsure of the effectiveness of copyright in benefiting the creative artists but, particularly in the new economy where creative artists are so dependent on market forces, it is not clear what prices it is desirable for copyright to yield.

3.3. *Efficient component-pricing*

It should be clear from the above that the determination of appropriate prices for output supplied under copyright is not really the critical issue in relation to compensation of the individual creative artist. Rather it is the giant middlemen – the film studios, the television broadcasters and the producers and distributors of musical recordings – where the matter is of substantial interest. But even here it may well be argued that the issue is not one of exploitation of monopoly power, because competition can still be a force sufficiently powerful to drive profits down toward the competitive level in the economy, even though the products are markedly heterogeneous. However, in the new economy, given the critical role of the mass media, there is an additional complication that besets the pricing issue. Others engaged in cultural activities will want permission to reuse material covered by copyright for employment in their own pursuit of profit. For example, films and recorded television programs are often replayed and rebroadcast by others than their proprietors, and recordings of music are played by broadcasters all the time. In some cases, the users are direct competitors of the owners of the copyright.

¹² On this see, notably, [Aghion and Howitt \(1998\)](#).

The question is whether there exists an economically efficient price for such access to copyright material.

The answer is that there does indeed exist such an efficient price. Though it will not be derived here,¹³ it seems worthwhile to describe the efficiency consequences that are at issue. From the point of view of abstract economics, a piece of intellectual property such as a technical invention or a musical composition is interpretable as just another input into some production process where the final output is a product that incorporates the invention, or a concert or a film in which the music is played. Now, it is clear that the firm that invested in the R&D that produced the invention is not necessarily the invention's most efficient user in the production of the final product, just as the composer of the music is not necessarily the music's most gifted performer. The price that the holder of the copyright charges others for use of a musical recording or rebroadcast of a TV performance determines whether or not that activity will devolve upon the most efficient user. For example, the composer who demands a prohibitive price may end up as the sole performer of his piece, even if he is far from the ideal person for the task.

The theory of economic regulation provides a formula for the efficient price for access to such proprietary intellectual property. The formula is called the "efficient component-pricing rule" (ECPR), and yields what has come to be called the "parity price". This rule has elicited considerable discussion in the literature on economic regulation, and has been adopted by a number of courts and regulatory agencies in several countries, though other legal opinions have rejected it. But it is an issue of some importance for the economics of the arts, and it is one that yet again arises primarily in the new economy. Specifically, ECPR requires that the license price must equal the copyright owner's final-product price minus the copyright owner's incremental cost of remaining inputs, i.e., that the licensing price satisfy the following rule:

$$P_i = P_{f,i} - IC_{r,i}, \quad (2)$$

where:

- $P_{f,i}$ = the copyright owner, I 's, given price per unit of final product;
- $\min P_{f,c}$ = the competitor, C 's, minimum viable price of final product;
- P_i = price charged for a license to use the copyright, per unit of final product;
- $IC_{r,i}$ = the incremental cost to the copyright owner of the remaining final-product inputs, per unit of final product;
- $IC_{r,c}$ = the corresponding figure for the competitor; and
- IC_i = the incremental cost to the copyright owner of use of the copyright by itself or by others.

Equation (2) establishes a tight link between the price $P_{f,i}$ that the copyright owner charges for its final product and the ECPR price P_i that it charges its rivals for the license to use the copyright. If incremental production costs do not change, efficiency requires that a rise in one of these prices must be matched dollar for dollar by a rise in the other.

¹³ For a full exposition, see Baumol (2003).

It is trivial to prove the efficiency property of the rule via the Level Playing Field Theorem, which is stated as follows: The parity price as given by Equation (2) for use of material covered by copyright is both necessary and sufficient in order for the “playing field” to be level as between the copyright owner and any licensee. This means that the maximum difference between the remunerative prices of the perfect-substitute final-products of the two firms, the copyright owner (I) and its final-product competitor (C), is exactly equal to the difference in the firms’ remaining incremental costs (other than the license fees). That is,

$$\min P_{f,c} - P_{f,i} = IC_{r,c} - IC_{r,i}. \quad (3)$$

In other words, an ECPR price is necessary and sufficient for the lowest compensatory price the competitor can afford to charge in order to differ from the copyright owner’s exactly by the amount (positive or negative) that the former’s remaining costs are below the latter’s. This means that the competitor will (will not) be able to take over the use of the licensed product and the market for the resulting output if and only if it is the more (less) efficient user of the licensed item for the purpose. This clearly illustrates how the standard approaches of economic analysis can be used to solve one of the efficiency problems in the arts that the new economy has brought to the fore.

4. Other problems contributed by the mass media

Through the creation of the mass media, the new economy has contributed other problems for the arts that have already received considerable discussion in the literature. Because they have been analyzed by others, I will limit my discussion to two issues here. The first is the exacerbated “star” system and its influence on the distribution of income in the arts,¹⁴ and the second is the contraction and partial disappearance of secondary performance venues that served (like the minor leagues in sports activity) as training grounds for creative artists and performers.

4.1. Superstars

Of course, there is nothing new about the existence of stars in the arts, star performers, star composers, and so forth. What the new economy has created is the prospectively vast audience that these stars can now draw, an audience that would not exist without the mass media. It used to be that an audience numbering in the lower thousands was considered sensational. With the mass media, millions are now the relevant order of magnitude. This means that the marginal revenue product of the stars may perhaps have been multiplied a thousand-fold, a fact that is often reflected in the remuneration they command. The lesser mortals among creative artists and performers can be expected

¹⁴ See further [Chapter 25](#) by Adler in this volume.

to receive a much more modest multiplication of their fees, since viable substitutes for their services are far more readily available. The consequence has been an enormous increase in disparity of income between stars and lower-ranking performers and, often along with it, some increase in the power of the stars to command their conditions of employment, as well as the artistic uses to which their work will be put. Whether the effect of this development on artistic quality has been advantageous or disadvantageous is difficult to say, however.

4.2. *Contraction of secondary performance venues*

Somewhat more easily assessed, though probably no more easily documented, is the implication for artistic quality of the second consequence of the advent of the mass media mentioned above. Because mass media enable star performances to reach such vast audiences, in many venues the demand for second-tier performances has dried up. For example, vaudeville stage entertainment used to be a pervasive activity, with live performance interspersed with film performances in theaters throughout the land and with performers constantly traveling in great numbers from one city or smaller community to another. Today the vaudeville theater is dead. Even more striking is the disappearance of live amateur concerts in private homes. A century ago in many a middle-class household several members of the family could play musical instruments with tolerable skill. Today children still take music lessons, but often their performances are listened to primarily to shore up egos, while it is the CD player that provides the musical performances that are really wanted by the listeners.¹⁵ One consequence is the shrinking of a critical training ground. Another example is the effect on comic performances. The fabled comedians of the mid 20th century – the Marx Brothers, W.C. Fields, Jimmy Durante, Burns and Allen and many others – had their training on the road, and they refined their acts through much repetition, and through constant interaction with their audiences. The result was a product whose polish is considered by some observers not to be approximated by more recent performers. There are now other venues for budding comics: local comedy clubs, the *Comedy Central* cable channel, even *Saturday Night Live*, a television show from which quite a few unknowns have gone on to stardom. While one may well question whether this is enough to sustain the old level of professional polish, it may persuasively be argued that quality here is strictly a matter of taste.

Yet a suggestive analogy comes to mind. Elsewhere, my wife and I [Baumol and Baumol (1994)] have surmised that the extraordinary riches of the composers' activities in 18th century Vienna and much of Germany and the Austro-Hungarian empire was at least in part attributable to political fragmentation, with the multitude of courts of minor royalties providing jobs that attracted people into careers (sometimes menial jobs)

¹⁵ Schools have made up for some of this loss, often providing significant alternative venues for young amateur musicians. It is not unusual for school-based choral and orchestral groups to perform in local communities, go on international tours, and produce CDs.

as composers, served as training grounds and as sorting instruments that could identify those who had special ability or promise.¹⁶ This suggests that with the unification of Germany, the disappearance of this multiplicity of employment opportunities tended to circumscribe the country’s advantages as a location for the work of composers. The hypothesis I am proposing here is that the new dominance of the mass media in dissemination of the arts may have similar consequences.

5. Concluding comment

The central point of this chapter is that the new economy – the one that had its origins in the Industrial Revolution at the end of the 18th century – has indeed affected the arts and has not done so only marginally. In a variety of ways it has changed their circumstances beyond anything that humans living earlier could have recognized or imagined. The new economy has led to total upheaval in the technology of distribution, communication and preservation in the arts. It has given rise to profound and novel financial pressures. Arguably it has even had a major influence on the standards and goals of those engaged in creative activity in the arts. And, indirectly, in the new economy, the arts have had new effects on the structure of the economy. But what has been pointed out here has largely been impressionistic and discursive, entailing little data or formal analysis. I suggest that there are many elements in the relation between the arts and the new economy that merit considerably more serious exploration than is offered here. I hope that others will be tempted into following these leads.

References

- Aghion, P., Howitt, P. (1998). *Endogenous Growth Theory*. MIT Press, Cambridge, MA.
- Baumol, W.J. (2002). *The Free-Market Innovation Machine: Analyzing the Growth Miracle of Capitalism*. Princeton University Press, Princeton.
- Baumol, W.J. (2003). “Applied welfare economics”. In: Towse, R. (Ed.), *A Handbook of Cultural Economics*. Edward Elgar, Cheltenham, pp. 20–31.
- Baumol, W.J., Baumol, H. (1994). “On the economics of musical composition in Mozart’s Vienna”. In: Morris, J.M. (Ed.), *On Mozart*. Woodrow Wilson Center Press, Washington, DC, pp. 72–101.
- Baumol, W.J., Ordover, J. (1977). “On the optimality of public-goods pricing with exclusion devices”. *Kyklos* 30 (1), 5–21.
- Baumol, W.J., Blackman, S.A.B., Wolff, E.N. (1989). *Productivity and American Leadership: The Long View*. MIT Press, Cambridge, MA.
- Blaug, M. (2001). “Where are we now in cultural economics?” *Journal of Economic Surveys* 15, 123–143.
- Frey, B.S., Pommerehne, W.W. (1989). *Muses and Markets: Explorations in the Economics of the Arts*. Basil Blackwell, Oxford.

¹⁶ But see Scherer (2001, 2004), who uses historical statistical evidence to argue that the activities of composers who relied primarily on the market rather than primarily on the patronage of the courts were even more fruitful.