LEARNING THROUGH MATERIALS, V.SYMS. JUNE 1980

LEARNING THROUGH MATERIALS.

A THESIS CONCERNED WITH THE MATERIALS ASPECTS OF ART AND DESIGN EDUCATION.

VALERIE SYMS. JUNE 1980.

CONTENTS

INTRODUCTION.

We live in a three dimensional world. The vast majority of the things we use are three dimensional, and have been made to be beautiful to look at, suitable for their purpose, and, if functional, comfortable to use.

The creation of beautiful forms and structures plays a large part in our lives, and I feel that we should all be given guidance in both creating and choosing wisely the objects with which we surround ourselves.

Within the Republic of Ireland, art educational systems seem to concentrate on the two dimensional art forms, largely ignoring aspects such as spatial awareness and the tactile sense, aspects which do not seem to be considered in any other branch of education.

We have inherited a system whereby most learning was done by rote, which leads to a preconceived notion that there is a "right way" and a "wrong way" of doing a particular thing, and that children must learn to "draw correctly".

M. O'Nuallain quotes an example of this type of thinking which was commonly foisted on children in the nineteen twenties. A chart was displayed to the class.
"This chart which you can see shows a crude adult outline schemata representing a pig together with the specific command lettered which reads,'Draw this pig'".

Art and Design Education. (1974) N.C.E.A.

The child is not asked to draw "a pig", but "this pig", which Presupposes that "this pig" is the ultimate pig on which all others must be based. M. O'Nuallain quotes this as a example of nineteen twenties teaching methods, but continues to say that this particular

chart was printed in 1960, and was in use until comparitively recently in one of our model schools.

According to the Benson Report (1979) the standard of art education in Ireland is so low that the Leaving Certificate results are no indication of a student's potential, and that:-
"Foundation courses will continue to be neccessary for many years until very considerable improvements have taken place in art and design education at second level".

The Place of the Arts in Irish Education. C. Benson (1979)

The implication is that we are not doing our jobs properly.
In what ways are we failing?
And who is failing?

In the secondary school, the arts are given a role secondary to most other subjects.
"The arts are seen as more suitable for girls than boys, and for the less intelligent rather than the more intelligent pupils. They are judged to be more interesting than useful, and their most significant contribution is frequently concieved of as a pleasant means of passing time. It is no accident that friday afternoon is such a popular time for art and craft in the primary school".

The Place of the Arts in Irish Education. C. Benson(1979)

A submission in the Benson Report from the Art Teachers Assoc. reads:-
"School timteables frequently omit art for their academically bright pupils, while ample time for art is given to remedial and lower grade students".

Art education is relegated to the function of remedial therepy, ignoring a significant section of the school population. Creativity and intelligence are not considered to be interrelated, although the ability to concentrate is, so this can not totally explain the low standards of our pupils, but it means that the uncatered for

brighter pupils will emerge from our educational system visually ignorant. Benson (1979) believes that art (including craft) education has an equally important part to play in the education of both slow learning pupils and brighter pupils.

"The introduction of crafts, appreciation of design and the history of art are all welcome additions to the curriculum. Their full contribution is prevented by a number of factors. For example many art teachers do not teach crafts because the numbers in the class are too large. Secondary school art classes often contain 30 or more pupils. This may be adequate for first year pupils but for older ones it is too many.....another obstacle to the proper implementation of the crafts course is the cost of materials".

The Place of the Arts in Irish Education. C. Benson. (1979).

Pre selection of pupils, overlarge classes, and lack of equipment and materials are the result of policy decisions over which the individual art teacher has little or no control, and the inevitable result has been that the art teacher, in an effort to cope, has confined himself to aspects of art which are easy to cope with, which in real terms means two dimensional work with a limited range of mediums. Many classes are only 45 minutes long, and faced with 30 pupils, it is impractical to consider many aspects of materials learning, which involve considerable preparation, a long continuous work period, and individual tuition.

Considering that all the educationalists books and reports that I have read (including the Irish ones) agree that crafts and materials learning plays an important part of the total syllabus, it seems remarkable therefore that a determined effort has not been made to promote changes in our educational policies that will make their inclusion a workable proposition.

In this thesis I want to take a look at the role of materials learning within the art syllabus, and to see how we can go about supplying the elements that are at present deficient.

As far as possible I want to avoid labels such as "craft design" or "product design, or "fine art", as these seperate headings will each be dealt with under the broad heading, "Learning Through Materials".

Chapter One.

A Comparison of Two Models Demonstrating the Function of the Art Class.

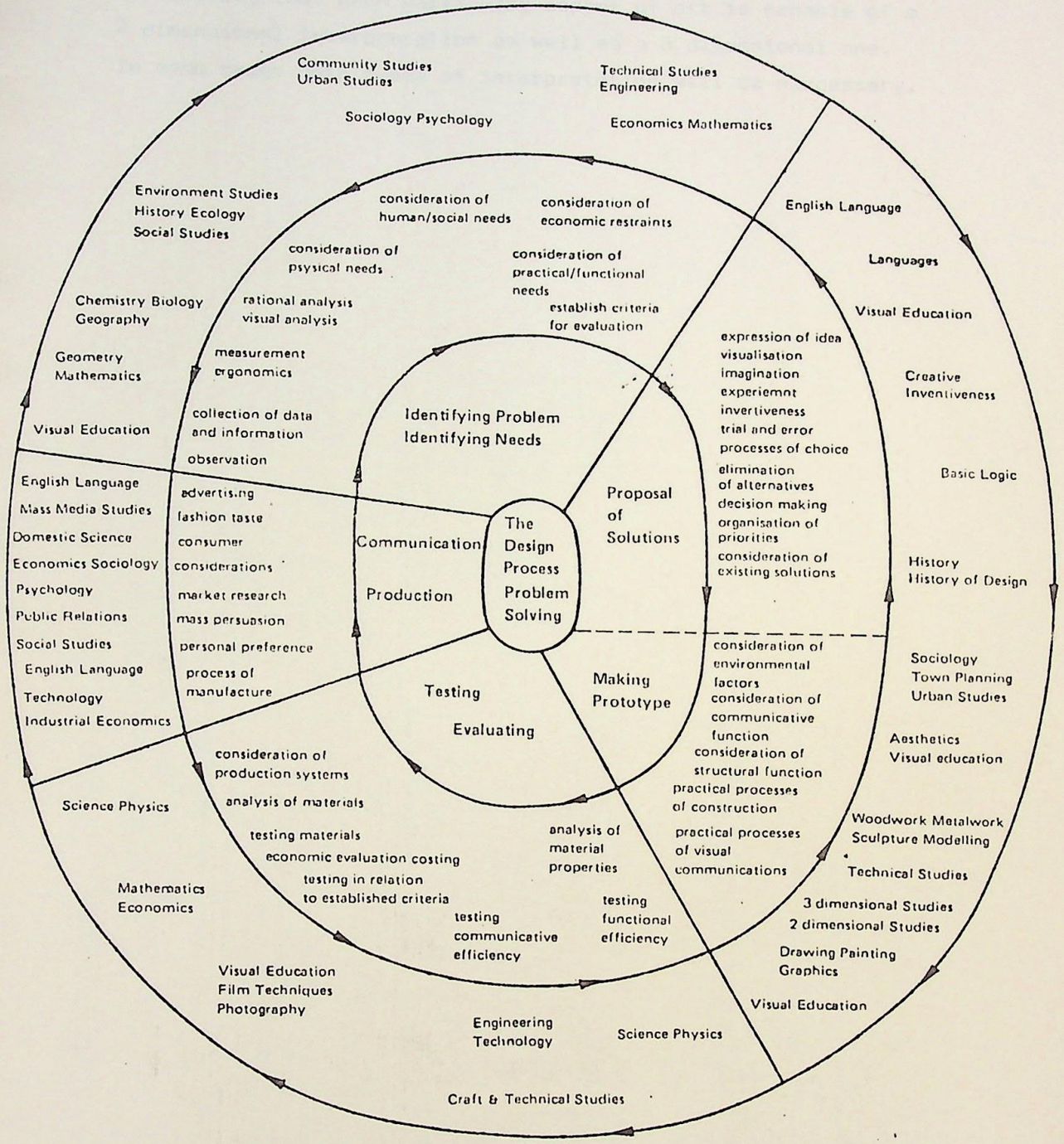
The first model is from Peter Green's book "Design Education". The model shows the interrelationships between the design process and the other areas of study. Art should not be isolated, and considered an interesting but rather un-useful subject. If taken and used correctly, the art class can be a way of expressing in visable terms experiences and feelings, and as such, can be a valuable way of reinforcing the input from other classes.

Let us take an example from a selection of projects submitted in Oxford for the A Level Examinations. The student designed a range of tableware. The student needed to become involved in market research to find out what was wanted and needed, which would lead to an investigation in consumer and social studies, and to a certain degree, psychology. There is no point in designing a range of ware that no one would want to use. The next stage would be to look at historical solutions to the problem, to evaluate those and to offer an alternative solution. Technical research would be neccessary in order to establish that the proposed solution was viable, and maybe a study of industrial economics to see if the solution was cost effective. Next, models would have to be made, and this is a job requiring accuracy and skill in craft and technical studies. The proposed forms must be seen and tested 3 dimensionally in order to see whether or not they work and are visually/aesthetically pleasing. Finally, the work must be presented in a pleasing way, and this involves studies on communication (the effective use of language) and public relations. Other projects demanded study in other areas.

The projects all demanded a greater work input (in terms of hours) and a wider study than we expect from our secondary school pupils, but the model overleaf shows that art and the other subjects can work together in harmony, complementing each other.

The Revolving Inter-relationships between the Design Process and Other Areas of Study

The Design Process as a Vehicle for Learning



The second model that I have chosen comes from L.H. Chapman's book, Approaches to Art in Education. It is a simpler model which deals only with the artroom end of class work, and it shows very effectively that each particular aspect of art is capable of a 2 dimensional interpretation as well as a 3 dimensional one. In some cases both types of interpretation will be neccessary.

DECISION POINTS IN PLANNING THE SCOPE OF THE ART PROGRAM FOR A YEAR.

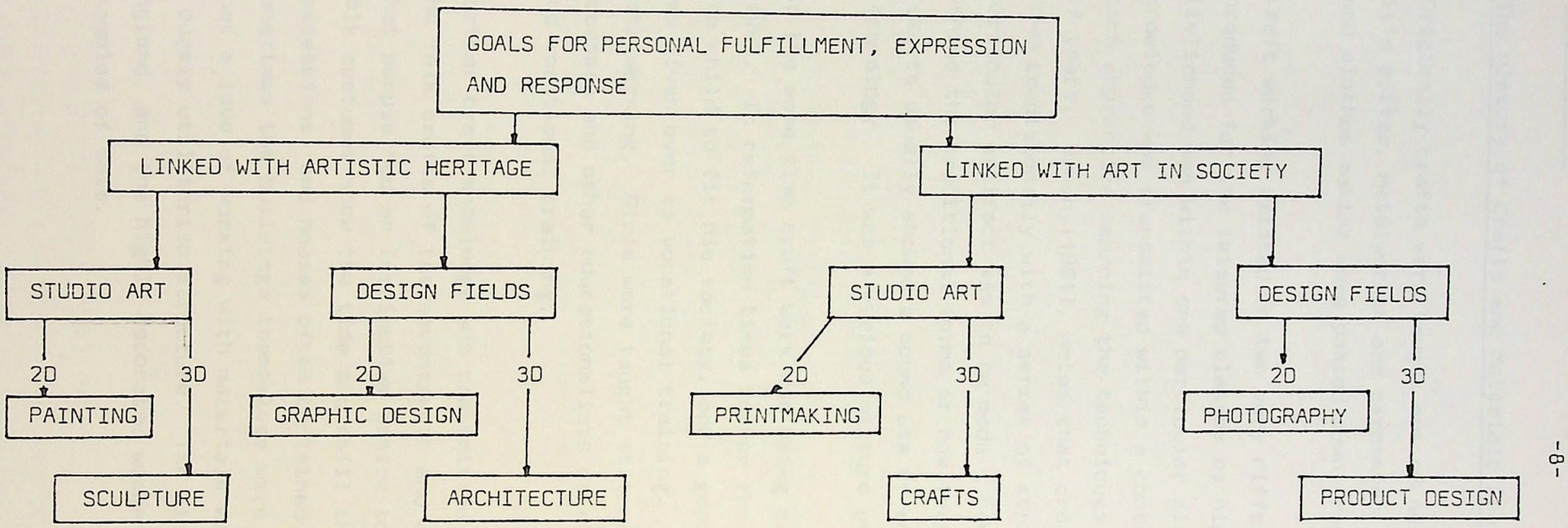


Table 18-6. L.H.Chapman. Approaches to Art in Education.

If we take a look at the wide range of topics which should be covered in the art room we see that about half of them require some input other than the two dimensional media usually provided.

The History of Crafts and Materials Learning.

Originally crafts were taught out of neccessity. Each community had it's potter, metalworker and carpenter, but other skills such as weaving and clothes making were passed down from parents to their children.

Craft working existed on two very different levels. Luxery goods were produced for the leisured classes by highly skilled workmen whose livliehood was within one particular discipline. Craft learning and knowledge was transmitted within a controlled master/apprentice system, each apprentice learning the techniques of his trade over a number of years. Green,(1961), notes that craft knowledge has been passed down traditionally with a series of strict instructions about how a particular artifact was to be made. Few craftsmen knew the logic behind the traditional forms or how they had evolved, although the results usually showed a sound use of engineering stresses and materials technology. It was a curious mixture of knowhow and ignorance.

At the same time craft work was being carried out at a less rarified level. In reformation times Luther recognised the importance of educating the child to fit his society, and a good deal of the school programme was given over to vocational training. Boys were taught carpentry and metalworking. Girls were taught stitchery and household crafts. Rousseau and other educationalists carried on the idea of a mixed academic and vocational training.

Further craft knowledge was transmitted within families and cultures. The folk crafts of the seventeenth and eighteenth centuries testify that people had an instinctive desire to enhance their surroundings. Folk costumes show the time and skill that was lavished on personal possessions, and houses often contained home carved utensils, and sometimes the buildings themselves were ornamented in a way that argues that a love of working with materials was more important than making a purely utilitarian structure. The black and white Tudor houses of England, and the highly decorated wooden houses of Switzerland are examples of this.

It is interesting to note that there was little tradition of folk-crafting in Ireland. A contributory factor for this was the landlord/tenant system which led to little security of tenure. Home improvments could lead to higher rents being levied, and there was little motivation to spend time making possessions that might have to be moved around at short notice.

Society began to lose this first hand knowledge with the onset of the industrial revolution, and it's resulting urbanisation. Previously crafted objects were now mass produced, and the incentive for individual craftsmanship was lost. An urban factory worker was unlikely to gather up the energy, time, inclination and materials neccessary to produce a crafted object when the same item was available for a reasonable sum locally.

At the same time, primary schools were being set up on an organized basis. The emphisis in these was on the three "R's". Reading, writing and arithmetic. Professor Archer (1976), postulates that that it was in this period that the balance shifted in favour of the humanities, and to a lessor extent, science and numeracy. Art and Craft fitted into neither of these spheres and was accordingly neglected. Professor Archer (1976), also questions the traditional interpretation of the three"R's", a phrase coined by Sir William Curtis M.P. in 1807, and suggests that the phrase originally meant:-

1. Reading and writing.
2. Reckoning and figuring.
3. Wroughting and wrighting.

Wroughting meant the way things are brought about (a modern word would be technology). Wrighting meant knowing how to do it (craftsmanship).

"The idea that there is a third area in education concerned with the making and doing aspecrts of human activity, is not of course new. It has a distinguished tradition, going back through William Morris all the way to Plato." Professor Archer. (1976). Lecture extract.

William Morris (1834- 1896) felt that arts and crafts should have a sociological bias, attempting to reflect the collective ethos of it's society. His lectures, starting in 1877 were impassioned pleas for

better design, and for the abolishment of of ugly towns, ugly buildings and the ugly products made to fill those buildings. Morris was a socialist, and felt that improvments in design and living standards would stem from nothing less than the reform of the society responsible for them. But although Morris believed that art ought to be " by the people for the people", he could not resolve the problem that hand crafted production cost more than machine produced goods, and were bound therefore to be available only to the rich and educated few who could afford them. However he started the rethinking in design theory which led to the rising from nineteenth century to twentieth century standards of design criteria.

John Eggleston in his book "Developments in Design Education",(1976), says that craft work began appearing on the school curriculum in the elementary schools around 1850 as a pre-vocational training. The pupils were being prepared for the rapidly growing number of manual and industrial jobs. Technical and trade schools were set up as a labour source for this specific purpose, and as part of the growing utilitarian ideas for educating the masses. The craft work done was repetitive work,whose only objective was the teaching of a particular skill. Working Lads Institutes were set up in places and offered tuition in skills such as engineering and mechanical drawing. These were skills required by the expanding industries, and the acquisition of these gave working class men some chance of climbing out of the slums.

"There can be no successful art without craft, so long as the "craft" is used to mean skill in the use of materials and tools. On the other hand, there can be craft which does not neccessarily involve art".

For Art's Sake? Jack Cross. (1977).

When arts and crafts began to be accepted in the normal second level schools' curriculum, the emphisis was on learning with materials , rather than learning through them. The emphisis was in learning technical skills, and the presentation of classes was such that it left the individual little or no scope in problem solving (arriving at an elegant solution to a problem, while working through the materials to a specific brief or requirement), creative input or inventiveness.

However hand in hand with the previous approach, the publication in 1905 of the Board of Education's"Suggestions to Teachers", indicated that for the first time, Art teachers were being required to consider the real needs of individual pupils at the various stages of development. Teachers were to encourage freer, larger work, and to look for the expression of creativity and individuality.

Not all schools took up the new ideas. In the book, " The Teaching of Drawing", by I.H.Morris (1903), the first chapter begins:-
"Now that drawing is practically compulsory 'for boys in schools for older scholars', as a condition for earning the annual grants.....'.

Chapter two quotes a circular, (no. 291),from H.M. Inspectors of the Education Department which states:-
"That drawing may be taught to boys in infant schools on the lines of the Froebel system. Slates ruled with crossed lines, making squares a quarter of an inch wide should be used, and on them the children should be made to draw perpindicular, horizontal, and diagonal lines. 'Interest may be given to the exercise by making figures or patterns out of the combinations developed in this practice; but the main object of the teaching should be the training of the hand to execute with nicety and precision, and the eye to discern degrees of variation in the straight lines from the perpendicular or horizontal, and to compare and judge the relative lengths of the lines and the angles made by their junction'".

"Article 98b of the new Code prescribes 'simple geometrical drawing' as one of the employments which best satisfy the third of the requirments neccessary to obtain the highest grant".

The Teaching of Drawing. I.H. Morris. (1903)

It can be seen that even the Department of Education of the day had two conflicting philosophies regarding the teaching of art. Reports as late as 1926 felt the need to justify the existance of arts and crafts in terms outside it's own. They were seen as:-
"An indispensable adjunct to the study of various branches of the curriculum such as woodwork, metalwork, elementary geometry. elementary

science. Particularly nature study, biology, mechanics, geography and history". Hadlow Report. (1926)

I have included a number of projects from "Art and Craft Education", a magazine intended to provide art teachers with ideas. These are from 1938, and give a clear idea of the step by step methods of teaching that were widely in use at that time. The prevailing feeling was that an item made from materials other than paper and paint had to be useful, but a factor which struck me strongly was the sheer superfluity of the projects recommended. Who needs a metal trump indicator or an embroidered book mark? Would anyone wear a darned mosquito net set of collar and cuffs?

On the next few sheets I have included examples of extracts from I.H.Morris's book "The Teaching of Drawing" (1903), and some of the the suggested projects from the "Art and Craft" magazine, to illustrate more clearly the type of art teaching that was available at this time.

The Teaching of Drawing. I.H. Morris. (1903).

This shows some of the patterns that the pupils were expected to make within the ¼ inch ruled squares on the slates. At this stage drawing from actual objects was not allowed as it was considered that these exercises should be done first to train the eye.

267

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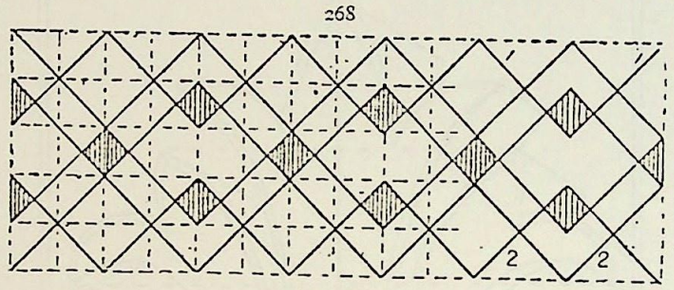

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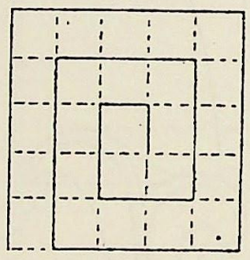

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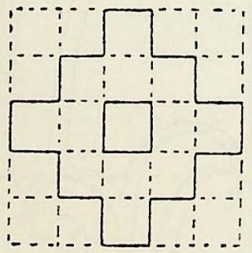

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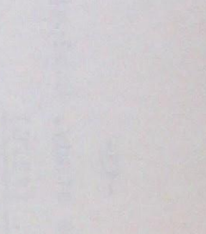

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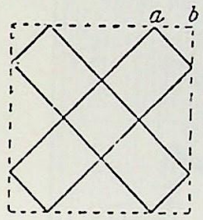

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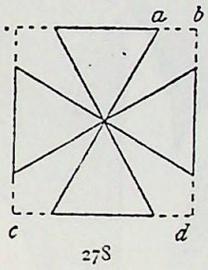

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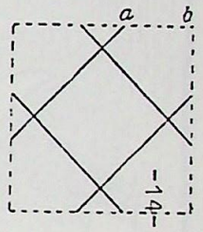

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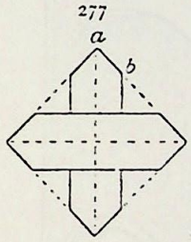

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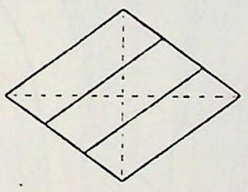

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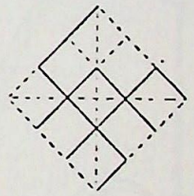

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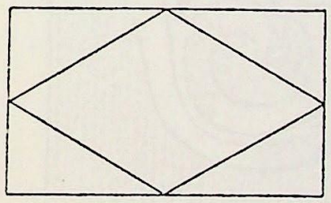

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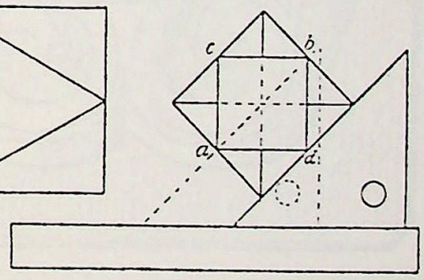
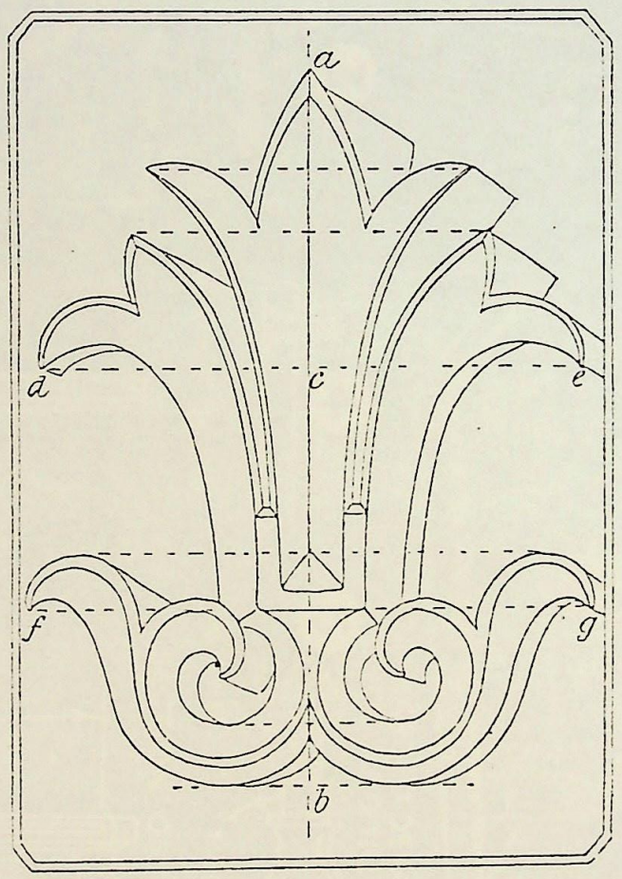


required to make fig. 275 half as large again; then, if cd=2 inches and ab=half an inch, the pupil would make the dimensions three inches and three-quarters of an inch respectively.

Figs. 271–276.—First draw the squares shown in dotted line. Set off the distances marked ab from each angle. Rule in the pattern with a good firm line.

common objects and casts of ornament. In most schools the group of models would probably be taken. Casts of ornament in plaster of Paris may be obtained at a very cheap rate from D. Brucciani & Co., 40 Russell St., Covent Garden, W.C., the agents to the Department. Ten casts of elementary ornament suitable for Standard VII, or for the elementary stage of light and shade, may be obtained for 1*l*.

669



Method of Shading the Cast.—Three drawings showing an ordinary cast in three stages of development are given.

Fig. 669.—1. Place the cast in an upright position against the wall, and about level with the pupil's eye. Begin by drawing the slab upon which the ornament is placed, as this will help the pupil to draw the outline more easily.

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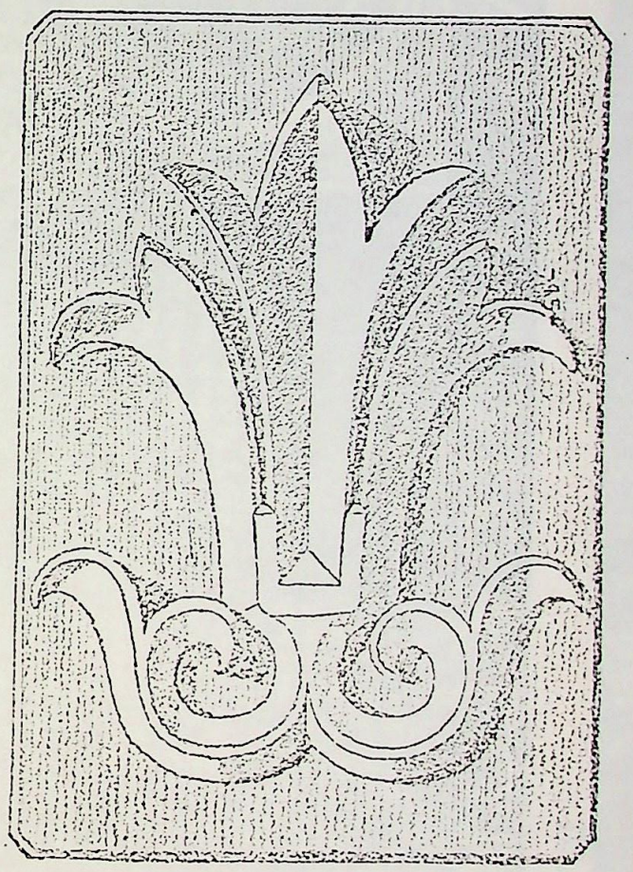
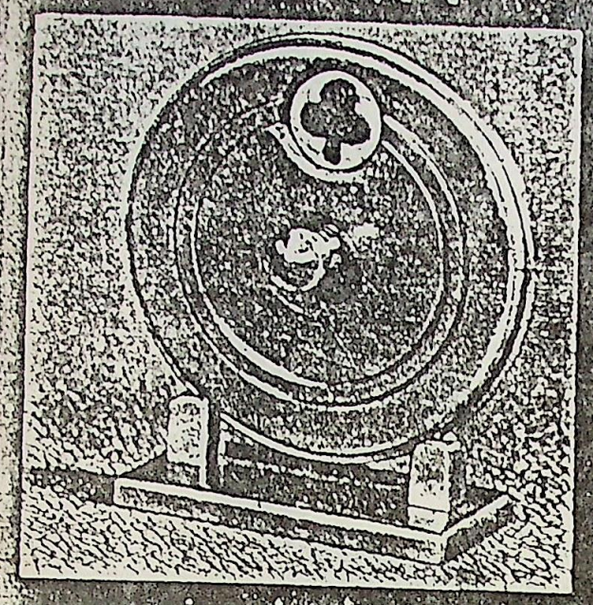


The Teaching of Drawing. I.H. Morris. (1903).

When the eye had been "trained" through an exhaustive series of construction exercises, the pupils progressed to drawing from plaster of Paris casts. The drawings were constructed carefully and then shaded.

TRUMP INDICATOR



MATERIALS:-

2 pieces	Brass or Copper	2½ in. dia. x 19 S.W.G.
1 piece		8½ in. x ½ in. x ⅛ in.
4 "		2½ in. x ¼ in. x ⅛ in.
4 "		1½ in. x ¼ in. x ⅛ in.
4 "		1⅛ in. x ¼ in. dia.

PROCESSES:-

(1) Make ring O fig. 3 from the ⅛ in. square wire soldering joins with No. 1 silver solder.

(2) True up ring and solder ½ disc to the ring using No. 1 solder.

(3) The job may now be chucked up in a lathe and shaped. Drill hole for handle and cut the two grooves shown in fig. 3 whilst the job is still in the chuck. Clean up the job thoroughly.

(4) Drill hole N. ⅛ in. dia. and shape as shown in section on A.A.

(5) Prepare base as shown in figs. 2 and 4. Drill and countersink base for ⅛ in. whit. screws.

(6) Shape ends of the posts and cut slots to take body of the job.

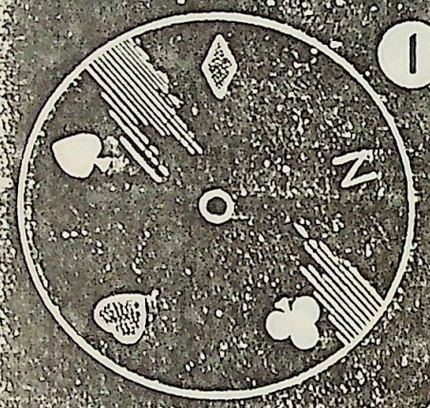
(7) Cut posts to length and drill and tap for ⅛ in. whit. screws.

(8) Fix posts in place, then wire body in position and solder using No. 3 silver solder.

(9) Prepare the backplate as shown in fig. 1. The symbols should be etched and then coloured.

(10) Make knob and nut as shown in fig. 5.

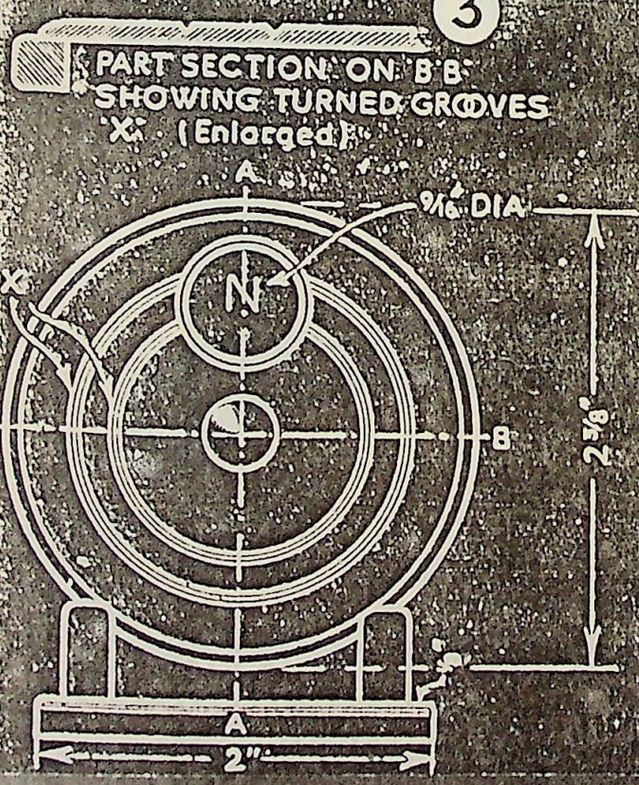
(11) Clean up job thoroughly and finish as desired.



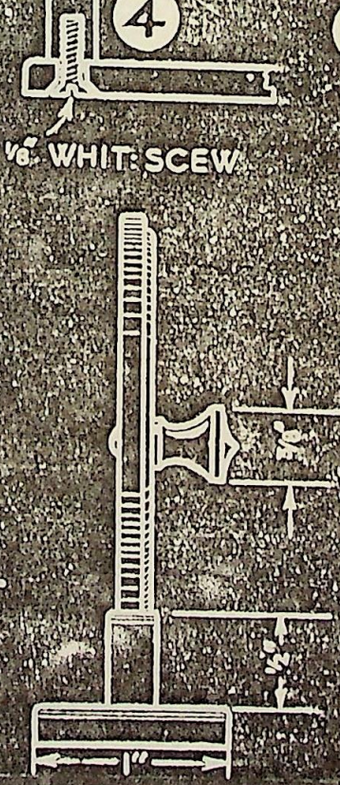
1 DETAIL OF BACK-PLATE

DETAIL OF BASE

2



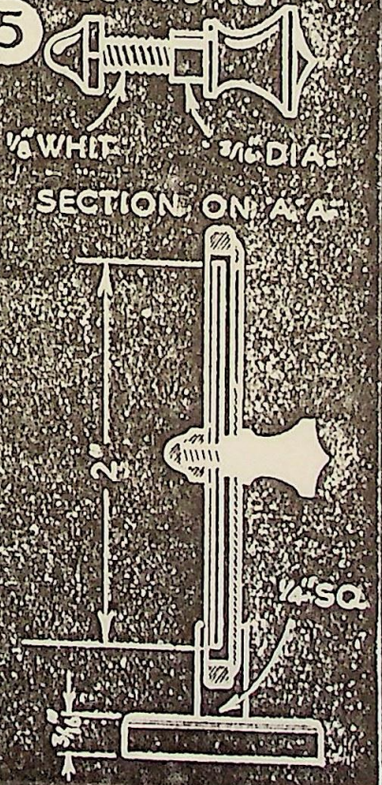
3 PART SECTION ON B B SHOWING TURNED GROOVES X (Enlarged)

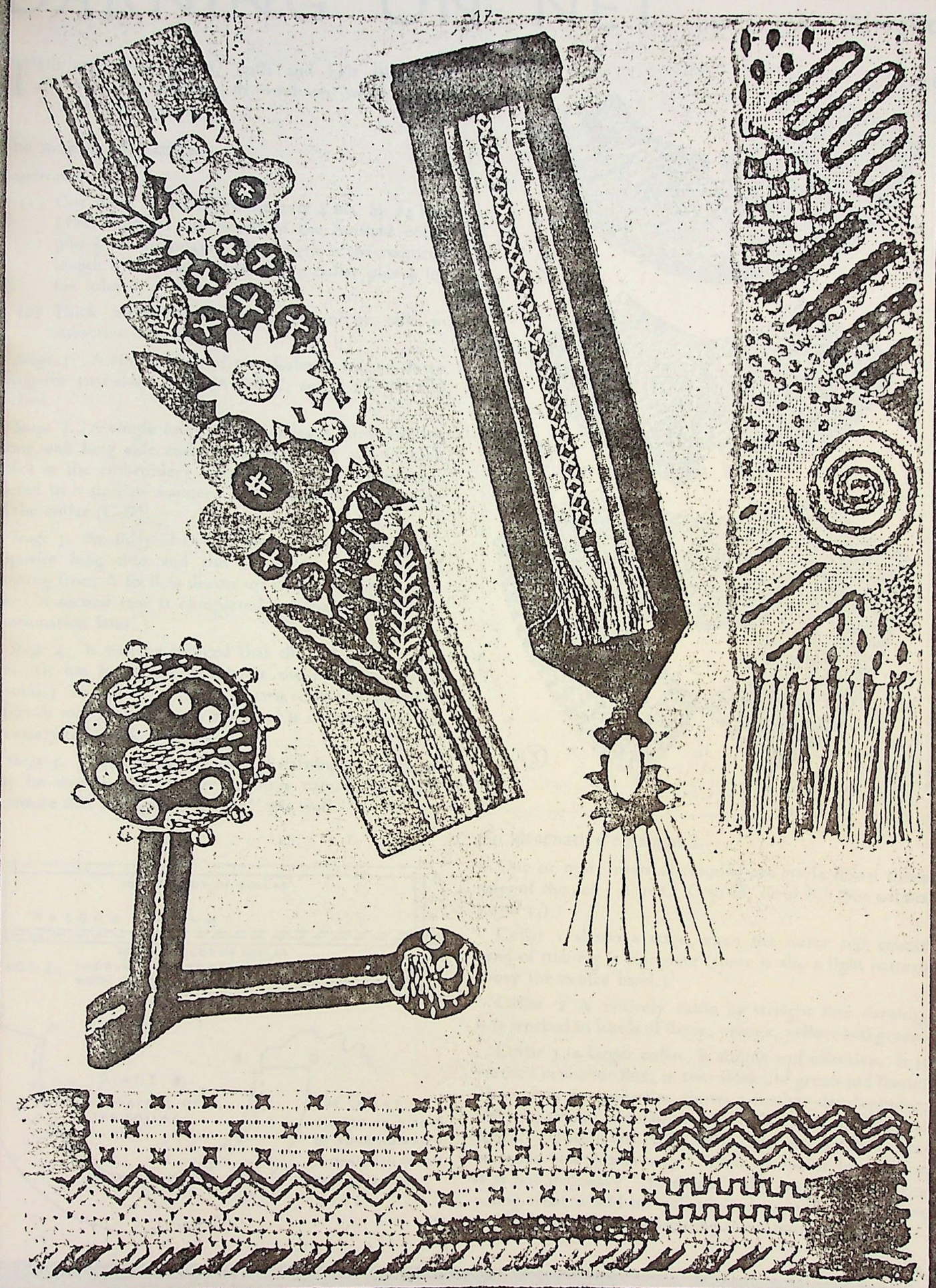


4

ENLARGED DETAIL OF KNOB AND NUT

5





DARNING ON NET

8-

by L. W. Wright

THE attractive collars, cuffs and belt illustrated are made by darning in wool on white cotton "mosquito" net.

The making of a collar

Requirements :

(1) One piece of net approximately 4 ins. by 24 ins. (The width is the depth of the finished collar plus ½ in. for inlays. The length is the required length of the *outer* edge of the collar plus ½ in. for inlays.)

(2) Thick embroidery wool, cotton or silk in attractive colours.

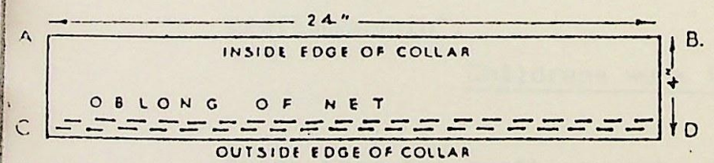
Stage 1. A single inlay of two holes is turned down along the two short ends (A and C, and B and D) and tacked.

Stage 2. A single inlay of two holes is turned down along one long side and run loosely (out and in each hole) in the embroidery wool. A second row is completed in a similar manner. This forms the *outer* edge of the collar (C-D).

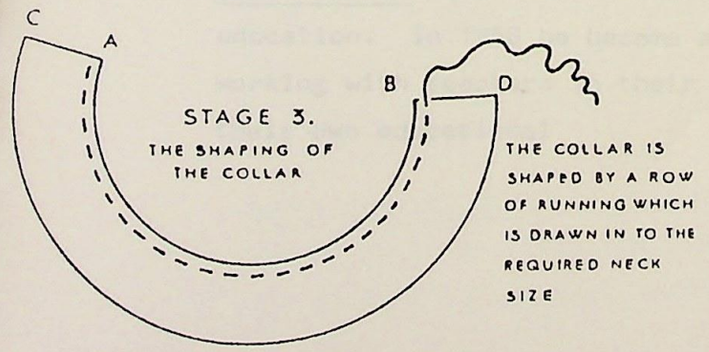
Stage 3. An inlay of two holes is turned in along the opposite long side and run in wool. This row of running from A to B is drawn up to the required neck size. A second row is completed and the wool left for continuation later.

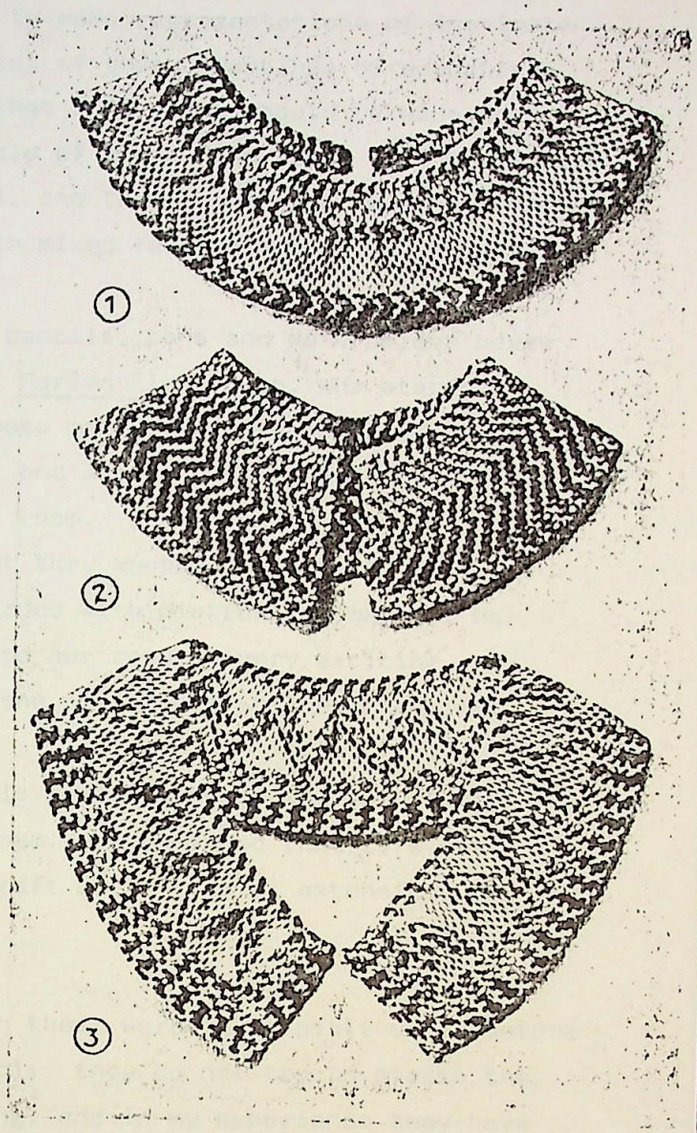
Stage 4. It will be noticed that the net is not lying flat. (It has been gathered in at the neck so this is natural.) To remedy this one or two rows of running at intervals may be made and the wool is drawn up to the necessary tightness. (See collar 1.)

Stage 5. Between these bands of darning any pattern may be woven. Every row requires careful attention to ensure that the finished collar "sits well."



STAGE 2. SHOWING TWO ROWS OF RUNNING IN EMBROIDERY WOOL ON THE OUTER EDGE OF THE COLLAR





An alternative to stage 2

One or more rows of running are made down three sides of the net. A to C, C to D, D to B. (See collars 1 and 3.)

Collar 1 shows a stage when the outer and centre band of running is complete (there is also a light pattern above the centre band.)

Collar 2 is entirely made by straight line darning. It is worked in bands of flame, orange, yellow and green.

Collar 3, a larger collar, is simple and effective. It is worked in anchor flox, in two shades of green and flame. The colour reproduction shows a further development. Dainty patterns have been woven in between bands of colour. Distinctive cuffs, belts, scarves, hatbands can be made in a similar way. These are easier to make as it is not necessary "to shape" the net, therefore the young artist would be well advised to build her pattern as a cuff or belt before tackling the making of a collar.

For a long time art education seemed to be stuck in a rut, it's main objective being to teach people to make representations of inanimate objects which were placed in front of them. Meetings of educationalists had agreed in principle that it's scope should be widened and made more relevant, but little of these fine ideas were percolating down to the teaching level, and the teachers who were attempting to change this were regarded with mixed feelings.

Materials were limited. Paper, pencils, pens and watercolour boxes were the usual mediums offered. Marion Richardson, who started teaching in 1930 decided that these materials were not enough to be conducive to expressive work, and almost single handedly, introduced powder paints to the class room. She also insisted that the children be allowed to paint what they wanted, and not be given subjects and models. While regarded with distrust by many of her colleagues, many art critics found her results very exciting. Bartly Russel was working along the same lines at the same time.

Robin Tanner encouraged his pupils to bring their everyday lives and experiences into the class room. He believed that life was to be enjoyed, and saw art and craft activities as extensions and expressions of that enjoyment.

"Children are daring and approach their work in a spirit of adventure so that it is fresh and individual; they do not try to strain the medium with which they are working, and in my experience they have very great patience which can be easily trained to a sense of craftsmanship".

Childrens work in Block Printing. Dryad. (1936)

Apart from the exciting work which was being produced in his school, Robin Tanner made another important contribution to art/ craft education. In 1956 he became a school's inspector, and through working with teachers in their schools, has helped them to design their own educational

programmes around the childrens' natures and needs. He was involved in teacher training programmes which were rather daunting in their demands, but which were designed to challange the teachers and to help them into the awareness that art and craft were not merely satisfying occupations or pursuits.

"Why do we all respond to the proportion we call the golden mean?".

How did the shape of a spoon evolve?"

Why do we prefer a portrait painted from the left?"

To answer these questions it is neccessary to think hard about the Problem, and it was the emergance of this sort of thinking in relation to arts and crafts which has led to the type of art/ design syllabus which most modern educationalists advocate.

A recurring dilemma in the teaching of craft has been to establish a reasonable balance between the disciplinary values of the craft, and the expressive values of art through materials.

Cross (1977), says that the craftsman saw art as a decoration of life, rather than being central to it, whereas others considered craft to be a purely vocational skill involving neither intellect or creativity. For a long time these attitudes kept both disciplines seperate to each other, and did not permit them to contribute to the mainstream of education.

Educational reports now unanimouslyagree that these two aspects of "materials education" must now be reconciled, and Cross (1977) feels that the most fruitful attempt to do so is in courses which involve basic design thought and processes. Such courses have attempted to combine, in educational terms, the social, technical, and aesthetic aspects of contemporary life, and to apply them to a totally integrated union of art and craft.

Bernard Aylward (1973) wrote that, "The ultimate aim of all education should be to help the individuals to achieve a full and satisfying life". Our society is now very complex, and technology is playing an ever

increasing role over which the individual has less and less control. This control can only be achieved through knowledge and understanding. It is neccessary for us to know how the decisions made regarding artifacts and systems are made. The making of these decisions is a process called designing, and this is the justification for including design education in the pupil's general education.

Cross(1977) argues that the person best equipped to help the pupils understand how society works and why the world looks the way it does, is the person responsible for their aesthetic education.

However, as Cross (1977) points out, there are factors which practical design courses may not take into account.

1. Schools may use different materials and processes than industry employs to produce a particular artifact.
2. Aesthetic considerations are supposed to be as important as the Problem solving. Sometimes we sacrifice the looks aspect- relegating it to the nineteenth century conception of decoration.
3. Objects made in the school may be efficient and pleasant to look at, but ignore many of the market and cost considerations that apply to industry.

It would be a mistake to allow these imperfections to undermine the goodeducational requirements which materials design and crafts are attempting to cater for.

I feel that perhaps this is being a little over analytical. In the secondary school we are attempting to open our pupils' eyes to a wide range of stimulii and possibilities. While there is a place for realism I feel that it would be a pity to stifle them at this stage with a long series of restrictions.

It could be argued that general design principles could be taught without the expense of materials, work areas, and equipment, but Aylward (1977) feels that;

"This approach would be remote from the world that they (the pupils) know, and so would defeat the object of the exercise. The contention is that personal involvment in designing, and the need to produce something

that actually satisfies a need, brings home to the pupils the reality of the constraints invovled in a way that is impossible through a theoretical approach." Bernard Aylward (1977)

Lidstone (1977) says that in the exploration of design related materials and situations, that the pupils find the experience more rewarding if they are engaged in an activity which focuses their attention. Theory is not enough.

In this chapter I have attempted to outline briefly the role that learning through materials has played in our society, and it's status in the school curriculum. Craft work and design both heavily rely on the use of materials other than paper and paint, and all the major twentieth century educationalists agree on the neccessity for their inclusion (in terms of facilities and adequate teaching staff) in the school Programme.

Agreeing that a situation is desirable, and doing something positive about it tend to be two seperate things. The position of basic design and materials learning (which includes crafts) has improved in recent years, but still has a long way to go. Individual teachers need to constantly re-examine and reappraise their methods. Working through materials takes more initial input from the teacher in terms of class organization and preparation, possible extra time to complete processes, (eg. firing a kiln), and an enquiring mind open to new influences is essential if we are not to "freeze" the development of our classes.

Chapter Three.

The Children We Teach.

Before we can formulate an educational system it is neccessary to understand how a child perceives, and how that perception changes in the maturation process. The teacher must provide the atmosphere and materials for this to take place.

Birth to eight years.

The young child's learning though apparantly random, is first affected through sensory experience, and the accumulation of a fund of knowledge based on sight, smell, touch and hearing creates the foundation for other learning. His view of the world is ego centric:-

"Spurred on by an innate curoiusity he explores the materials and objects in his surroundings. These exist only as they affect him, and there is no seperation between thought and feeling in the child's direct response to an object and the way he understands it. The image and the object are one".

Children's Growth Through Creative Experience. Schools council (1974)

M. Robertson (1952) notes that set down among a variety of materials the infant will explore the materials without attempting to modify their shape or construct anything with them. He will pick up a pebble, smooth it between his fingers, look at it from all sides and feel it's weight. This is an essential stage in getting to know a material, and might also describe how a sculptor would evaluate a new block before he carves it. Direct sensory experience through handling materials is neccessary if the intellect is to grow.

When the child is a little older, he will attempt to put pieces of different materials together. A a still stage he will attempt to make something out of them.

By the age of 6 or 7, the child is developing a degree of external control over his actions:- external control over materials, objects and movements, as seen by the improved levels of skill and co-ordination,

and internal control over responses and the capacity to absorb new experiences.

"This new control brings an egocentric confidence. At this stage making is a valuable activity for the child as he needs the growing confidence and the certainty of achievment which the tangible result brings".

Schools Council. (1974).

"To have made a thing which remains, to which he may return, a thing which exists assuringly in it's own right- there is no question of that achievment".

Creative Crafts in Education. M. Robertson. (1952).

From the age of 8 and upwards, the child becomes noticably more and more dissatisfied and self critical of his work.

The pre adolescent.

Before the age of 10, the child is to a great extent, content with his own method and finds it sufficient for his purpose. But now he begins to feel the need to express his desires, and we as teachers must be prepared to start teaching technique. The pre adolescent wants to make things that are "real". (Later the adolescent will question, what is reality?)

"The period in childrens' lives between 8 and 13 years therefore, is one of great change. A critical attitude supplants their earlier carefree enjoyment and spontaneous pleasure in creating. This period is often referred to as the latency stage because the strong drives of earlier childhood and later adolescent are dormant. As they become more informed about their surroundings and begin to enquire how things work, they lose their spontaneous confidence".

Schools Council. (1974).

Often, it is through their creative work that the child can reconcile his inner conflicts, finding in it an idiom for self expression. If the child's sensory experiences have been nourished, his capacity for

expressing the feeling will be apparent. The early carefree enjoyment and spontaneous pleasure in creating will be increasingly replaced by a searchingly critical attitude as the child attempts to cope with his increasing awareness of reality.

Piaget calls this period of development the concrete operations stage. The child is developing conservatism. His capacity for mental representation is increasing, and he can think in relaitve terms whereas previously he thought only in absolutes.

Adolescence.

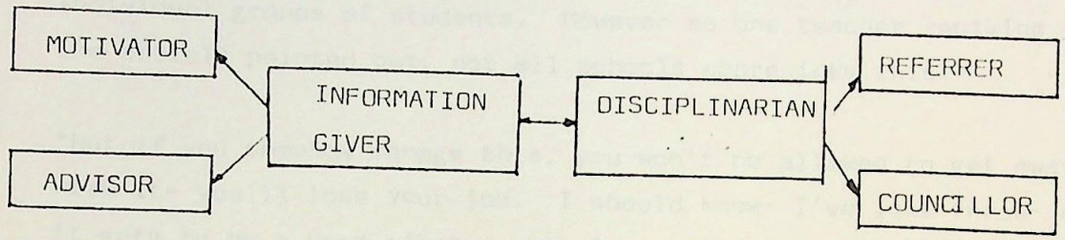
As the child approaches adolescence, considerable changes in his working patterns become apparent. By the age of 11, groups and partnerships are likely to replace the earlier individual work, each member exchanging ideas and sharing responsibility. Children begin to recognise, and learn from each other, skills. They begin to make independant judgements, and will tell you who is "best at art", or who is "good with his hands". Often they will see these things as being in two seperate catagories, perhaps being influenced by the traditional adult viewpoint. Kits, toys, colouring books and other items available can give preconceived ideas about art, sometimes excluding some children from confident participation.

"I'm no good at art, Miss", is a frequently heard comment. If the teacher has experienced difficulty in his own creative work, he will have a deeper insight into the problems faced by adolecsents who are facing the problem of observing reality, and finding a satisfying form to communicate the way that they are affected by it.

The Role of the Teacher.

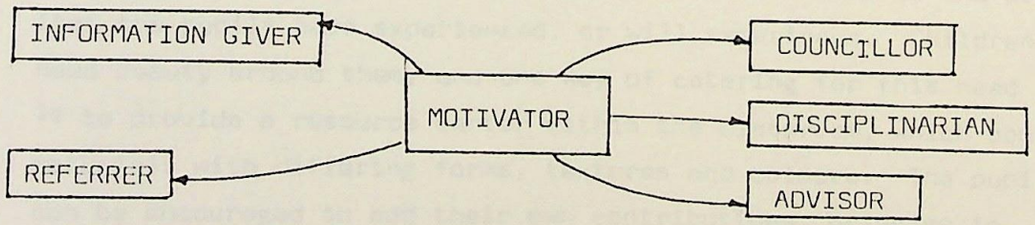
In our teaching we will be mostly concerned with pupils of adolescent and preadolescent ages. How can we as teachers of art and design best do our job?

The role of the teacher has changed in recent years. Previously, the teacher's role was that of information giver and disciplinarian, with minor roles of motivator, referrer, councillor and advisor.



Designing for Creative Teaching. Logan & Logan (1971).

All modern educationalists agree that the prime obligation of the teacher is to stimulate the pupils. The first stage is developing awareness of problems, cognition. The next stage is to provide materials and time for research and for ideas to ripen, and an opportunity to compare insights, conception. At some point after this a solution comes into being, and the moment of discovery comes to the child, combustion. The process of problem solving is not complete until the idea has been expressed and shared, communication. At this stage the individual achieves awareness and the experience is complete.



Designing for Creative Teaching. Logan & Logan (1971).

This model shows the role of the art teacher today within the class room.

Rudolf Arnheim (1965) points out how important it is that we select our classroom aids with care, ensuring that they are relevant and clear. Logical sequences of presentation must exist in the spoken comment and the visual presentation. Distracting elements must be avoided if the message is to be understandable.

John Berger in the Times Educational Supplement of the 1st. Dec 1972 points out the fact that the authorities often consider the subject of art marginal, if not superfluous means that it is relatively unsupervised and unexamined. As a result the teacher has a freedom to teach the subject in his own way, suiting the needs of of individual groups of students. However as one teacher replying to the article pointed out, not all schools appreciate this:-

"But if you somehow manage this, you won't be allowed to get away with it- you'll lose your job. I should know- I've lost three- and it gets to be a drag after a while".

The teacher was un named.

We must establish the needs of our students, and the limitations of the school in which we teach, and do our best within those limitations.

It can be seen that a child's capability for discovery is to a great extent dependant on his experience. Intelligence and personal drive are other factors, but these can be stifled if not encouraged. I feel that every art teacher has a responsibility to make the effort to expose the pupils to materials, visual effects, textures and colours, and to let these experiences be a backup to the problems that the pupils have experienced, or will experience. Children need beauty around them, and one way of catering for this need is to provide a resource center within the classroom, which contains materials with differing forms, textures and colours. The pupils can be encouraged to add their own contributions, bringing in for example, an interesting piece of bark or a piece of fabric which has an interesting texture. In this way they will feel that the collection belongs to and is intended for them, and they will feel

a sense of involvement with it. The use of the resource center plays an important part in the cognition aspect of the creative process, and can provide the stimulii for expression. The resource center can be an everchanging thing, and can provide material for the conceptionstage, when the pupil will experiment and construct, selecting possible ideas.

Logan & Logan (1971) listed the essential qualities of the creative teacher as being:-

1. Enthusiasm.
2. Faith in the child's ability.
3. Appreciation for uniqueness and significance of child's work.
4. Creativity.
5. Resourcefulness.
6. Intelligence.
7. Warmth.

Logan & Logan (1971) continue by saying that whereas children need the sense of security and stability which comes from living and creating in an environment that is orderly but not stiff, stimulating but not chaotic, humming with activity but not teeming with confusion, that over organization appeared to be one of the main factors inhibiting creativity, and that the more informal classes produced more stimulating results.

However as the Schools Council (1974) pointed out, free expression with the minimum of teaching can lead to the pupils experiencing difficulties in handling materials, and can result in a loss of purpose and direction. I have found that the more informal approach works best with a reasonably small class in which I have come to know the individual students quite well. There is mutual respect, and time to cope with each individual's problems in a way that is impossible in the larger classes which can become fragmented and cause the student to lose interest. As a student teacher I have found it difficult to get to know all the students as individuals, as in some cases I have classes of thirty or more pupils for 45 minutes once a fortnight. The classes that I know better tend to produce more exciting work.

A common misconception is the notion that the student must discover everything for himself. Logan & Logan (1971) believe that this is a dangerous policy which limits the results to the child's own discovery. "Discovery, like surprise, favours the well prepared mind".

Throughout the years I have built up an art library, and collected magazine cuttings and objects which I find visually stimulating or pleasing in a tactile way. These things are around me while I work, and I have found that a visually stimulating setting helps in the production of visually stimulating work.

Wolfgang Metzger (1965) was interested in the influence of aesthetic examples on the growing child. In a series of controlled experiments he set out to discover whether or not childrens' artistic capabilities were influenced or hastened by exposure to examples of artistic work. The results showed that the children were influenced in a specific way by the examples. Groups working with outstanding examples showed considerable improvment, while those shown inferior examples showed a less marked harmful effect. The children discounted the worst of the samples. Older childrens' drawings were not paid attention to by the children of the control group, which felt that the standard of such drawings would soon be surpassed by themselves, and for that reason they did not merit attention or admiration.

"We can therefore predict with some certainty that a child who has been exposed to inferior, unformed, and unauthentic pictorial material for many years will inevitably perceive the inferior as normal even if a kind of revolution, a dethroning of the false gods, an enlightenment about the true norms of the beautiful, can occour later on. On the other hand, if we want to nurture a more exacting norm in the child from the beginning, we must offer him only exacting visual nourishment and he should be exposed to superior examples to such an extent that he will be completely filled by them, for unaviodably in his daily life he will constantly meet with the inferior". Wolfgang Metzger. The Influence of Aesthetic Examples. Education of Vision. Ed. by Gyorgy Kepes. (1965).

One of the main dilemmas that the art teacher must face is to establish the right equilibrium between personal expression, which may lead to sloppy work, and the over controlled approach which can stifle imagination and creativity. The right balance will vary from class to class.

The neccessity for arriving at a workable equilibrium is particularly apparent when dealing with the processes which involve the more resistant materials, for example, within the crafts. We must decide whether or not we will teach crafts as an end in itself, or whether the craft skills will be learned as the means to the solution to a problem in which the pupil was involved. We do not live in a craft based society, and is it therefore right that we should spend a lot of class time teaching something which has been outmoded?

"The answer to the problem 'when if ever do we teach skills?' is when we have given the child confidence to attempt his own ideas but realise he needs to be given direct help or support in a particular way".

Schools Council. (1974).

We should help the pupils to find the right materials and forms for their ideas. We have to find a balance between passively holding back or actively directing. There is no accepted solution to the problem, and maybe the sensitivity of each teachers response to his class would be invalidated if there was one.

Here we run up against another problem. The art teacher must consider how much the syllabus examination requirments will be the deciding factor in planning the course content. At the moment the Irish Intermediate Art Syllabus is split up into five sections, one of which is craft. In the examination, some of the most popular sections of the craft paper are screen printing, pottery and lino-cutting. Let us take a look at some sample questions from recent papers.

Screen printing. "Make a design based on the theme of either (a)Flowers, or (b)winter trees. (1979).

Pottery. Make either (a) a mug with a handle, height 8 cms. approx, or (b) a small figurine. (1979).

I can see that while some attempt has been made to leave the question open, the acquisition of any sort of standard acceptable to the Irish examining board is at the moment highly dependant on a step by step method of teaching craft, which has become so tight and disciplined that the creativity and originality is of a very low level. While we continue to ask the students to make solutions to known Problems, we can expect stereotyped results.

In our society, prospects for success are largely based on examination results, and art has never fitted well into any examination system. Art seems to be considered a subject of lesser importance than the more academic subjects such as french, and it is a subject not given much weight in applying for university entrance. As a result, many of the brighter children are steered away from art at an early age. As Professor Archer puts it:-

"It is really rather an alarming thought that most of those who make the most far reaching decisions on matters affecting material culture, such as business men, senior civil servants, local Government officers, members of councils and public committees not to mention members of parliament, had an education in which contact with the most relevant disciplines ceased at the age of thirteen".

Professor Archer. (1979). Preface to Design in Gereral Education.

When I was in secondary school (I left in 1972), I had to decide in second form between taking art or maths. My parents, of course, made me take maths, as for most occupations (including that of artist or designer) some mathematical accomplishment is neccesary. This is an example of what Professor Archer was talking about. I was interested enough to take art lessons in the evening, but there are not enough places in Technical school classes to cater for all the pupils who are denied the chance to take art within the secondary school system.

It was certainly true in my school that the art class was largely made up of the pupils who were less gifted than average in the academic subjects. There is a view among psychologists that creativity and intelligence are not interrelated, so this does not mean that our art classes will be composed of less creatively gifted pupils.

It seems imperative that every art education policy forming body or committee should have at least a 50% representation of the people who will be faced with the task of implementing new recommendations within the school itself. Art teachers are more likely to know what is workable within the classroom than accountants, whose talents lie in other directions.

Many subjects require the pupil to acquire an understanding of them and, when reqiured, display their knowledge at a particular time u nder specific conditions (examinations).

Art, design and craft can not work satisfactorily in the above manner. The formulating and working out of a creative idea can take time, and while based on a groundwork of knowledge, experience and practice, it is not always fair to expect these to reach their highest level within a three hour period. Surely there is a place for examination by assessment within the second level art structure. This would give a better idea of the pupils' work over a longer period, and some pupils can not work as well in purely competitive examination situations. An assessment system might lead to difficulties where the students require the same work for applying for places in third level institutions, but these difficulties could be resolved with a little co-operation between the second level and third level systems of education.

At present the standard of art education is considered to be very low:-

"So mediocre that the results obtained at the Leaving Certificate examination are no indication of a students potential".

The Place of the Arts in Irish Education. C. Benson (1979).

We have had reports and recommendation on how our systems may be improved, and detailed analyses of where our systems fail, but we seem to get stuck somewhere between theory and practice. There are many factors which would affect the problem of establishing a change, one of which would be financial.

To raise levels of material education to at least a reasonable standard, we as teachers would require physical resources of many kinds.

1. Classes of a reasonable size. At present the maximum allowable number is 30, and this is sometimes exceeded. The Benson Report suggests that we take 24 as a maximum, as the Vocational schools have already done. Many aspects of art education require the teacher to give individual tuition, and this is difficult if not impossible in a larger class. "Too large classes" is the common reason given by art teachers for failing to provide tuition in crafts or materials use.

2. Classes of suitable lengths of time. For many art activities a short period is a false economy, as when time for preparation and clearing away are deducted from the total class time, there is not much working time left. In a large class, the clearing away can assume a ridiculous proportion of the total time. These short periods can also severely limit the possible range of activities that the teacher can provide for the class. While art is considered to be a second rate subject, it will be difficult to change the school syllabus in order to take the demands of art education into account. It is sad that until such changes are made that many pupils will continue to receive a second rate education.

3. Adequate finance for day to day materials and capital expenditure. This varies widely from school to school, but at the moment the Vocational schools tend to be better equipped than the private secondary schools. However, as far as I can see, no Irish secondary school provides the degree of facilities and materials that has

become common to schools found in other countries within the E.E.C., for example, Britain.

4. Classroom equipment. I have dealt with this more fully in a later chapter, where I will compare the standard Irish artroom with examples of art areas from some British schools.

Let us return to the topic of the profile of the creative teacher. Logan & Logan describes creative teaching as being an ever changing thing, changing as classes change, and as the teacher's viewpoint and experience is enriched. Teaching becomes a creative process when the individual:-

"Becomes aware of a need to improve his teaching techniques and stratagies.
Thinks through several alternatives as solutions to a problem.
Brings to bear to the problem past experiences, new knowledge and insights.
Tries to apply the scientifically developed principles of creative teaching.
Utilises what he has learned from professional reading and educational experiences".

Logan & Logan. (1971).

Because creative teaching incurs certain risks (in terms of being prepared to venture into new ideas and areas when it would be both easier and safer to stick to established patterns) it neccessitates emphisis on the qualities of self reliance and increasing self responsibility. It requires a degree of self confidence from the teacher. Part of this confidence comes from being adequately Prepared. Creative teaching is imaginative, and encourages the unique use of materials and ideas. The teacher should have at his command manipulative skills and materials to encourage the pupils to try their ideas, and the ability to order the learning environment in order to promote creative behaviour. Creative teaching is integrative in nature, demolishing boundries between subjects, and

promoting encounter. In a visit to a factory for instance, where does design content become seperated from economics and social history? What is the role of each in the finished product?

The teacher's responsibility is to open doors for his pupils, unlocking the child's creative powers and providing an environment and experiences to help in fostering this creativity. No amount of equipment, or supply of materials (although these are neccessary) can take the place of the teacher who makes the effort to do this.

Logan & Logan (1971) have compiled a long list of the special competencies of the art teacher which I think is worth while quoting in it's entirety.

"1. Ability in freeing the child from fear of expressing ideas.
2. Skill in stimulating the senses and powers of imaginative thinking, and directing these towards desirable ends.
3. Skill in providing right amount of guidance and motivation without interfering with process and product of creativity.
4. Skill in providing instruction in techniques which the child needs in order to accomplish his objectives.
5. Skill in creating an atmosphere of permissiveness without the complete aband-onment of control.
6. Skill in helping the children develop inner discipline to balance the freedom that comes from involvment in a meaningful process.
7. Skill in motivating the student and flexibility in the means used to meet the varying needs and abilities of children.
8. Skill in sharpening the child's perception and freeing his creative impulses.
9. Ability to organize classroom situation and daily programme to provide the neccessary time for development of artistic abilities through exploration, manipulation, discovery, planning & creating.
10. Ability to organize work area, storage, ehhibition space.
11. Skill in creating a rich environment: materials, adequate suppiles, freedom of movement within bounds, flexible schedule, guidance, encouragment.

12. Skill in providing for individual differences.
13. Skill in providing opportunities for creative use of materials and self expression.
14. Skill in helping the the child develop self-evaluation.
15. Skill in working creatively with art materials available to pupils."

Creative Teaching. Logan & Logan. (1971).

This is a truely formidable list, but I think that it is basically very sound. In order for the points contained in the list to be implemented, it is neccessary that the teacher should know that he has the backing of the school administration for innovation in the classroom and staff operations, and for the provision of opportunities and conditions for experimentation.

Chapter Five.

The Classroom.

Whereas a well planned classroom can not make an art class work, it will certainly helps the teacher in doing so.

It is now recognised that an art room which caters for materials learning must be designed for that purpose. Space must be allocated for specialist equipment, and different types of work and storage spaces allocated for the varying activities.

An extract from the Irish Department of Education's secondary school design general brief which is issued to architects, reads:-

"The overall area allocated may be treated as far as possible as one large open plan space, designed to accomadate 60 pupils engaged in a variety of activities, some wet, others dry. Storage (for the most part), screening and display space may be provided within the area by means of movable furniture units. One section will be required to house a kiln with associated drying racks, and it is desirable that the clay which will be used should be confined to this section. Another section will be devoted to three dimensional design and in this area the students will be exposed to a wide variety of materials. It would be desirable to have a photography dark room within the arts and crafts area, or relatively close to it....

...The arts and crafts area should open on an external area. It requires daylight, preferably north toplight".

It is suggested that a school that has 810 pupils should have an open area of 216 sq. metres, and a storage room of 11 sq. metres.

It is a recognised fact that a large number of our schools are in buildings that were made before Ireland's comparatively recent changes in art educational thinking. The result is that many art rooms are inadequate for the effective teaching of the wide range of topics which the art syllabus must cover. To my certain knowledge, a few have no natural light, while others have no blackout facilities. Craft and materials education, as already stated, is neglected due to the cost

of equipment, and overlarge classes, lack of space, and badly organized space. Modern schools have the benefit of having purpose built classrooms. I would like to take a look at the suggested classroom plan which is issued by the Irish Department of Education.

The plan is a vast improvment on previous models, and allows for different types of activities to take place within the one room. Thr room has tall presses for storing work and paper, and a lockable storage room. The craft activities are confined to one end of the room, and there is some room allocated for the machinery connected with the craft/materials activities. However there are several design problems which have not been resolved.

1. The room is intended for thirty pupils and the seating arrangment caters for that number. What happens if there are more than thirty pupils?

2. Some of the seating accomadation is at easels. Not all activities are siutable for upright work. The extra pupils could, I suppose, work on the sink draining boards, but this is hardly siutable.

3. I can not see how subjects such as life drawing could be carried out, as there is nowhere in the room where a model could be placed so that all the pupils could have an unobstructed view. Three models would be neccessary at least.

4. There is a large wasted space in the middle of the center block of tables. The "walk around" space in some places is limited. I assume that the tables are movable, so some rearrangment could solve this problem.

5. The class format suggests split activity within the class. Among the younger classes this is not always possible. The plan includes a movable blackboard, but there are very few places in the room where all the pupils could get an unobstructed view of it. The same would hold for other visual aids. I suggest that the best place would be

the wall where the movable presses are. This would neccessitate further rearrangment of the classroom.

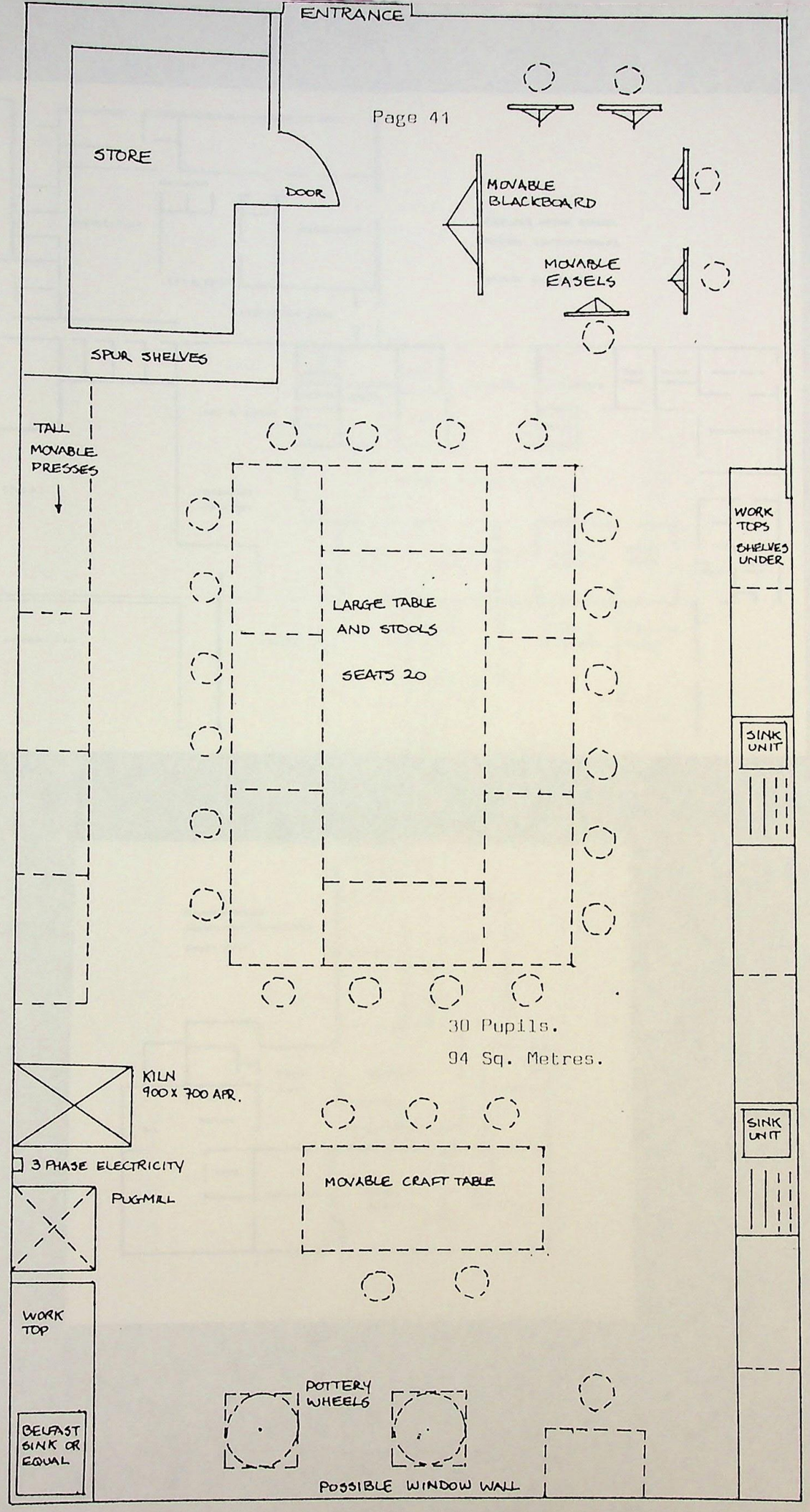
6. The classroom plan contains a craft area, bur the movable craft table is also allocated for other class work. Clean work and dirty work do not mix well together. The only craft obviously dealt with in the classroom plan is ceramics. Should we not also be offering woodwork, metalwork, plastics, glasswork and textiles facilities? Some of these are offered under the heading "Practical Arts" where the training is more concerned with teaching the pupil practical skills than offering the pupil a medium in which to express his creativity and ideas.

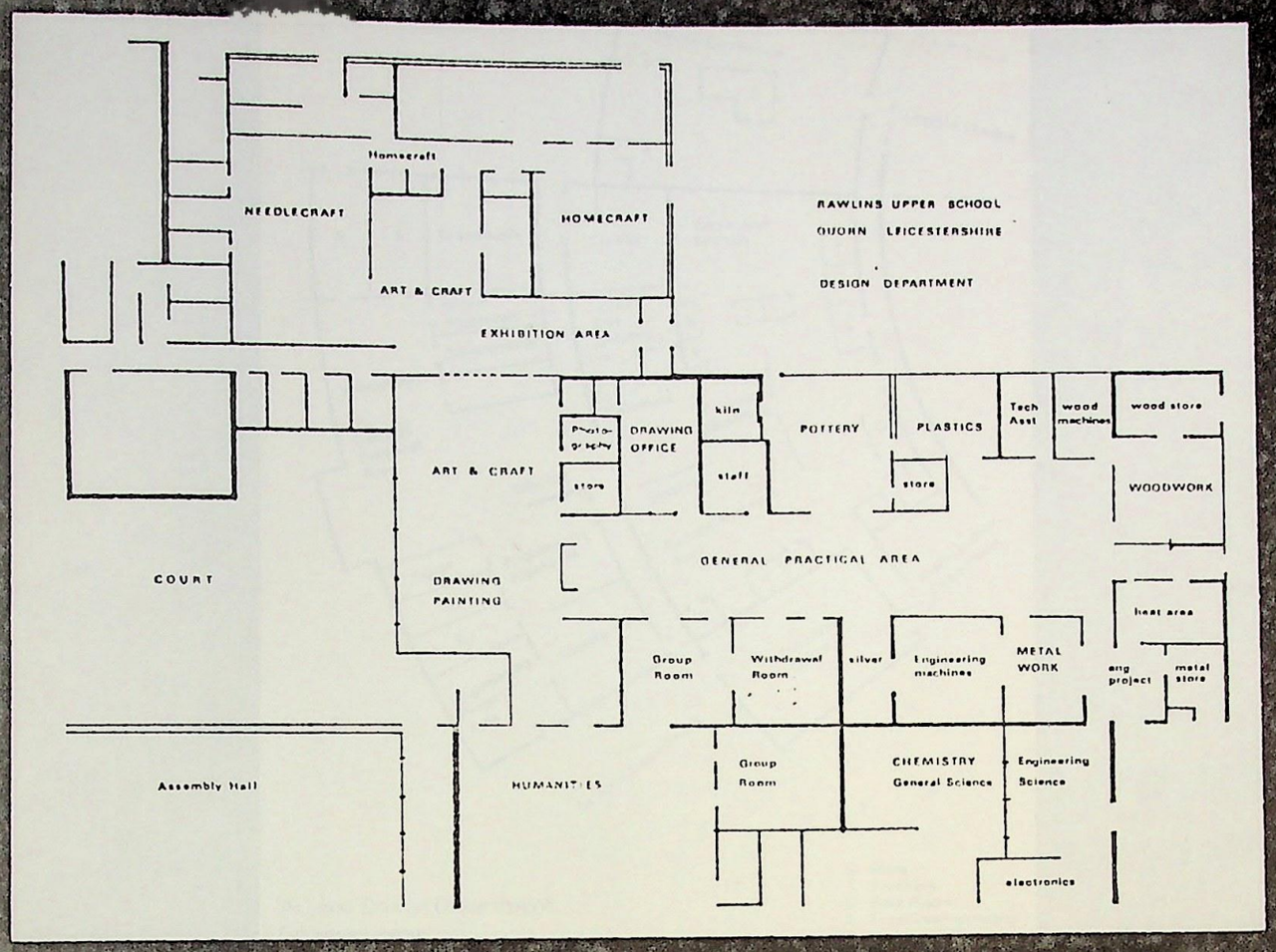
In comparison to the Irish artroom plan, I would like to show a number of art and design department plans from some of the better British schools. These are purpose built to suit the particular schools involved., but they all have a number of features in common.

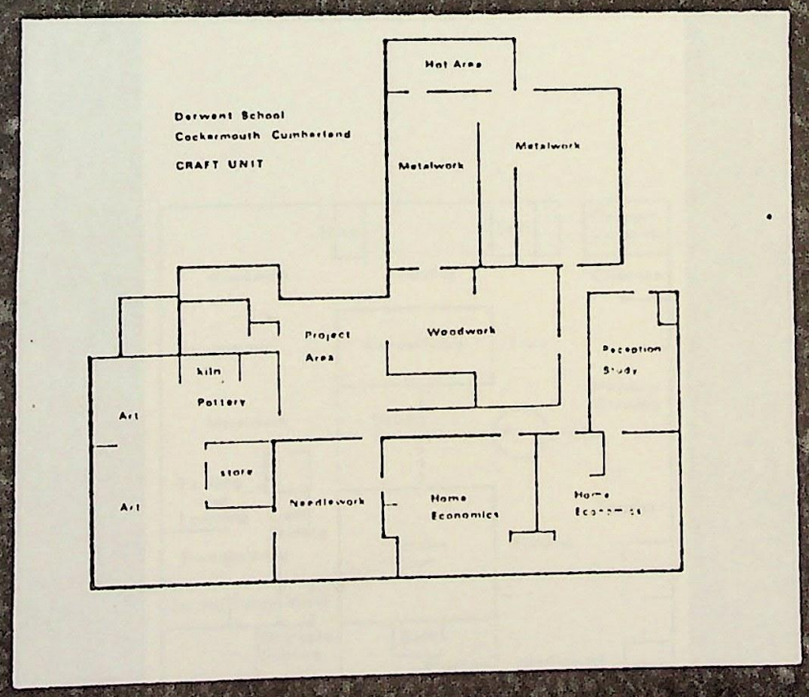
The block is designed as a unit, but each particular discipline has it's own area within the unit. A wide range of materials are offered. If we take a look at just one of the schools, Counthill, we can see that ceramics, painting and drawing, textiles, printing, needlework, housecraft, casting, forging, silversmithing, welding, engineering, woodwork, plastics and photography are all available within the unit. The important thing to note is the wide range of possible activities and that the practical arts are not split up as they are in Irish schools. Cooking, engineering and painting are all seen as essentially creative. A number of teachers circulate assisting as required. I doubt if all the techniques would be offered at the one time to every class, but the possibilities are there, and when we consider the higher standard of work produced in these schools, I feel that there is a good deal to be said for this kind of planning.

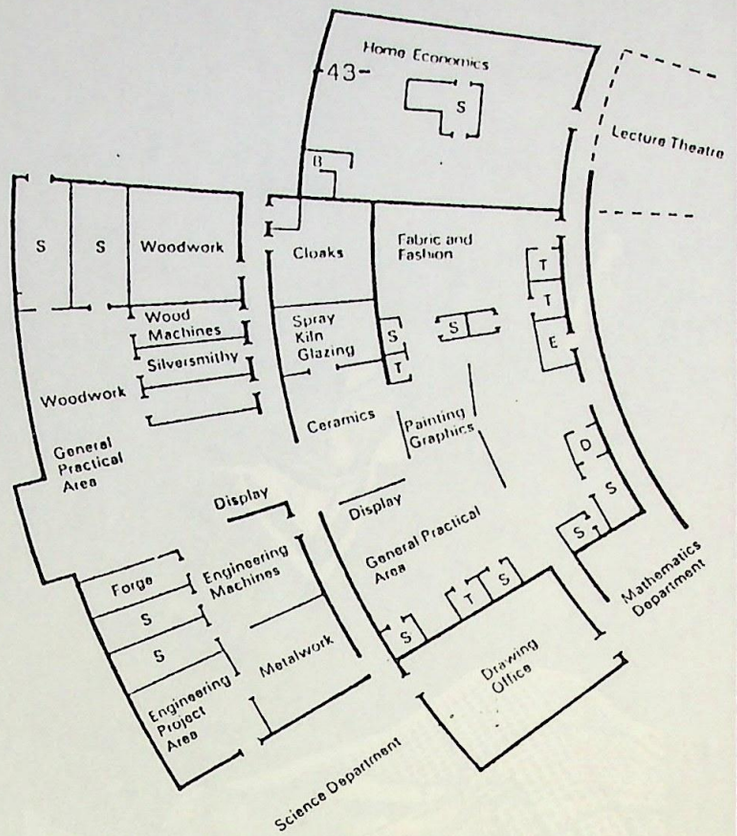
The majority of our schools have been built on very different lines, and dramatic remedial action to reorganize them is not always possible. But we are building new schools. Could we not learn a little from the successes and failures of others? If we are serious about wanting

Irish standards of art education to improve, could we not provide the neccessary finance to build and equip suitable centers which could help to provide our present deficiencies?


ENTRANCE
STORE
DOOR
SPUR SHELVES
MOVABLE BLACKBOARD
MOVABLE EASELS
TALL MOVABLE PRESSES
LARGE TABLE AND STOOLS
SEATS 20
WORK TOPS
SHELVES UNDER
SINK UNIT
SINK UNIT
30 Pupils.
94 Sq. Metres.
KILN 900 x 700 APR.
3 PHASE ELECTRICITY
PUGMILL
MOVABLE CRAFT TABLE
WORK TOP
BELFAST SINK OR EQUAL
POTTERY WHEELS
POSSIBLE WINDOW WALL


RAWLINS UPPER SCHOOL
OUORN LEICESTERSHIRE
DESIGN DEPARTMENT
Homecraft
NEEDLECRAFT
HOMECRAFT
ART & CRAFT
EXHIBITION AREA
ART & CRAFT
DRAWING OFFICE
kiln
staff
POTTERY
PLASTICS
Tech Asst
wood machines
wood store
WOODWORK
store
GENERAL PRACTICAL AREA
COURT
DRAWING PAINTING
heat area
Group Room
Withdrawal Room
silver
Engineering machines
METAL WORK
eng project
metal store
Assembly Hall
HUMANITIES
Group Room
CHEMISTRY General Science
Engineering Science
electronics

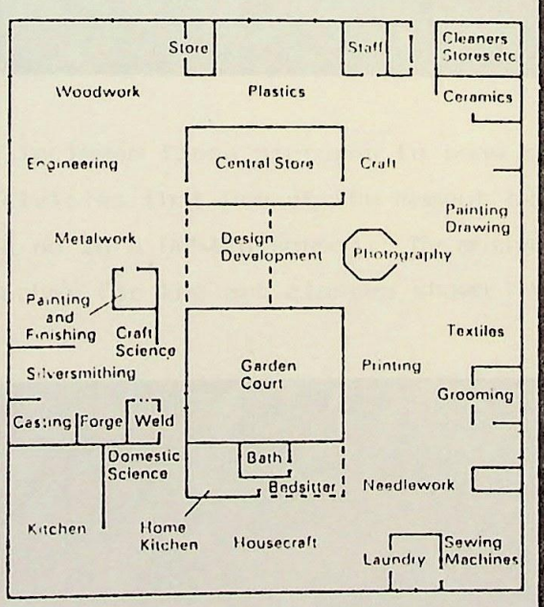

Derwent School
Cockermouth Cumberland
CRAFT UNIT
Hat Area
Metalwork
Metalwork
Project Area
Woodwork
kiln
Pottery
Art
store
Art
Needlework
Home Economics

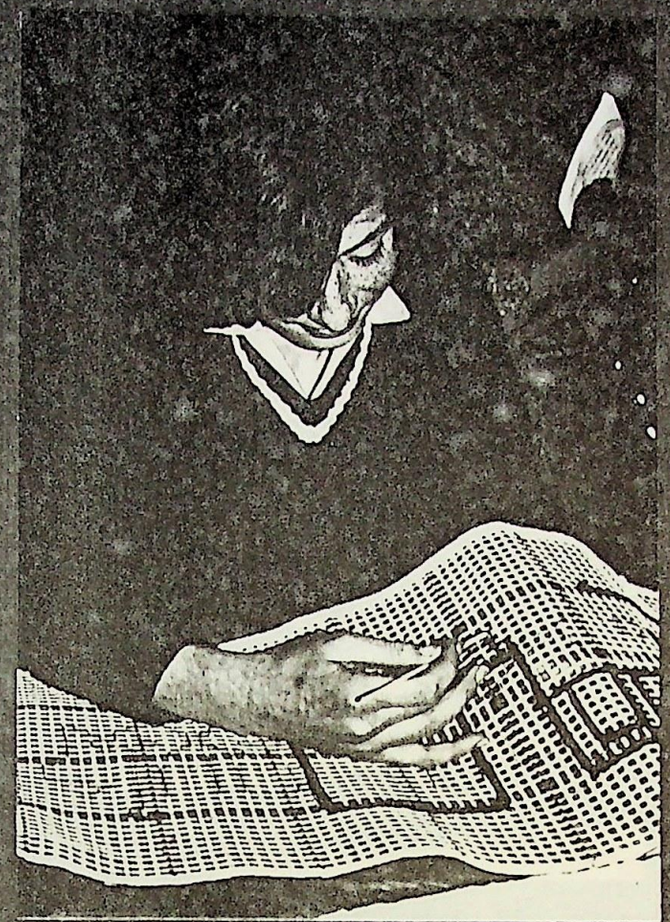


Art and Design Department,
Countesthorpe

S Store
T Teachers
D Dark Room
E Experimental Room
B Bedsitting Room

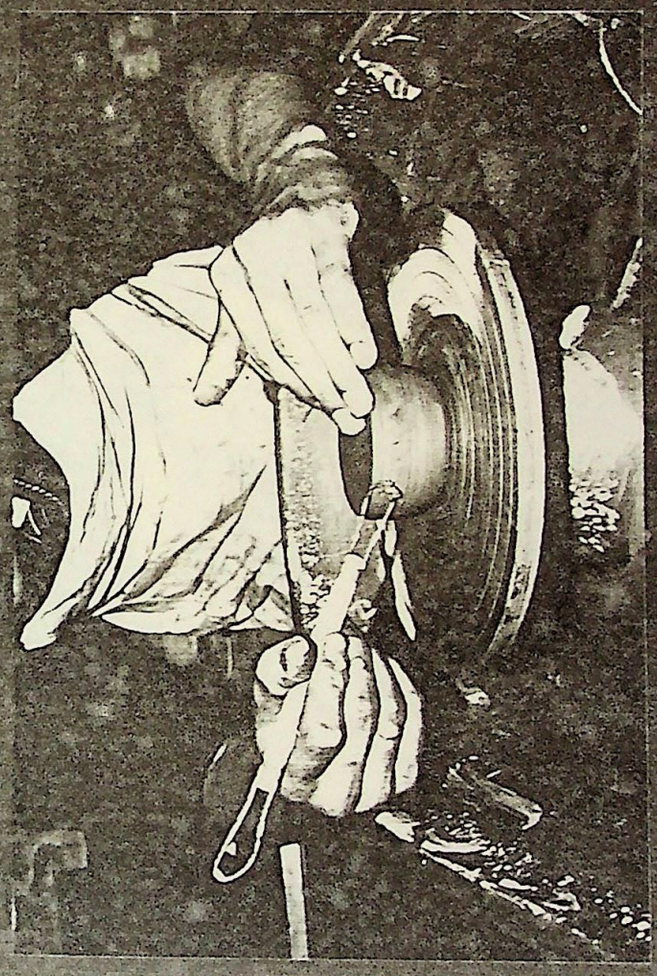
Counthill Creative Studies Area

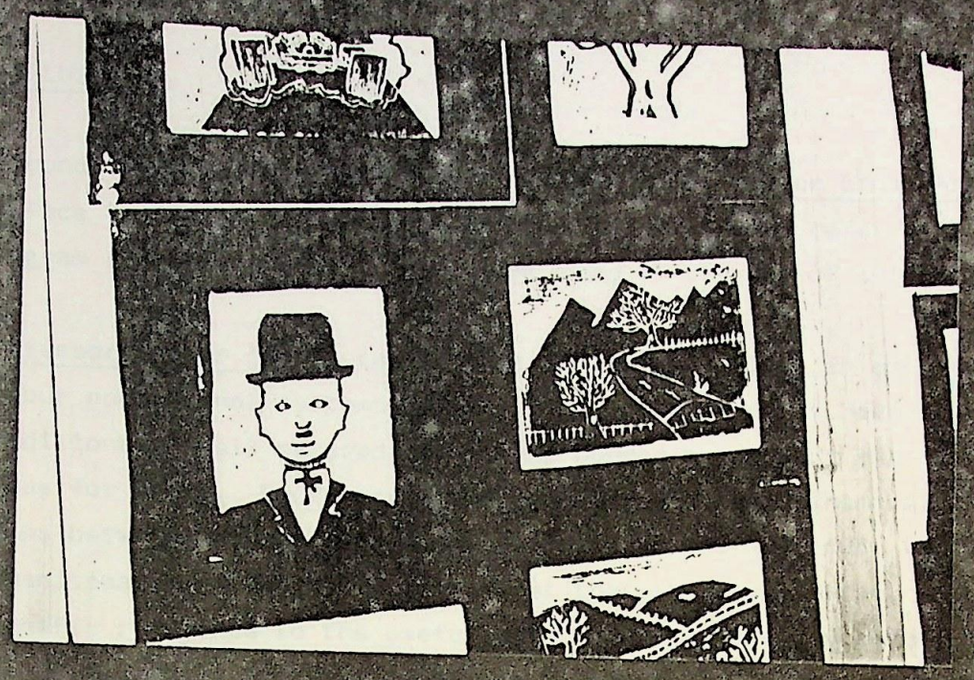




Working with wool

I have included these pictures to show some of the activities that are at the moment being carried on in a Dublin school. My mother is the art teacher for the art classes shown here.





Lino cut

Designing for ceramics

Chapter Six.

CONCLUSION.

In conclusion I would like to refer again to Professor Bruce Archer's preface to Design in General Education (1979) and to refer to a diagram from that book, which is included at the end of this thesis.

Professor Archer (1979) talks about the "vacant plot" in education. In our educational systems the sciences and humanities have been traditionally well catered for, being deemed neccessary and essential areas for study. Professor Archer's model shows the interrelationships between the three main areas of study, the sciences, the humanities and DESIGN. He points out that the design area, with specific reference to the useful arts and materials education, has been largely ignored, hence the expression, "the vacant plot".

"If there is a third area in education, what distinguishes it from Science and the Humanities? What do science and the humanities leave out?....

....Science is concerned with the attainment of understanding based on observation, measurment, the formulation of theory, and the testing of theory by further observation and experiment....

.... There is a fair concensus that the humanities are especially concerned with human values and the expression of the spirit of man.... There aslo seems to be a measure of agreement , by no means universal, that the humanities exclude the making and doing aspects of the fine, performing and useful arts, although their historical, critical and philosophical aspects would still be fair game to the humanities scholar. It is interesting to note that writers on the science side frequently mention technology and the useful arts as being excluded from their purview, presumably because they are just outside their boundary".
Prof. Bruce Archer. Preface to Design in general Education. (1979).

Professor Archer's "vacant plot" in education is concerned with the artifacts and products of our culture, and the experience, sensibility and skill that go into their making. He believes that the disciplines which fall into this area must be aspirational and inspirational in character. The fine arts, which can be executed in a variety of materials such as ceramics and textiles and the sculptural media would clearly fall into this catagory, The useful arts such as metalwork and woodwork would also usually qualify, as would any technical studies which are concerned with practical work. Environmental studies could also be included depending on their method of treatment.

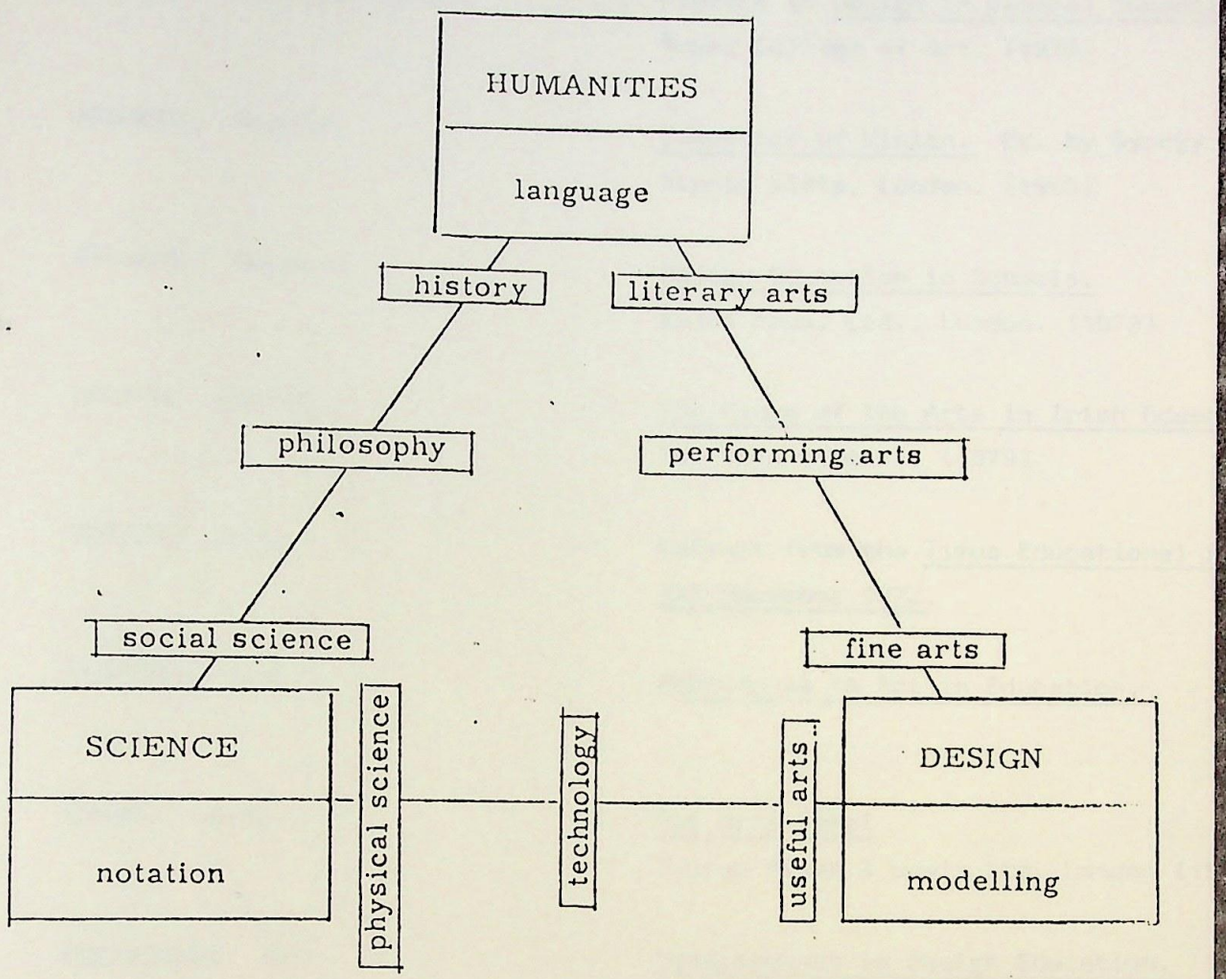
Before taking up teaching as a career, I was a ceramic designer, and while I was in college my training was in craft design, which exposed me to many of the material processes. At the moment my work is mostly three dimensional.

During my student teacher year I was teaching in a school which did not cater for crafts and in which possibilities for three dimensional work were restricted, as the use of clay and plaster was discouraged for reasons of cleanliness.

For that reason a large part of this thesis is concerned with the preparation and philosophies behind materials learning rather than the activity itself, because as yet I have had very little experience of it. My years teaching has however, reinforced my belief that materials education is a neccessray element of art education which we can not afford to ignore.

Now that my student teaching year is over, I have accepted a position in a school which at present is situated in old buildings, but which will in the near future move to new classroom blocks. The new buildings are in the planning stages at the moment, and as the "on the spot" art teacher,I will be in the fortunate position of being able to influence the design of my art department. It

will be a couple of years before it is built, and by that time I hope that I will have acquired some of the practice as well as the theories of materials education. I feel that in writing this thesis, that I have taken a valuable step towards achieving that goal.



Professor Archer's model showing how the three main areas of education should interrelate with each other.

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