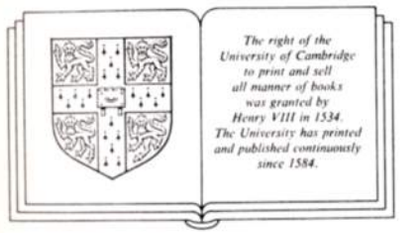
The nature and art of workmanship

David Pye

Formerly Professor of Furniture Design
Royal College of Art, London



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The workmanship of risk and the workmanship of certainty

Workmanship of the better sort is called, in an honorific way, craftsmanship. Nobody, however, is prepared to say where craftsmanship ends and ordinary manufacture begins. It is impossible to find a generally satisfactory definition for it in face of all the strange shibboleths and prejudices about it which are acrimoniously maintained. It is a word to start an argument with.

There are people who say they would like to see the last of craftsmanship because, as they conceive of it, it is essentially backward-looking and opposed to the new technology which the world must now depend on. For these people craftsmanship is at best an affair of hobbies in garden sheds; just as for them art is an affair of things in galleries. There are many people who see craftsmanship as the source of a valuable ingredient of civilization. There are also people who tend to believe that craftsmanship has a deep spiritual value of a somewhat mystical kind.

If I must ascribe a meaning to the word craftsmanship, I shall say as a first approximation that it means simply workmanship using any kind of technique or apparatus, in which the quality of the result is not predetermined, but depends on the judgement, dexterity and care which the maker exercises as he works. The essential idea is that the quality of the result is continually at risk during the process of making; and so I shall call this kind of workmanship 'The workmanship of risk': an uncouth phrase, but at least descriptive.

It may be mentioned in passing that in workmanship the care counts for more than the judgement and dexterity; though care may well become habitual and unconscious.

With the workmanship of risk we may contrast the workmanship of certainty, always to be found in quantity production, and found in its pure state in full automation. In workmanship of this sort the quality of the result is exactly predetermined before a single saleable thing is made. In less developed forms of it the result of each operation done during production is predetermined.

The workmanship of certainty has been in occasional use in undeveloped and embryonic forms since the Middle Ages and I should suppose from much earlier times, but all the works of men which have been most admired since the beginning of history have been made by the workmanship of risk, the last three or four generations only excepted. The techniques to which the workmanship of certainty can be economically applied are not nearly so diverse as those used by the workmanship of risk. It is certain that when the workmanship of certainty remakes our whole environment, as it is bound now to do, it will also change the visible quality of it. In some of the following chapters I shall discuss what may be lost and gained.

The most typical and familiar example of the workmanship of risk is writing with a pen, and of the workmanship of certainty, modern printing. The first thing to be observed about printing, or any other representative example of the workmanship of certainty, is that it originally involves more of judgement, dexterity, and care than writing does, not less: for the type had to be carved out of metal by hand in the first instance before any could be cast; and the compositor of all people has to work carefully: and so on. But all this judgement, dexterity and care has been concentrated and stored up before the actual printing starts. Once it does start, the stored-up capital is drawn on and the newspapers come pouring out in an absolutely predetermined form with no possibility of variation between them, by virtue of the exacting work put in beforehand in making and preparing the plant which does the work: and making not only the plant but the tools, patterns, prototypes and jigs which enabled the plant to be built, and all of which had to be made by the workmanship of risk.

Typewriting represents an intermediate form of workmanship, that of limited risk. You can spoil the page in innumerable ways, but the N's will never look like U's, and, however ugly the typing, it will almost necessarily be legible. All workmen using the workmanship of risk are constantly devising ways to limit the risk by using such things as jigs and templates. If you want to draw a straight line with your pen, you do not go at it freehand, but use a ruler, that is to say, a jig. There is still a risk of blots and kinks, but less risk. You could even do your writing with a stencil, a more exacting jig, but it would be slow.

Speed in production is usually the purpose of the workmanship of certainty but it is not always. Machine tools, which, once set up, perform one operation, such for instance as cutting a slot, in an absolutely predetermined form, are often used simply for the sake of accuracy, and not at all to save time or labour. Thus in the course of doing a job by the workmanship of risk a workman will be working freehand with a hand tool at one moment and will resort to a machine tool a few minutes later.

In fact the workmanship of risk in most trades is hardly ever seen, and has hardly ever been known, in a pure form, considering the ancient use of templates, jigs, machines and other shape-determining systems,* which reduce risk. Yet in principle the distinction between the two different kinds of workmanship is clear and turns on the question: 'is the result predetermined and unalterable once production begins?'

Bolts can be made by an automatic machine which when fed with blanks repeatedly performs a set sequence of operations and turns out hundreds of finished bolts without anyone even having to look at it. In full automation much the same can be said of more complex products, substituting the words 'automated factory' for 'automatic machine'. But the workmanship of certainty is still often applied in a less developed form where the product is made by a planned sequence of operations, each of which has to be started and stopped by the operative, but with the result of each one predetermined and outside his control. There are also hybrid forms of production where some of the operations have predetermined results and some are performed by the workmanship of risk. The craft-based industries, so called, work like this.

Yet it is not difficult to decide which category any given piece of work falls into. An operative, applying the workmanship of certainty, cannot spoil the job. A workman using the workmanship of risk assisted by no matter what machine-tools and jigs, can do so at almost any minute. That is the essential difference. The risk is real.

But there is much more in workmanship than not spoiling the job, just as there is more in music than playing the right notes.

There is something about the workmanship of risk, or its results; or

* Shape-determining systems are discussed in my book *The Nature and Aesthetics of Design* (Barrie and Jenkins, 1978), especially in the chapters on Techniques and on 'Useless work'.

something associated with it; which has been long and widely valued. What is it, and how can it be continued? That is one of the principal questions which I hope this book may answer: and answer factually rather than with a series of emotive noises such as protagonists of craftsmanship have too often made instead of answering it.

It is obvious that the workmanship of risk is not always or necessarily valuable. In many contexts it is an utter waste of time. It can produce things of the worst imaginable quality. It is often expensive. From time to time it had doubtless been practised effectively by people of the utmost depravity.

It is equally obvious that not all of it is in jeopardy: for the whole range of modern technics is based on it. Nothing can be made in quantity unless tools, jigs, and prototypes, both of the product and the plant to produce it, have been made first and made singly.

It is fairly certain that the workmanship of risk will seldom or never again be used for producing things in quantity as distinct from making the apparatus for doing so; the apparatus which predetermines the quality of the product. But it is just as certain that a few things will continue to be specially made simply because people will continue to demand individuality in their possessions and will not be content with standardization everywhere. The danger is not that the workmanship of risk will die out altogether but rather that, from want of theory, and thence lack of standards, its possibilities will be neglected and inferior forms of it will be taken for granted and accepted.

There was once a time when the workmanship of certainty, in the form colloquially called 'mass-production', generally made things of worse quality than the best that could be done by the workmanship of risk—colloquially called 'hand-made'. That is far from true now. The workmanship of a standard bolt or nut, or a glass or polythene bottle, a tobacco-tin or an electric-light bulb, is as good as it could possibly be. The workmanship of risk has no exclusive prerogative of quality. What it has exclusively is an immensely various range of qualities, without which at its command the art of design becomes arid and impoverished.

A fair measure of the aesthetic richness, delicacy and subtlety of the workmanship of risk, as against that of certainty, is given by comparing the contents of, say, the British Museum with those of a good department store.

Nearly everything in the Museum has been made by the workmanship of risk, most things in the store by the workmanship of certainty. Yet if the two were compared in respect of the ingenuity and variety of the devices represented in them the Museum would seem infantile. At the present moment we are more fond of the ingenuity than the qualities. But without losing the ingenuity we could, in places, still have the qualities if we really wanted them.

because it was rare, difficult, and exceptional, that situation is now completely reversed, and we might well try to make ourselves an environment which had more concord with our natural one.

(3) Good workmanship, whether free or regulated, produces and exploits the quality I have called diversity, and by means of it makes an extension of aesthetic experience beyond the domain controlled by design, down to the smallest scale of formal elements which the eye can distinguish at the shortest range. Diversity on the small scale is particularly delightful in regulated workmanship because there it maintains a kind of pleasantly disrespectful opposition to the regulation and precision of the piece seen in the large: as when, for instance, the wild figure of the wood sets off the precision of the cabinet-work. Diversity imports into our man-made environment something which is akin to the natural environment we have abandoned; and something which begins to tell, moreover, at those short distances at which we most often see the things we use.

What changes can one foresee? Is there for instance any reason for the productive part of the workmanship of risk to continue doing highly regulated work? Why should it, when the workmanship of certainty is capable of higher regulation than ever was seen? Why, in particular, should it, considering that high regulation by the workmanship of risk is usually very expensive even where the best and most ingenious use is made of machine tools? Imagination boggles at the thought of what it might cost to build any standard family car from scratch by the workmanship of risk. How many weeks would it take to make the carburettor, for instance, or one of the head-lamps?

It should continue simply because the workmanship of risk in its highly regulated forms can produce a range of specific aesthetic qualities which the workmanship of certainty, always ruled by price, will never achieve. The British Museum, or any other like it, gives convincing evidence of that. And one need not copy the past in order to perpetuate those qualities. People still use oil-paint, but they do not imitate Titian.

There is of course no danger that high regulation will die out in the preparatory branch of the workmanship of risk. Beyond that, the prevalence and immense capability of the workmanship of certainty will ensure that highly regulated workmanship continues and increases. Indeed there is

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The aesthetic importance of workmanship, and its future

In the foregoing chapters it has been suggested that the importance of good workmanship in its aesthetic aspect rests on three things:

(1) Highly regulated workmanship shows us a thing done in style: an evident intention achieved with evident success. It is anti-sordid, anti-squalid and contributes to our morale.

To do a thing in style is to set oneself standards of behaviour in the belief that the manner of doing anything has a certain aesthetic importance of its own independent of the importance of what is done. This belief is the basis of ordinary decent behaviour according to the customs of any society. It is the principle on which one keeps one's house and one's person clean and neat, and so on. Regulation which, in general, the workmanship of risk can only achieve by taking a good deal of avoidable trouble, used undoubtedly to be a part of this idea of behaviour.

With the workmanship of certainty it is becoming easier to achieve high regulation and less determination is needed to do it; but still the quality of the result is clear evidence of competence and assurance, and it is an ingredient of civilization to be continually faced with that evidence, even if it is taken for granted and goes unremarked.

(2) Free workmanship shows that, while design is a matter of imposing order on things, the intended results of design can often be achieved perfectly well without the workman being denied spontaneity and unstudied improvisation. This perhaps has special importance because our natural environment, and all naturally formed or grown things, show a similar spontaneity and individuality on a basis of order and uniformity. This characteristic aspect of nature, order permeated by individuality, was the aesthetic broth in which the human sensibility grew. Whereas in the early days of civilization highly regulated workmanship seemed admirable

because it was rare, difficult, and exceptional, that situation is now completely reversed, and we might well try to make ourselves an environment which had more concord with our natural one.

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already too much of it or, rather, there is too little diversity in it. The contemporary appetite for junk and antiques may partly be a sign of an unsatisfied hunger for diversity and spontaneity in things of everyday use. I do not think it can be quite explained either by the romantic associations of mere age or by an aversion from the ephemerality of contemporary designs. There is still comparatively so much diversity about that it is difficult to estimate how an environment quite devoid of it would strike us. The quality in design which is called 'clinical' is more or less the quality of no-diversity. A little of it, for a change, is pleasant, but a world all clinical might be fairly oppressive, and such a world of design and workmanship without diversity is decidedly a possible one, now.

Four things are going wrong:

1. The workmanship of certainty has not yet found out, except in certain restricted fields, how to produce diversity and exploit it.
2. Where highly regulated components are fitted and assembled by the workmanship of risk, in industries which are only in part 'industrialized', such as joinery for buildings, some of the workmanship is extraordinarily bad.
3. Some kinds of workmanship, such as the best cabinet-making, which use the workmanship of risk to produce very high regulation and the most subtle manipulations of diversity, are dying out because of the cost of what they do. But what they do has unique aesthetic qualities.
4. Free workmanship also is dying out, for the same reasons, and it also has unique aesthetic qualities for which there can be no substitute.

It is, I submit, quite easy to see what might be done about the last three of these things but not about the first, which is undoubtedly the most important. The workmanship of certainty can do nearly everything well except produce diversity. Its only real success in that way at present is in weaving and in making things of glass or translucent or semi-translucent plastics such as nylon or polythene which show delightful diversification because of their modulation of the transmitted light and the interplay between it and the light reflected from their surfaces. Diversity in shapes and surfaces could also, no doubt, be achieved fairly crudely by numerically controlled machine tools, and perhaps something more can be hoped for there in course of time.

Much of the diversity in highly regulated work produced by the workmanship of risk used to be achieved through the manner in which it made use of the inherent qualities of natural materials. It is very probable that, if diversity were appreciated as much as economy, synthetic or processed materials would be made with an equally rich inherent diversification.

If industrial designers and architects understood the theory and aesthetics of workmanship better, and realized the importance of it, they would surely make better use of the opportunities offered by the techniques which are now available to them. One could almost believe that some industrial designers only know of two surface qualities, shiny and 'textured'; and that to them texture means something which has to be distinguishable in all its parts three feet away! They ought to reflect that so far as the appearance of their work goes its surface qualities are not less important than its shape, for the only part of it which will ever be visible is the surface.

The want of diversity is not so much to be blamed on the technologists as on the designers, who do not think enough about it, or do not think enough of it. Perhaps I think too much of it, but it is high time somebody spoke up for it. Art is not so easy that we can afford to ignore any and every formal quality which will not go on to a drawing board. Yet, the fact remains, I can offer no better suggestion than that, if people came to love diversity, they would find out ways of producing it.

The answer to the second problem, of bad workmanship in assembly and finishing off, is much easier to see. The first thing to be grasped is that the situation now is fundamentally different from what it was in the old days of good rough workmanship. The second thing is that the force of the long traditions of the workmanship of risk is now very weak in many trades. With some honourable but rather few exceptions, it no longer concerns a joiner's self-respect and standing in the eyes of his trade, that his work shall be done properly according to those traditions, and moreover he will be paid as well as before even if it is done badly.

This situation is regrettable, but it does not necessarily mean that the joiner is a bad man. It merely means that his education in his trade has been bad (for a trade learnt according to the traditions was an education, though a circumscribed one. It taught the principles on which one should act in certain circumstances and the difference between good and bad actions). The existing situation arises from the fact that the building trade is in

transition in this country from the workmanship of risk to that of certainty, to the assembly of prefabricated components so made that neither care, knowledge nor dexterity are required for their assembly; and such trades as the joiner's are in decline. There are now too few good joiners.

It is futile to hope that the process of decline can be reversed on a sufficient scale to match the size of the industry, and the action to be taken is unmistakable. We must stop designing joinery and other details of cheap buildings as though for such work we could command fully educated joiners whenever we wanted them. It is, for example, silly to design architraves which have to be mitred round door openings. Of all joints a mitre is sure to be badly done or to go wrong in cheap work. It is necessary for the architect to understand very clearly the limitations of the workmanship which the price of the building will allow, to understand that nothing can be left to the discretion of men without education in the trade, and to design within those limitations instead of asking for highly regulated traditional joinery like mitred architraves.

As for the third and fourth problems it is again not difficult to see a line of action, but it may not be easy to arouse interest and inform opinion so that the action gets taken. It will be a great loss to the world if at least a little highly regulated work does not continue to be done by the workmanship of risk in making furniture, textiles, pottery, hand-tools, clothes, glass, jewellery, musical instruments and several other things. It will equally be a loss if free workmanship does not continue. Most of such work will fall within the province of what are now called 'the Crafts'. What is now required is a more realistic conception of them.

The workmanship of risk can be applied to two quite different purposes, one preparatory, the other productive. Preparatory workmanship makes, not the products of manufacture, but the plant, tools, jigs and other apparatus which make the workmanship of certainty possible. Productive workmanship actually turns out products for sale.

The preparatory branch of the workmanship of risk is, of course, already far the more important of the two, economically. Without it we should starve pretty quickly because without it the workmanship of certainty would cease, and only by way of that is mass-production possible. The productive branch on the other hand is declining, and in the course of the next two or four generations it may well have become economically negligible as a

source of useful products. But, though, after that, the workmanship of risk may never again provide our bread, it may yet provide our salt. It will no doubt provide our space-craft too, and our more enormous scientific instruments.

The term 'crafts', that sadly tarnished name, may perhaps be applied to the part of the productive workmanship of risk whose justification is aesthetic, not economic (and not space-exploratory or particle-pursuing). The crafts on that definition will still have a slight indirect economic importance, in that they will enable designers to make relatively expensive experiments which the workmanship of certainty will deny them, and also to try out materials it denies them. But economics alone will never justify their continuation.

The crafts ought to provide the salt—and the pepper—to make the visible environment more palatable when nearly all of it will have been made by the workmanship of certainty. Let us have nothing to do with the idea that the crafts, regardless of what they make, are in some way superior to the workmanship of certainty, or a means of protest against it. That is a paranoia. The crafts ought to be a complement to industry (see preface).

For the crafts, in the modern world, there can be no half measures. There can be no reason for them to continue unless they produce only the best possible workmanship, free or regulated, allied to the best possible design: in other words, unless they produce only the very best quality. That quality is never got so quickly as more ordinary qualities are. The best possible design is seldom the one which is quickest to make, or anything like it; and, even where it is, the best quality of workmanship can usually be achieved only by the workman spending an apparently inordinate amount of time on the job. There are exceptions. Pottery, some hand-loom weaving and some jewellery, for instance, can be produced relatively cheaply. Moreover, in pottery at least, industry offers no serious competition, since the aesthetic qualities of 'studio pottery' are as yet rarely attempted in industrial production. Consequently these crafts flourish—though too seldom they produce the very best quality, or the best design—and people are making a reasonable living at them. But they are exceptions. The rule is, and always was, that the very best quality is extremely expensive by comparison with things of ordinary quality.

It is very probable that most people are beginning now to associate the

word 'crafts' simply with hairy cloth and gritty pots. It is not quite realized perhaps that modern equivalents of the multitude of other kinds of workmanship we see in museums could and should be made: nor how astronomically expensive many of them would be.

Now the crafts, even when they do produce the very best quality, are in direct competition with producers of ordinary quality. The crafts are in no way comparable to the fine arts, a separate domain: far from it! The crafts are a border-ground of manufacturing industry, and nearly every object they make has its counterpart and competitor in something manufactured for the same purpose. In all but a very few trades exceedingly high quality is the last remaining ground on which the crafts can now compete.

Two of the fundamental considerations which will shape the future of the crafts are the time they must take over their work and the competition they must face. The differential in price between a product of craft, of the best quality, and a product of manufacture varies, naturally, according to the trade; but it is always large and sometimes huge. It ought to be and must be. Unless it is, the craftsman has no hope of anything approaching a modest professional standard of living, and he will never be able to command a better living than that.

The crafts will therefore survive as a means of livelihood only where there is a sufficient demand for the *very best quality at any price*.

That sort of demand still exists in some trades. *Haute couture* flourishes. Certain musical instruments, yachts, guns, jewellery, tailoring, and things of silver, are still in that kind of demand. But the demand is not large, by comparison, for instance, with the demand for contemporary paintings, or for antiques, at comparable prices. The situation of the craftsmen who make these things of the best quality is evidently precarious. The West End tailors and bootmakers are not finding it easy to exist any more.

In other fields that kind of demand has very nearly ceased in Britain. Cabinet- and chair-making, blacksmith's work, carving, hand-tool making, are examples. These are all cases where the differential is very large. Here the potential buyers have turned to antiques or else spend their money on things of other kinds.

It is not always clear why the demand has persisted in some fields but not in others. We may suspect that where it does persist the reasons are not always very creditable ones. But we need not concern ourselves with that, for

it is absolutely certain that no demand for the best quality at any price can be re-created, or stimulated where it still persists, until it becomes a fact that a fair amount of work of that quality is being done and can be had.

Now, considering the time that is needed to do it, how can such work be made? It is obvious that it must be done, at first and for a long while afterwards, for love and not for money. It will have to be done by people who are earning their living in some other way.

It is sometimes hoped that a man can set up as, say, a cabinet-maker and aim at making a few pieces of the very best quality each year, so long as he keeps himself solvent by making other furniture to order, or for sale in competition with the manufacturers. This can be done and is being done. Some good furniture is being made in this way, but very, very little of the very best. The man who does it is likely to find that to make a moderate living he has to become a manager more than a maker—sales manager, works manager, despatch manager, buyer and accountant, as well as secretary, all rolled into one. Whatever he does of the very best quality will have to be done as a side line, very likely at week-ends. It will not increase proportionately to the other. If it were not for being his own master he might about as well make his living working in some other office or at some other trade, and make his two or three pieces of the very best quality in his spare time.

That is the logical conclusion. With certain exceptions, some of them precarious, the crafts, like the fine arts, are not fully viable. Only a very small proportion of painters can make enough money, by painting alone, to bring up a family, and that in a time when there is a climate of educated opinion very favourable to painting, a great international trade in contemporary paintings and a whole apparatus of distribution specifically for them: and when, above all, high prices for them are paid. None of these advantages is yet available to the crafts. Moreover, they are under a disadvantage which the painters are free from: the pressure of competition just mentioned.

Nearly all craftsmen, as nearly all painters and poets already do, will have to work part-time, certainly in the opening years of their career. One of the best professional cabinet-makers in Britain, Ernest Joyce, started as an amateur and learnt his job at first from books. 'Amateur', after all, means by derivation a man who does a job for the love of it rather than for money, and that happens also to be the definition, or at least the prerequisite, of a good

workman. There is only one respect in which a part-time professional need differ from a man who can spend his whole working life at the job. He who works at it part-time must be content to work more slowly in his early years. Constant practice gives a certainty quite early in life which takes much longer to attain if one is working intermittently. Until he does attain it he must make up for the want of it by taking extra care and therefore extra time. In consequence his output will necessarily be very small; but that is unimportant. The only reason for doing this work is quality not quantity.

No one will find the patience to become a proficient workman of this sort unless he has a lively and continual longing to do it, and, given that, ways of learning the job will be found. There are books, there are examples of the work, and there are workmen. With the help of all these and with practice he will learn to do work of the highest standard. I doubt whether there is anything which a determined part-time professional could not attain to, except speed, and even that comes in time.

It is still commonly believed that a man cannot really learn a job thoroughly unless he depends on it for his living from the first and gets long experience at it. It is untrue. Two minutes experience teach an eager man more than two weeks teach an indifferent one. A man's earning hours and his creative hours can be kept separate and it may be that they are better separated. Painters and poets separate them. Are painting and poetry really so much easier than craftsmanship? Part-time seamen are making ocean voyages in small craft which any professional seaman of the days of sail would have highly respected. Is not that a parallel case? Astronomy, to take but one other example, has owed an immense debt to amateur observers and telescope makers from Newton and Sir William Herschel onwards. No one in that science would subscribe much to the idea that amateurs are apt to be amateurish. It is high time we separated the idea of the true amateur—that is to say the part-time professional—from the idea of 'do-it-yourself' (at its worse end) and all that is amateurish. The continuance of our culture is going to depend more and more on the true amateur, for he alone will be proof against amateurishness. What matters in workmanship is not long experience, but to have one's heart in the job and to insist on the extreme of professionalism.

That this kind of workmanship will be in the hands of true amateurs will be a healthy and promising state of affairs, not a faute de mieux, for if any

artist is to do his best it is essential that his work shall not be influenced in the smallest degree by considerations of what is likely to sell profitably. What concerns us is the very best. It is that which must somehow be continued because the aesthetic quality of it is unique, and the tradition of it must be kept alive against a time when it will put out some new growth. The part-time professional will be in a position to do the very best even though he can turn out very little of it, and even though at first he will have to sell it at a price which pays him very little for his time. Why not? Whom will he be undercutting? Will there be placards saying 'Craftsmen Unfair to Automation'? That can't be helped.

Along this road there will still be pitfalls. The crafts and craftsmen have been bedevilled, ever since Ruskin wrote, by a propensity for striking attitudes. The attitude of protest I have mentioned already. Another one is the attitude of sturdy independence and solemn purpose (no truck with part-time workers: they are all amateurs; social value; produce things of real use to the community); another is the attitude of holier-than-thou (no truck with machinery; no truck with industry; horny-handed sons of toil; simple life, etc.). Another is the snob attitude, learnt from the 'fine' artists (we who practise the fine crafts are not as other craftsmen are). These are ridiculous nonsense by now, but who has not felt sympathy with them, all but the last, at one time or another? For nostalgia is always in wait for us. The workmanship of risk *was* in many ways better in the old days than it is now, there is no sense in pretending otherwise. Moreover, many of the trades we ought to set ourselves to continue are already taking the complexion of survivals from an older world. That should not prevent us from looking ahead. We must think of the future more than the past. Some trades which are dead economically are all alive in human terms, and still have much to show the world.

It remains to notice the most disastrous illusion which was encouraged by Ruskin's chapter, whether he meant it to be or not; and which has done the most harm: the illusion that every craftsman is a born designer. There are no born designers. People are born with or without the makings of a designer in them, but the use of those talents is only to be learnt very slowly by much practice. Any untrained but gifted man can knock up something which looks more or less passable as a design but the best design for industry is done by people who have really learnt their job; and it looks like it. The crafts are

always liable to comparison with industry and they cannot afford to come off second best in design as well as in price.

Design is so difficult to learn now simply because the arts are in a state of violent flux and because there are great interests vested in constant innovation. There is no settled tradition. If there were, the profession would be far more quickly learnt. If the crafts develop as I envisage, perhaps few craftsmen will be able to go through a designer's training, but surely there will be designers who will work for them, and be glad of the chance even if they make no money by it at all. There will have to be an alliance between the craftsmen and the designers.

Some things, of course, can only be designed, or at any rate designed in detail, by the workman himself. Writing and carving are obvious examples. Other things, such as musical instruments, ought to go on being made to traditional designs (not 'reproduction' designs, which are quite a different thing. Tourte's pattern of violin bows has been in use ever since he evolved it: it is not a mere revival of something which had died out).

The whole future of the crafts turns on the question of design. If designers will only come to recognize it, the crafts can restore to them what the workmanship of certainty in quantity-production denies them: the chance to work without being tied hand and foot by a selling price: the chance to design in freedom. There is nothing more difficult or more necessary for the modern designer to attempt.

If the crafts survive, their work will be done for love more than for money, by men with more leisure to cultivate the arts than we have. Some of them will become designers, some not: that is not important: a designer is one sort of artist, a workman another. Instrumentalists do not feel any sense of inferiority because they are not composers. But the scale of what craftsmen could achieve by concerting their efforts, and the opportunity it would give designers, would be something not dreamt of. Cathedrals were built, if not with joy in the labour (*pace* Morris), quite certainly by concerted effort unaided by any plant to speak of but what the workmen made themselves. People are beginning to believe you cannot make even toothpicks without ten thousand pounds of capital. We forget the prodigies one man and a kit of tools can do if he likes the work enough. And, as for those trades by the workmanship of risk which do need plant, it is not impossible to imagine that associations of workmen will set up workshops by subscription.

The great danger is that spurious craftsmen, realizing that the workmanship of certainty can beat anyone at high regulation, will take to a sort of travesty of rough workmanship: rough for the sake of roughness instead of rough for the sake of speed, which is rough workmanship in reality. This can be seen already in some contemporary pottery.

One rather feels that painting, whatever else it does nowadays, has to take care to look as different as possible from coloured photographs. Have the crafts got to take care to look as different as possible from the workmanship of certainty? If that is the best aim they can set themselves, let them perish, and the quicker the better! If they have any sense of their purpose they will look different, right enough, without having to stop and think about it. It is infinitely to be hoped that free and rough work will continue, but not in travesty. One works roughly in order to get a job done quickly, but all the time one is trying to regulate the work in every way that care and dexterity will allow consistent with speed.

Free workmanship is one of the main sources of diversity. To achieve diversity in all its possible manifestations is the chief reason for continuing the workmanship of risk as a productive undertaking: in other words for perpetuating craftsmanship. All other reasons are subsidiary to that one, for there is increasingly a vacuum which neither the fine arts nor industry and its designers are any longer capable of filling. The contemporary passion for anything old, for junk and antiques, is no doubt symptomatic. The crafts in their future role may yet fill the vacuum but only if craftsmen achieve some consciousness of what they are for, only if they will set themselves the very highest standards in workmanship, and only then if they attract the voluntary services of the best designers. Workmanship and design are extensions of each other.