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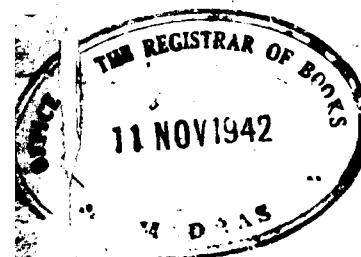
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OCTOBER, 1942

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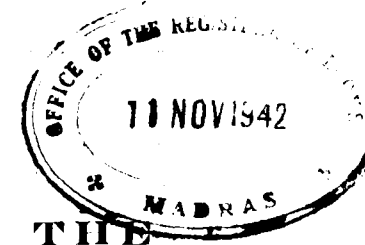
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THE SOUTH INDIAN TEACHER

Vol. XV

October, 1942

No. 10

THE GOOD TEACHER.

The good teacher possesses an effective professional scholarship. He is conversant with a wide field of materials of instruction. He is familiar not only with those materials relating to his field of practice, but with generous margins of knowledge on all sides of his chosen activity. By means of this broad background of learning, he may discard textual materials before his classes and guide their learning activities from his own rich experiences.

The good teacher is highly skilled in professional techniques. He is in truth an educational statesman. The good teacher is creative. He derives enjoyment from his work and arouses a similar reaction from his students. To achieve this end, the good teacher practices certain specific techniques. His outward manner is cheerful, considerate, courteous, patient, firm, and adaptable. His diction is natural, correct, discriminating and understandable. His voice is pleasing, controlled, and well modulated. His mental attitude is challenging, alert, optimistic and inspiring.

The good teacher possesses a wholesome and constructive philosophy of life. The dominant note in this philosophy is the desire to promote human welfare. It likewise discerns the needs of contemporary society and holds the courage to take action on them!

—Canadian Teacher.

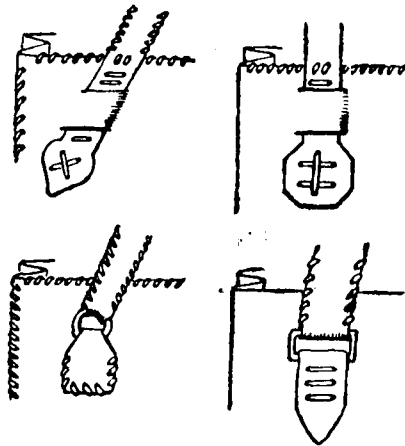
ART AND CRAFT No. XIV

By

R. M. SAVUR, M.A. (Cantab).

Divisional Inspector of Schools, Coimbatore.

[Note.—I regret very much an error which crept into the preceding article. It is entirely my fault. I failed to indicate which was to be the top of the illustration with the result that the illustration was incorrectly orientated. This illustration is reproduced here correctly.]



An extension of Thonging.

Interesting chequer patterns may be created by making parallel cuts in the article to be decorated, and threading laces of the same width alternately under and over, thus giving a draught board effect. More variegated designs may be produced by using laces of different colours. As most of us have in our childhood done interwoven paper mats of coloured paper there will be little difficulty in appreciating the enormous possibilities of this form of decoration.

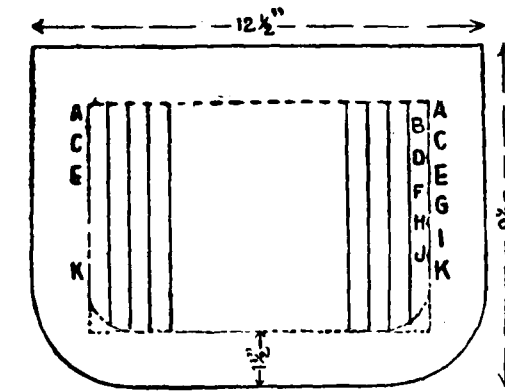
Here is a diagram of the front of a bag, marked out for cutting parallel slits. Only a few slits at either side are drawn. Naturally the reader when he starts out to make a bag like this will complete the marking out by filling the blank space with lines for cutting.

Black and white leather may be chosen—black for the front and back of the bag and white for the lace.

Marking out.

On the wrong side of the leather, i.e., the side which will be inside the bag when it is completed, mark the border $1\frac{1}{2}$ " wide as well as the

other lines shown in the diagram. Note that cuts are to be made only on the heavy or continuous lines. The dotted lines are not to be cut.



Front of Bag—Marked out for Cutting

The first cuts are to be made down the side lines A—K. These cuts are made as follows ; —

A small cut $\frac{1}{2}$ " long is made downwards at A. Then a space $\frac{1}{2}$ " long is left and another cut $\frac{1}{2}$ " long is made at C & so on making cuts alternate with equal uncut spaces. Thus six cuts are made at A, C, E, G, I, & K on each side line. After this, continuous cuts are made from the top to the bottom line, these cuts being $\frac{1}{2}$ " apart as shown in the diagram.

For the interlacing 13 strips of white leather are required each strip being $\frac{1}{2}$ " wide.

Interlacing.

A white strip is brought from the back to the front through the slit A. Then it is passed over the first black strip and then under to the back and so on. The white strip is in this manner laced over and under to the end until it is passed through the short slit A at the opposite end to the start, so except for the start and the finish in the short slit the interlacing is like the little paper mats made in the kindergarten classes.

In this way all the ends of the laces lie on the underside of the leather. These ends must be secured on the underside at each end by means of adhesive or stitches.

A lining of white silk should be used when the front and the back of the bag are being attached to one another. This may be done by thonging with white thongs. Attach two white and black plaited handles as shown in the preceding article before commencing the thonging of the front to the back. The mouth of the bag may be secured by a zip-fastener. If a zip-fastener is used this must be sewn on before commencing the thonging of the bag.

THE TEACHING OF MATHEMATICS*

BY

W. MCL. BARKER, M.A.,

Principal, Moncton High School.

In dealing with this subject it is not my intention to write an exhaustive treatise but to be very practical; to leave out, to a large extent, the theory; and to be as helpful as possible. I have a conviction that there is a good deal of time wasted in the teaching of Mathematics, due perhaps first of all to the fact that many teachers do not know exactly what are the essentials required in the work. They do not know just what to aim at, and as a result they miss the mark. It is not from lack of work, for *I believe that more hard work is put on the teaching of Mathematics, in comparison with the results obtained, than on any other subject, unless it be English.*

Let us then, first of all, see if we can arrive at some very definite objectives, something to aim at. First, we must consider the fact that the mathematical subjects are exact sciences, and it therefore follows that the work done must be very exact. There is no place for guess work in mathematics. So I would suggest that a primary objective should be accuracy.

Accuracy

In the first place then I should like to deal with the topic of accuracy. What does the term accuracy cover? It is too often taken to mean accuracy of figuring only. That is, of course, a prime necessity, but there are other things included in the idea of accuracy which I fear are often overlooked, such as exact knowledge, study of details, shades of meaning of words, and forms of work. *Some educationists claim that facility in work, or speed, should be the first objective, but it seems to me that the cultivation of speed first is apt to lead to habits of carelessness.*

In the study of accuracy I should like to stress the work of the primary teacher, who has the first opportunity to deal with the pupils, and who lays the foundation on which all who follow must build. Let us take it for granted that we intend to make accuracy our primary aim in the early grades, where the pupils are learning the tool subjects of mathematics. How shall we teach accuracy to these young children? It seems to me that there are several outstanding points to be stressed.

In the first place no work should be accepted as finished until it is absolutely right. Implant in the mind of the child from the beginning

that there is no halfway point between right and wrong. Teach him that the only thing that counts at this stage of his learning is to do things right, and cultivate in his mind a pride in getting the right results. At this stage in the child's life reward and punishment are very strong motives. I should not suggest the use of punishment, except that he must learn to do work over until it is right. *Tables must be drilled, until they become automatic*; and in spite of all that can be said about new methods, and much that is said is good, it still remains that the only way to learn to use tools is through practice—in other words, *drill*. Schemes may be used to make the drill less monotonous, but drill there must be, and anything less than absolute and exact knowledge is not good enough.

Next we come to the consideration of written work. I do not believe that we can stress too early or too strongly the value of form and neatness. The very fact of having work done in a set form has a value in obtaining accuracy. The checking of work by the teacher is a large factor in this part of the work, and it is here that the teacher has a great opportunity to enforce his teaching that work must be right or it is not finished. No work should be accepted finally unless it is done in proper form and is correct in result. The giving of values for work partly correct is, I believe, a mistake. *No pride in accomplishment of good work can be cultivated if anything less than the best of which a pupil is capable is accepted.* It is here at the beginning that habits are formed, and if the teacher is not prepared to spend time and take pains, bad and loose habits of work will inevitably appear.

Some will, no doubt, say that there is grave danger of discouraging the pupils if the teacher is too exacting; but I am not prepared to subscribe to that idea, provided that we have teachers who are seized with the ideals of good work themselves, and who know how to deal with children. I believe there is nothing more discouraging to children or grown-ups, than to know that anything will do; soon anything will be done.

The teaching of accuracy in work is a constant struggle against the natural tendencies of the child. The place of praise and encouragement in this part of the child's life cannot be too strongly stressed; but at the same time they should be used as incentives for improvement, and *the children should learn that they must be earned*. Honest effort should always be encouraged, but that does not mean that value should be given for work incorrectly done or carelessly learned. Any improvement should be noted and used as the basis of further improvement. Such use of praise and encouragement will bring results. The pupils soon learn what the teacher requires, and they will give pretty nearly what they can get by with.

The teaching of accuracy is strictly up to the teacher. *The old adage, "Like master, like man," is very true in this case, and the*

* Reprinted from The Educational Review, New Brunswick, April, 1942.

teacher who is not prepared to spend time and effort in drilling and in checking work will not have very good success in obtaining accuracy from his pupils. What I have said about the teaching of accuracy in the early grades holds good for all grades, and indeed I am sure that it is, if possible, more true in the higher grades than in the earlier ones. But it is much easier to retain good habits taught from the beginning than to break bad habits and form new ones.

Mistakes will be made, for to err is human, but our aim should be to keep them down to a minimum. The question naturally arises—What shall we do about the correcting of these mistakes? In the first place I would suggest that as far as possible the pupils should be required to look for and find their own mistakes. Sometimes they are allowed to discard what is wrong and do the work over from the beginning. I do not believe that this is good practice. If this is allowed, two valuable lessons are lost: First, *the mistake is never found, and no chance is given the teacher to show the pupil why the mistake was made; and second, the necessity of checking work as one goes along is not enforced in the same way as if the pupil knows that the making of mistakes causes extra work in two ways, first to find the mistake, and second to do that part of the work over again which follows the mistake.* I think, however, that it is essential that the teacher should know where such mistake was made, so that an opportunity may be made for the teaching necessary under the circumstances.

Presentation of the Subject Matter

This brings me to the question of presentation of the subject matter. Two pitfalls await the teacher in the presentation of the work. They are: Teaching too much at a time, and teaching too little at a time. There are some things which are better taught as units, others may be taught in sections.

I believe that every theorem and problem in Geometry should be taught as a unit, that is enunciation, construction and proof all taught in one lesson. If time does not permit of this, the enunciation may be taken up first as a preparation for the teaching of the balance, but I do not believe that the necessary teaching concerning construction and proof should be separated. On the other hand, different methods of solution of the same work, such as quadratic equations, may be dealt with at spaced intervals more successfully than too soon after one another. These are only two examples, but there are many such cases. This question of how much or how little is one which requires much thought.

I should like to mention at this point, that I believe *it is poor practice to teach any new work until it is required for use.* Let us take the teaching of definitions as an example. No definition has any value, and probably very little meaning to pupils until its application is necessary to progress. Then it may be taught and learned more easily and its

application made apparent. In passing, allow me to say that definitions should be very exact in wording and meaning. Loose definitions are fertile sources of inaccurate thinking.

The successful teaching of the mathematical subjects entails a great deal of individual work on the part of the teacher. In fact the amount of class teaching is very small, just enough to get the pupils started on any new work. Then the work should be carried on almost entirely by individual teaching. Pupils cannot all make the same rate of progress and some will need more help and encouragement than others. It is essential that the teacher have the confidence of the pupils, so that they will feel free to ask as many questions as they wish. This does not mean that the teacher will tell them everything they wish to know, but it will provide the opportunity for necessary teaching and encouragement. Pupils should be encouraged to search for information for themselves, even in the earlier stages.

The teaching of the tool operations extends well into Grade VII, and I do not believe that we should spend very much time on any attempt at reasoning. *To my mind the too early introduction of reasoning is one of the reasons why pupils do not show the progress in the mathematical subjects that they should.* A great many pupils leave school at an early age, and they should at least be equipped with the ability to do such things as the four fundamental operations, fractions, and decimals, with accuracy and facility.

Do teachers know what they should teach in these things, and the best methods of working? Do they go into detail until the pupils have no doubt as to how these operations should be carried out? Do the pupils know that all decimals are only fractions, and that the use of decimals is designed only to shorten the work of a certain sort of fractions? Do the teachers link up as one, common fractions, decimals, and percentages? Or is each of these a division in itself, independent of the others? I believe that before the end of Grade VIII not a great deal should be attempted in arithmetic beyond the tool operations and the direct methods of using percentages. Some work can be done in simple mensuration, but most of the work done should be aimed at those things which are routine. The work which pupils will do after they leave school will be mostly of a routine nature in any case, and it is essential that they should at least have a sound working knowledge of these things. Therefore I would suggest that in the first eight grades the mathematical work be confined almost entirely to the teaching and learning of those things which can be learned as routine, or which are reducible to rule. At any rate the knowledge of these things should be absolute and exact before any great amount of reasoning should be attempted. Any problems requiring reasoning should be of a very elementary nature, and *none should be attempted which require knowledge of facts which the pupils have not thoroughly mastered.*

The beginnings of all mathematical subjects should first follow this same rule: *A thorough knowledge of fact and routine before any attempt at reasoning is taken up.* This is all part of the teaching of accuracy. Let us list a few of the outstanding items which may be reduced to routine: In all subjects those things which may be worked by rule, such as fractions, decimals, percentages; the four fundamental operations in algebra, the use of signs, the solution of equations and all the rules involved; the definitions, axioms and postulates in geometry, simple problems in geometry. A thorough and exact understanding and knowledge of these is essential before beginning any abstract reasoning, or the solution of many problems.

The understanding of the principles underlying the work must be taught very carefully in all branches of mathematics. The most important word in mathematics is WHY? This word must be continually on the lips of the teacher, and it is a most essential part of his work to make sure that the pupils do really understand why they are doing certain things, and why certain results are obtained by doing them. Of course the necessity of this is more apparent the further we go into mathematical work, and the teaching of the why of things will require a great deal of individual teaching, as different pupils need varying amounts of explanation and teaching, and the methods employed to teach one pupil satisfactorily will not necessarily do for all. It is not enough just to make sure that the pupils understand the why of things; they must be required to learn these things, in order that they may apply them. Teachers will be amazed, if they take the time and trouble to go into the matter, how many little things pupils do not understand. One pitfall which teachers must learn to avoid is taking the pupil's assurance that he understands. It must be proved. Here are a few simple questions that may be asked of pupils. I will venture that the questioner will get some surprises in the answers, if indeed he gets answers at all. These questions are just picked at random. Has a decimal a denominator? Is a rate per cent a fraction? Is a rate per cent a decimal? Why can we add fractions with the same denominators by adding the numerators only? Are addition and multiplication different operations? How do we multiply a fraction by a whole number without treating the whole number as a fraction? Many other such questions might be thought of, and should be thought of, by a teacher in the course of his daily work.

Let me conclude this part of this paper with one last thought: There must be accuracy of understanding and accuracy of knowledge, first on the part of the teacher, and then it is his duty to make as sure as is humanly possible that there is the same accuracy instilled in the minds of the pupils. Teacher: *Know your subject!*

Review.

It seems to me that there is a great deal of time lost in so-called review. A good deal of what passes for review is not properly such. It

depends upon the teacher's ideas of what review is. To many pupils I fear that a review exercise is merely another exercise to be worked. It is essential that the teacher should have a very clear idea of what he is aiming at in review. The word itself holds the main idea—it should be a *looking back* over what has been done. The teaching of review is a test of the teacher's ability to teach the subject. I think that the first and fundamental point in teaching review is that the pupils should be taught what they are trying to do, namely to take a backward look over the work done. The teacher should explain carefully the reasons for doing this looking backward. Does the teacher know exactly what he is aiming at in review, or is it a hit or miss affair?

What are the reasons for review? Perhaps it may seem to some that these reasons are obvious. Perhaps they are, but judging by the manner in which most pupils seem to regard review I am inclined to think that if the reasons are obvious to the teacher they have not been passed on to the pupils. The first reason of course is that forgetting is a natural and unavoidable process, and only by relearning can we learn anything in such a way that it will be retained even temporarily. Another is to give opportunities for picking up any points which may not have been thoroughly understood and mastered before. Still another, is to give the pupils a further opportunity to gain facility in the work, and to cultivate speed. We cannot disregard the idea that facility and speed are factors in efficiency and must be taught and learned.

How shall we then teach review? In the first place, I would suggest that the starting point is to teach the pupils the reason for review, and what we are trying to accomplish. Give them definite teaching on how to go about it. How shall we go about the business of a review? My answer to that question really brings us to the second point in the general teaching of mathematics, namely Comparisons. The fundamental process in review is Comparison: How is this like something else that we have had? In attacking review examples that question should always be the first question to be answered. Or to put the question in another way: Is this example in any way like any that we have had? If it is not, then it is not a review at all. In short, every example in a review should lead to one thing, a comparison. And if the pupil cannot see the likeness to something he has had before, the next step is to search for something in previous work or teaching which has a bearing on the example in hand.

He should be definitely taught to do this, be taught that this is the purpose of the review, be taught how to go about such a search. Often the teacher may find it necessary to assist him in this search, but not until he has exhausted his own resources. In the process of searching for one thing he will probably find other things and renew his knowledge of them. That is all to the good, for he is learning to help himself and is increasing his general knowledge of the subject in hand.

I cannot stress too strongly at this point *the necessity of the teacher knowing his subject so well that he may be able to diagnose the cause of the pupil's failure*. Often the cause does not lie in the process involved in the particular example in hand, but in some weakness in previous work. Unless the teacher has this ability to so diagnose difficulties, his best efforts will have meagre results. Thus we come to the matter of incidental review, a process which must go on continuously. When a weakness is discovered the necessary teaching should be done, and the pupil should learn that point before attempting to go forward. It is here that a great amount of individual work is necessary. Experience will teach the teacher where the pitfalls are most apt to be, and the checking of the individual pupil's work will provide this experience more quickly than any other process. Let me say here that if accuracy, and the necessity of obtaining it, have been thoroughly implanted in the child's mind the checking of work will lead to teaching and review study by the pupil more than to pointing out errors in the fundamental operations.

Comparison.

The matter of Comparison is a big factor in success in the study of mathematics. Is it taught, or is it something which is left to the natural aptitude of the pupil? What is meant by comparison, and how shall we go about teaching it? I have previously mentioned this matter in connection with review, and the teaching of comparison is only a widening of this idea of looking for likenesses. There is, I think, only one way to teach it, and that method begins in the teacher's mind, he must be comparison conscious. He must himself be looking for likenesses, and then he will naturally point out these likenesses to the pupils. But that is not sufficient. There must be definite teaching along the line of comparisons, and the pupils will gradually learn to look out for them. It takes a deal of patience and skill to do this work of teaching comparisons, and the progress is often slow and the results discouraging, but I believe that the teaching of accuracy and comparison comprises the major part of the teaching of mathematics. Those who are weak in the mathematical subjects, particularly in reasoning, are usually those who lack in these two things. Both are essential. The questions: What is this like? Have we had anything like this? or, What have we done that is similar to this? And variations of these questions must be continually on the lips of the teacher, in order to impress upon the minds of the pupils that it is constantly necessary to look back and compare, in order to go forward. In order to make a success of this matter of teaching comparisons the teacher must have very exact and definite aims along these lines, as well as an exact knowledge of the subject; and not only these, but he must have also a complete acquaintanceship with the text on which the course is based. Other texts should also be studied as this will often lead to the discovery of methods of presentation of the subject more suited to the class than those given in the prescribed text.

As pupils grow older the matter of note taking should receive some attention. There are times, when the prescribed text is departed from, that it is wise to have notes made of the changes, or of other wordings for certain things which are substituted for wordings used in the text. Again here are often examples of work which it is wise for the pupils to record. In this connection I believe that the best way to care for mathematical notes is by the method of interleaving the textbooks, and thus providing space to record the notes in that part of the text to which they apply, as well as making them an integral part of the text itself.

Problem-Solving.

Perhaps this is the most difficult part of the mathematical subjects to teach, and I feel that I can do little more than throw out some hints that may be helpful. I think however that I can point out some causes of weakness in problem-solving ability, and if we know what the causes of difficulty and error are it is much easier to find a way to overcome them.

At the head of the list I would put *Weakness in Reading Ability*. The teacher of Mathematics may say, "But I am not an English teacher." Let me say here that *there is no such thing as a teacher being a teacher of any single subject*, and if the pupils cannot read their problems with the ability to understand them, then it is the teacher's duty to teach English or any other subject which may be necessary to the successful reading of the problems. Analytical reading, such as is necessary to the understanding of problems, is a thing which will need a great deal of teaching. Pupils must be taught to read and reread their problems. The careless reading of a problem, the failure to see or to get the value of one word, may cause a failure in solution. The meanings of words, the connections between words, the meanings of phrases and their connection with other parts of the sentence, and all such things, must be taught as necessity arises. It is no use at all to blame someone else because a child cannot do certain things in back work or cannot read as understandingly as might be expected. The only thing to do is to teach what is required. Constant review is necessary and often new teaching as well. The fact remains that in order to solve problems successfully the pupil must be able to read accurately and with understanding.

The next difficulty in the work of problem solving arises from the non-development of the comparative faculty. All problems are not necessarily distinct from one another. They fall into certain more or less plainly defined groups, and the pupils must be taught to look for likenesses between problems. In an earlier part of this paper I mentioned that pupils should be taught to compare new work with what has already been done. This is just as true in problem solving as in the routine part of the work. The more routine that can be introduced into the work of problem solving the more likelihood there is of the work being successful. Comparison is the looking out for likenesses, and this can be cultivated with

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constant teaching. In this way the comparative faculty can be developed, until it is the second line of attack.

Not only must problems be examined for likenesses to other problems, but comparisons within the problems must be pointed out until the pupils learn to look for them of their own accord. In the solutions of many problems the key to the solution is some statement of likeness in the problem itself. Let me illustrate. The following problem may be used as an example: Divide the number 28 into four parts such that if the first be increased by 2, the second diminished by 3, the third multiplied by 2, and the fourth divided by 2 the results may all be equal. Here the likeness is that all the results are equal, and the starting point of the solution is that fact. From that common result we may work back to the various parts. Time does not allow me to illustrate as fully as I should like, and in any case it is not my intention to go into detail, but rather to start a train of thought in the minds of any who may read this paper. It will be found, however, that the cultivation of this habit of looking for likenesses is essential to successful problem solving.

Another great weakness in problem solving arises from lack of ability to think in the language of the medium being used in the solution, Algebra, Geometry, etc. Let me ask you to try an experiment when next you are using Algebra to solve a problem. Having studied the problem and decided what you shall use " x " to denote, and then having said, "Let x be the number," ask this question: "Do we know the number?" From an algebraical standpoint the answer should be "Yes," but I fear that in a majority of cases the answer obtained will be "No." Here the necessity is shown and the opportunity made for teaching in a very useful and practical way that letters are numbers in Algebra, and that having said, "Let x be the number," we now have the number to work with. It may be said, "But the pupils know that letters are numbers in Algebra." *They may know it theoretically, but knowing it as a fact to be used is another matter.* Let me take this opportunity to throw out a warning against taking such things for granted. It is amazing how many little things there are which are stumbling blocks to the pupils. In every mathematical subject there must be the same definite training to think in the terms of that subject. There should also be a constant effort to show the connection between the various mathematical subjects.

The next and very real difficulty is the translation of the ordinary language of the problem into the language of the subject in which it arises. Let me illustrate in a very simple way. In ordinary language the equation is often expressed by the word "is." Ask the pupils what an equation is, and they may give a very nice definition as given in the text, or which has been taught them but do they realize that when we say "A is B" we have stated an equation? Do they realize that one member of an equation may be used in place of the other where and when we so desire? Do they know how to translate the written equations as given in problems into algebraical or geometrical equations?

I could go into this matter of problem-solving at great length, but as I stated before it is not my intention so to do, but to point out a few of the more obvious needs in the teaching of this subject, and to encourage any who may read this to make a more detailed study of its problems for themselves. I shall therefore go on to some more general observations on the subject.

General Observations

I have been forced to the conclusion that much of the weakness in all parts of the work of Mathematics on the part of pupils arises from a weakness in the teaching of just these little things which we are so apt to take for granted. There must be accuracy of knowledge on the part of the teacher, and a meticulous attention to detail in his teaching, if the pupils are to obtain a good working knowledge of the subject. It must not be taken from this that all this detail is to be a part of class teaching; much of it, probably most of it, must be done as individual teaching.

I should like to point out another grave danger in all teaching. I have hinted at it when I spoke about not taking understanding and knowledge for granted. It is this: The danger of teaching over the heads of the pupils. We must always keep in our minds that these things which are old and very simple to us, they are learning for the first time; and it may be that some little thing which to us seems obvious, is a big and difficult thing to some of them. At the same time I would warn against trying to cover all the detail in class teaching. It may be that some of the more intelligent pupils may be so bored that they will entirely lose interest. The teacher is on the horns of a dilemma here, and I may say that to my mind the only solution is individual teaching. How to get the time to do this individual teaching is a big problem. One solution of it is experience. The teacher, in time, should be able to diagnose the difficulties and arrive at the causes of them by a few questions, or by a brief examination of work done. Here let me say—as far as possible try to get the pupils to have some work to show you, so that you will have some basis for such a diagnosis.

Finally, I would say, "Have a definite ideal of what you are trying to do." The saying that there is no guesswork in mathematics is as true here as in any part of mathematical work. The teacher who has only an indefinite idea of what he is trying to accomplish is sure to have pupils who have a hazy idea of the subjects taught. My motto is, "Accuracy first, then stick to it." Above all else, do not allow yourself to show irritation or impatience over the matter. That is the sure road to losing the confidence of your pupils, and spells failure to the success of individual teaching; and the key to successful mathematical teaching, all other things being equal, is individual teaching. The teacher who is not willing to check and correct and reteach will not I fear have a great deal of success in this line of work.

VEGETABLE GROWING AS A WAR EFFORT

Principles of Manuring and Fertilizing

Well-grown vegetables and flowers cannot succeed without manure and fertilizer. Among many other things, the plant chiefly needs three elements or substances, called *nitrogen*, *phosphorus*, and *potassium*. All of these are contained in animal manure or compost in varying amounts, in addition to a valuable substance called *humus*. This material gives to rotted manure and compost its dark colour and helps to improve the soil by making it easier to dig, by stopping it from washing away, and by absorbing water for the soil.

If we cannot obtain enough manure for the garden, *green crops*, like barley or field peas, are grown and dug in while they are green and soft. They decay in the soil to form humus. Farmers have to do this from time to time to keep their soil in good order.

Manure and *compost* must be well rotted before using, so that all the plant food in it will be available, and so that many weed seeds will either be killed or germinate before the manure is added to the soil.

Artificial manures or *fertilizers* are made which contain the chief plant foods in a definite amount. In this way we are certain of their action, as we know what effect each chemical has on plants.

The substance, *nitrogen*, in manures and fertilizer encourages plants to make a great deal of *leaves*; it also delays the production of fruit. If too much of it is present, the plant becomes soft and *sappy* and liable to catch disease.

Hence we use fertilizers containing nitrogen for *leaf crops*, such as lettuce and cabbages. It is also used for flower plants when large bushes are needed. Manure and compost is richer in nitrogen than in other substances.

The substance *phosphorus* in fertilizers and manures encourages the growth of *roots* and *seeds* in plants. It also helps the plant to resist disease. We can see, therefore, that fertilizers containing this substance are excellent to use with fertilizers rich in nitrogen to counteract its bad effects.

Potassium is useful in flower growing to heighten the *colour* of the blooms, and also in adding to the sugar content of fruit, as in oranges, or the starch content, as in potatoes.

How to Apply Artificial Fertilizers.

The material can be applied before planting by *dusting* very lightly the soil, about two inches below where the young plant's roots will be.

They can also be applied to the *surface* of the soil and chipped in. Only a very light sprinkling should be given—at about the same rate as that used for sprinkling salt on tomato or meat sandwiches—and care must be taken not to put any on the plant, or it will be burnt. The garden should be *watered* after applying fertilizer.

Some gardeners dissolve the fertilizer in water at the rate of about half a handful to the kerosene tin of water, and apply it to the soil around the plant, giving each plant about half a cupful of liquid. The soil must be moist to do this. The amount dissolved in the water also varies according to the fertilizer used.

VEGETABLE GROWING AS A WAR EFFORT

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Lime in the Garden.

Although not a fertilizer in the correct meaning of the word, lime is most useful in breaking up *cloddy* land after digging and for making wet *sour* soil quickly suitable for growing plants. Unless there is lime in the soil, much of the plant food in the fertilizers is washed out and lost in the plant.

At least three weeks must elapse before any fertilizer is applied after lime, because the lime has to change its form in the soil before it becomes fully useful.

Slaked lime is useful for carnations if a small amount is sprinkled on them. It makes them healthier by keeping down a disease called rust.

A List of Common Fertilizers.

Nitrogen.—Sulphate of ammonia, nitrate of soda.

Phosphorus.—Superphosphate, basic superphosphate.

Potassium.—Sulphate of potash, chloride of potash, fresh wood ashes.

Phosphorus and nitrogen.—Blood and bone manure, bone dust.

Lime.—Quick lime or lumplime (changed into slaked lime before applying to soil), slaked lime (add water to quick lime), ground limestone (slow acting and has no harmful action on plant), dolomite.

—The Education Gazette, New South Wales, 1st July, 1942.

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EDUCATIONAL RECONSTRUCTION

"Guiding Principles :

- (1) The first duty of society is to guarantee to every man, woman, and child equal opportunity for education without regard to race, birth, sex, income or creed.
- (2) This equality of opportunity must include the fullest nurture of every special ability, talent, or skill.
- (3) Every man is an end in himself and may not be used merely as a means.
- (4) No education can be complete unless every one through the years after school has opportunity to form himself through useful work.
- (5) Every man can come to his full being only by serving society.....
- (6) No society stands still. A healthy society moves towards freedom and responsibility for all. A diseased society moves toward the tyranny of the few.
- (7)Democracy is the standard by which societies and their governments are judged and the ideal and goal towards which they strive.
- (8) The well-being of every society springs from a brotherhood of nations.....
- (9) To respect man's dignity while recognising his duty to society is to advance towards a democracy of citizens and states. To perfect, maintain, and defend such a democracy is the end of education.
- (10) To embody these principles into a society of the future, man must be inspired by forces which spring from a deeper dimension of life.....
- (11) To develop, men need action ; to act, men need faith ; to keep faith, men need reason ; to direct all the three, men need a vision of excellence ! and all this is empty unless it is pervaded by love ; and love is action and out-going.
- (12) Reconstruction through education includes a myriad of small and seemingly unimportant acts. But these will not be rightly done, and will therefore fail, unless every doer, however modest his work may be, draws his strength from the whole."

Application to Educational Institutions :

- (1) Break down the walls that stand between school and community.....
- (2) Uproot the idea that book knowledge in itself can be a guide in living, that credits and degrees are the main aim of education and that secondary schools should be a short cut to selfish social advancement or to the preservation of class privileges.
- (3) Make the schools institutions where the ideal of equality becomes a reality. Combine learning and doing to the utmost..... Send out from the schools new generations of young citizens eager to co-operate and to serve, eager to apply the art of serious learning in their daily life and work, and devoted to the master art of self-instruction and self-perfection.
- (4) Encourage and support everywhere and in every form the willingness of youth to serve..... An active world youth movement devoted to service and reconstruction is essential.
- (5) Recognise the fact that youth everywhere faces a grave crisis..... Unemployment among youth must be eliminated by a common effort of all, not by government action alone.....
- (6) Protect teachers everywhere in their efforts to do better work. Encourage the best amongst youth to enter the profession.
- (7) Work for the regeneration of faith..... Democracy must restore faith, not by words alone, but by deeds."

(Journal of the National Education Association for December, 1941.)

(Excerpts prepared by Mr. K. S. Vakil.)

DRAWING MADE EASY*

By

MR. G. A. SLATER,
Signal Engineer, M. & S. M. Ry. Co., Ltd.

(Continued from page 290)

CHAPTER III.

Figure Drawing.

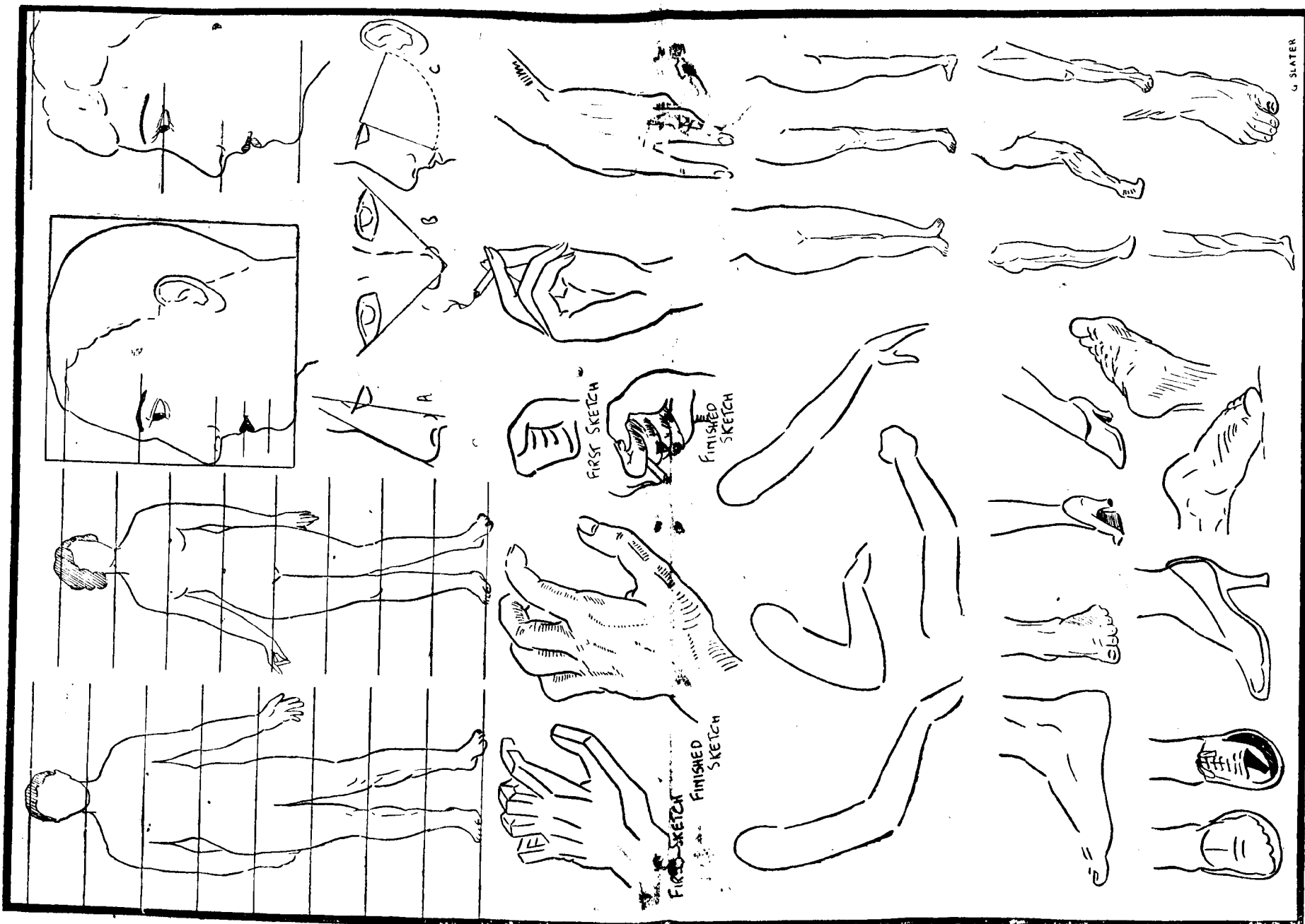
Figure drawing is a subject which demands concentrated study to be able to understand it thoroughly. A knowledge of anatomy is essential if you want to draw the human figure well, but in this short lesson it is only possible for me to suggest more important points of anatomy so that I can start you on the correct lines to figure drawing.

The first important points to learn are the proportions of the body and its various parts. In any measurement we need a unit and in artistic anatomy the unit used is the length of the head from the top to the chin. The average figure is from seven to eight heads tall, the ideal figure being eight heads tall. Accepting the ideal we can divide the figure into eight equal portions and see where the divisions appear. This is illustrated for simplicity and you will see the top division is occupied by the head. The next division extends from the chin to the line of the nipples and the third from the nipples to just above the naval. The top of the hip bone and not the hip joint is in line with the naval. The elbow joint is just above this level. The fourth division extends from the naval to just above the fork of the legs and this gives us the centre of the figure. From this point the next division extends to the middle of the thigh and the sixth division from the middle of the thigh to the knee joint. The middle of the lowest quarter of the figure occurs just below the thickest part of the calf.

These divisions must be memorised, and to help you, try to remember the centre of the figure is just above the fork of the legs. The legs from the top of the hip to the heel is four heads and from the knee to the heel is two heads. The arm, from the hollow of the arm pit to the tip of the middle finger is roughly three heads. The distance from the top of the shoulder to the elbow is the same as from the elbow to the tip of the middle finger. The wrist joint is level with the centre of the figure when the arm hangs by the side.

* (1) With acknowledgements to the author.

(2) Reprinted by kind permission from the South Indian Railway Magazine, April, 1942.



There are one or two important divisions with regard to the breadth of a figure which should be memorised. The breadth across the shoulders is two heads and across the hips one and a half heads. The waist in general is just over one head and the width of the neck about half a head. The distance between nipples is one head.

The bones of the female figure are smaller than those of the male figure but the proportions generally are the same. The main differences are, the head is smaller, shoulders and chest narrow, hips wider and the trunk slightly longer so that the centre of the body is slightly lower than in the male.

Proportion of the Face and Head.

So much for the proportion of the ideal figure. It is probably the face which appeals to the beginner and here again it is important to keep the correct proportion. From the top of the forehead to the chin the face is generally divisible into three equal parts, as I have shown illustrated. This method of division applies only where the hair does not fall low over the forehead. If the hair falls over the forehead and hide the upper limit it is better to place the eye half-way between the top of the head and the chin. The eyebrows are then added above the eyes and the nostrils placed half-way between the eyebrows and the chin. The mouth is generally placed one third of the way down from the nostrils to the chin.

One or two more detailed proportions may be of help. First note in sketch (A) how the line from the eye to the wing of the nose is not parallel to the line of the nose. In sketch (B) the outer corners of the eyes are joined to the tip of the nose and form a right angle. In sketch (C) it is shown how the distance from the corner of the eye to the front of the ear is the same as from the corner of the eye to the corner of the mouth. This particularly applies to female heads, in male heads the ear is generally set a little further back. The ear is one nose in length and is usually in line with the nose. The face is five eyes wide, the distance between the eyes being the width of one eye. When drawing the head in profile it should just fill in a square the width of the head being the same as the length.

These figure and head proportions give you the ideal figure but cannot apply to everyone. They must however be used to work up to your final figure, if your model has a longish nose or a deep chin or long legs or short body your sketch should be altered accordingly only after the general proportion is correct.

The Arm and Leg.

The hand and the arm are interesting subjects to sketch. Commence with the simple lines on either side of the limb and do not linger upon details of form until the whole of the arm is built up. Different views of

the arm yield different outlines but perhaps the most frequent positions are illustrated. The body of the hand presents four subjects for study, the palm, the back, the thumb ball and the little finger ball. The palm is in three parts—the ball of the thumb, the base of the fingers and the ball of the little finger. The chief characteristics of the back are the tendons which are suggested on the backs of gloves. The thumb ball is shown by a line which corresponds with the thumb seam of the glove.

When drawing the leg and foot the same procedure should be followed as when drawing the arm and hand. Simple lines should be used to form the limb. The junction of the thigh and knee should be particularly noticed. The general shape of the foot is better obtained by covering it with a stocking. The details of the toes, ball and heel can afterwards be added.

Caricatures.

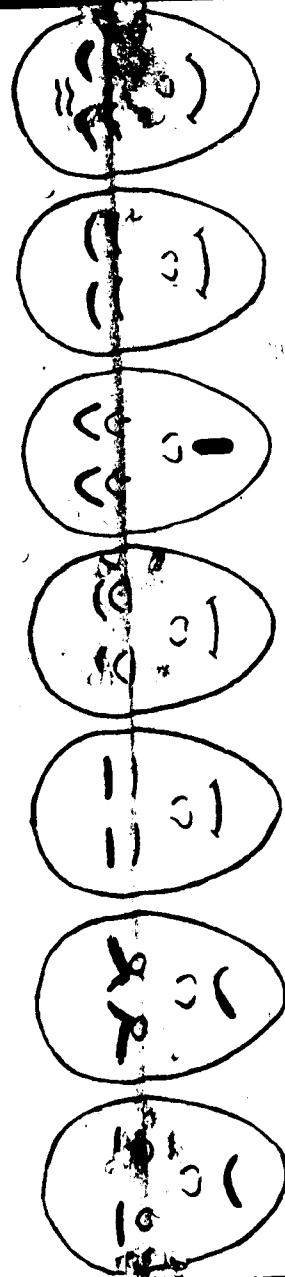
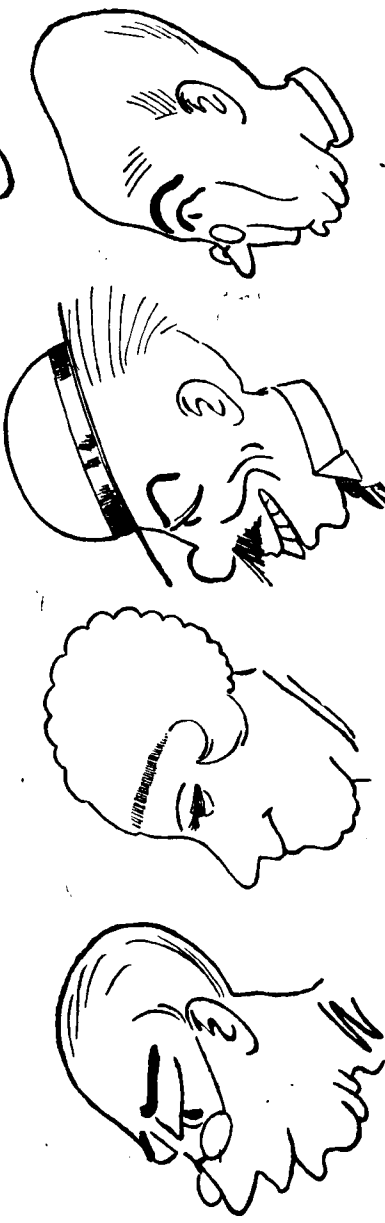
Drawing a caricature is like preparing a lobster. A good deal of experience is necessary to know what is good meat and what is not and it requires skill to extract the meat when you have found it. The amount of meat in a lobster is usually small compared with the unwanted material. Similarly, a caricature consists of a few features and discards a great amount of uninteresting material.

Distortion is the essence of caricature—the outstanding features are grossly exaggerated. But it does not follow that a caricaturist is not an artist; he must be acquainted with the sublime before making it ridiculous.

Let us start from the beginning. The general formation of the head in profile can be taken as being similar to a script capital letter "P" such as I have shown. Drawing that letter should present no difficulty nor should the additional features which are added to give varying results. Draw these preliminary lines faintly so that when you have blackened in your required result they can be removed. A nose can be made to turn up or down, the upper lip slope out-wards or inwards and the chin to stick out or retire timidly. Note carefully the shape and position of the eye—they may be slits or goggles set high or low, forward or deep. The mouth may be large or small and the lips thick or thin.

The important features to watch for a full-face caricature are the shape of the head, eyes and mouth and the style of the hair. The latter exaggerated correctly will often give you the desired result. Eyebrows, too, can play an important part. Look at the illustrations of full-face sketches and note how eyebrows have considerably helped to produce varied expressions.

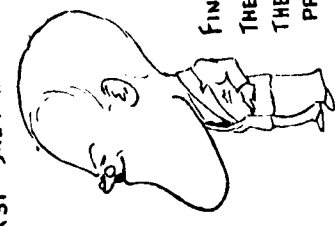
Study the caricatures of well-known personages in the world at the moment. Note how the shape of the face, eyes and mouth give the desired result. Note also how the hair or lack of it plays an important



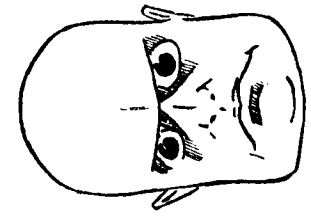
FED-UP DISPLEASED PASSIVE UNCONCERNED STARTLED PLEASED YOU'RE TELLING ME



FIRST SKETCH



PROMINENT FEATURES DEVELOPED



FINAL SKETCH IN WHICH THE NOSE AND CHIN ARE THE SELECTED FEATURES FOR PRINCIPLE CARICATURE

part in obtaining a true caricature likeness. The study of these caricatures will help you to decide on what lines to work. Study caricatures of well-known people in the newspapers; these also help you.

It is essential to carefully study a face before trying to caricature it. A complete mastery of details is necessary to enable you to render character and expression. Once you are satisfied this mastery has been obtained, decide which features are most prominent or noticeable and then go ahead with your drawing.* If your first result is not satisfactory, try again and exaggerate some other feature which was missed in your first attempt. One recognized method of obtaining a caricature is to use a photograph of your subject. Take a tracing of the photograph on to tracing paper. Then take a second tracing from the first and exaggerate a feature you think should be caricatured. It may be necessary to do a dozen such tracings but carry on until you get a sketch which is satisfactory; it is bound to come.

It is sometimes possible to caricature a person not by studying features but by studying some peculiarity of pose or build. You can caricature hands and feet just as well as faces and it is often possible to get expression out of a hand or foot just as it is from a nose or mouth. In fact, in a full-length caricature, these features play an equally important part as does the face. Even clothes, a hat or walking-stick will help you but do not run amok; a few select features done well are infinitely better than too many done haphazard. What would a caricature of Charlie Chaplin be without his baggy trousers, large out-turned boots and stick or of Mr. Chamberlain without his high collar and umbrella. A Tam O'Shanter and a particularly twisted walking stick suggest Sir Harry Lauder. As a triumph of elimination of unnecessary detail there is the famous caricature of George Robey showing nothing more than his eyebrows.

Caricature then is based on an apparently quickly sketched likeness of a person in which every feature differentiating him from other men is stressed and that which is common to other men is ignored. You will notice I said "apparently" quickly sketched. You will learn that really good "lightning" caricatures are very few and far between although an occasional lucky one does happen. Like any other kind of drawing you must "feel your way" with a pencil first and then ink in when the desired result has been obtained. Do not leave anything to chance or you will not be successful in getting the correct finished article. Don't let your sketch appear laboured and stiff; it will lose its freshness and appeal. Your final lines must be swift, inspired strokes if your caricature is to have a spontaneous and sparkling effect.

COMPULSORY LIFE ASSURANCE FOR TEACHERS.*

By

SRI T. P. SRINIVASAVARADAN

At present the only provision for old age or for dependents which teachers in aided institutions have, is the Provident Fund instituted by the Government. How limited is the benefit which the Provident Fund Scheme confers can be easily understood, if one goes through the rules relating to this scheme.

The Provident Fund scheme is compulsory on all certified teachers, pandits and munshis employed in recognised educational institutions under private management, whose pay is not less than Rs. 20 per mensem. But those who are drawing less than Rs. 20 per mensem are given the option of subscribing to the Fund. It is this option that is responsible for thousands of Elementary School Teachers not deriving even the limited benefit of this scheme. As practically all the managements of aided Elementary Schools plead inability to make contributions and as Government have not compelled them so far, a very large majority of teachers in Elementary Schools are outside the pale of this scheme.

The total number of teachers in Primary, Middle and High Schools under Government, Local Boards and Municipalities and aided managements are nearly 1,21,000. Of these nearly 13,000 are in the Middle and High Schools and their salaries are certainly above Rs. 20 per mensem and those in non-pensionable service are all subscribers to the Provident Fund. The remaining 1,08,000 teachers (men and women) are distributed as follows. (The figures given are correct to a thousand.)

Classes of institutions.	Total number of teachers.	Total number of trained teachers.	Total number of trained teachers who are either higher grade or lower grade.
Govt.	3,000	3,000	
Local Board and Municipal.	47,000	47,000	42,000
Aided.	58,000	45,000	40,000

* Lecture delivered at the General Body Meeting of the Madras Teachers Guild on 29-8-42.

The salaries which teachers in aided institutions receive are based upon the teaching grants calculated at the following rates :—

	Rate per year for trained teachers.
For each teacher of the lower grade ...	Rs. 108
For „ higher grade ...	Rs. 168
For „ secondary grade ...	Rs. 212
For „ collegiate grade ...	Rs. 272

Even granting that Secondary grade trained teachers very soon get Rs. 20/- per mensem, it may be safely assumed that 40,000 teachers in aided Elementary Schools who are either higher grade or lower grade trained, get less than Rs. 20 per month. Out of 42,000 teachers in Local Board and Municipal Service with the same qualifications, 21,000 at least must be getting less than Rs. 20/- per month. So on the whole 63,000 trained teachers who have once for all chosen the teaching profession come under the option clause of the Provident Fund Scheme. As has been pointed out, either due to the inability or the unwillingness of the managements to make their contributions, the majority of the Elementary School Teachers are out of the Provident Fund Scheme which seeks to make some provision for old age or for dependents of teachers.

Another defect of the scheme is that it does not make sufficient provision for the dependents of such teachers as unfortunately happen to die early. Let us take the case of a teacher in the grade Rs. 30-2-55 and let us suppose that he retires after 25 years of service. For purposes of calculation we may assume that his average salary is Rs. 48. His contribution with that of the management comes to Rs. 4-8-0 per month or Rs. 54 per year. At the end of 25 years the amount standing to his credit in the Post Office Savings Bank will be Rs. 1600 (Principal Rs. 1350 + Interest at 1½% C. I. Rs. 250). If to this, the Government's contribution of Rs. 583 nearly, is added, the teacher gets Rs. 2153 or Rs. 2200, if rates of interest are a little bit favourable. But if unfortunately that teacher passes away at the end of ten years of service, the amount standing to his credit will be less considerably. In this case his average salary will come to Rs. 40. The teacher's contribution with that of the management per month is Rs. 3-12-0 or Rs. 45 per year. In ten years the amount to his credit in the P. O. Savings Bank will be Rs. 490 (Principal 450 + Int. 40). If the government's contribution of Rs. 163 is added, then the teacher's dependents would get Rs. 653 nearly. If death occurs earlier, then the amount which the dependents would get will be still less. This is another defect of the Provident Fund scheme. It does not make sufficient provision for the dependents of teachers who happen to die early.

The above defects can be easily remedied if three things are done.

(i) The government should make it compulsory on all certified teachers,

pandits and munshis to take Assurance Policies to be paid at the end of a specified term of years. (2) The government's contribution should be made at the end of each year instead of at the time of closure of accounts. This would enable teachers to take Assurance policies for higher sums or additional policies later on. This would also lessen the administrative work of the Education Department. The Local Boards and Municipalities make their contributions at the end of each year to their employees who are permitted to utilise the amount to pay insurance premia. (3) The teachers should be allowed to utilise a part or the whole of the amount standing to their credit in the Provident Fund to pay their insurance premia.

There is a misapprehension that a teacher would get less if he uses a part of the contributions to pay premia. The following working will show that it is erroneous. Let us take again the case of the teacher in the grade Rs. 30-2-55. In the first year all the contributions together with the Government comes to Rs. 45. If he takes an Assurance Policy for Rs. 1000 to be paid at the end of 25 years, then his yearly premium comes to Rs. 40. After paying his premium every year, he will have to his credit in the Post Office Savings Bank Rs. 850, the balance of the contributions after paying premia (5+8+11+14+17+20+23+26+29+32+35+38+41+12×42½). When he retires at the end of 25 years, he gets Rs. 2200 as shown below.

(1) Amount assured ...	Rs. 1000
(2) Bonus at Rs. 10/- per year for 25 years. (Lowest amount is taken) ...	Rs. 250
(3) Amount to his credit in the P. O. S. B. ...	Rs. 850
Interest on (3) ...	Rs. 80
	<u>Rs. 2200</u>

This is the amount which the teacher gets, as already shown, under the Provident Fund scheme. But this covers a risk. If the teacher unfortunately dies at the end of 10 years of service, then his dependents get Rs. 1300 as against Rs. 653-0-0 under the Provident Fund scheme.

(1) Amount assured ...	Rs. 1000
(2) Bonus for 10 yrs. ...	Rs. 100
(3) Amount to his credit in the P. O. S. B. ...	Rs. 115
Interest on (3) ...	Rs. 12
	<u>Rs. 1300</u>

So by taking an Assurance Policy, the teacher when he retires does not lose anything and the dependents stand to gain everything.

Suggestions as to how to effect compulsory insurance for teachers.

(1) The Local Government should approach the Government of India to extend the benefit of the Postal Insurance Scheme to teachers in non-pensionable service. If that is not possible, the Government should institute a scheme similar to the Postal Insurance Scheme.

(2) All teachers should be compelled to take Assurance Policies. Teachers getting Rs. 60 and above per month must at least take an Assurance for Rs. 2000; those getting Rs. 30 and below Rs. 60, assurance for at least Rs. 1000 and those getting below Rs. 30, must assure for Rs. 800 at least.

(3) In the case of Elementary School teachers getting below Rs. 20, the contributions may be made as follows; considering their low salaries:

	Per month
Teacher's contribution	0 12 0
Management's contribution	0 12 0
Govt's contribution	1 0 0
Rs.	2 8 0

This would enable an Elementary School Teacher to take an assurance for Rs. 800. The Government should no more deny them the benefit of making some provision for themselves either for their old age or for their dependents.

The extra expenditure which the Government may have to incur in this case may come to Rs. 25,000 per month or about Rs. 3,00,000. Considering the large amount which the Government spend on Elementary Education, this is only a small amount. To make instruction in Elementary schools more efficient, this at least must be done without any delay.

If the Government institute an Insurance scheme under their control, considering the large number of teachers that would come under it, it will be a profitable concern and they stand to gain. The Government know this full well. If for any reason they find it difficult to start one, they may either ask the teachers to join the South India Teachers' Union Protection Fund which has been progressing fairly well during the past thirteen years or take over the Fund and administer it themselves, making necessary changes.

In this connection it may be pointed out that teachers of all grades in Netherlands, Sweden, Norway, and Denmark are given pension. Their initial starting salaries are fairly high and based upon the cost of living. A widow of a teacher who completed 30 years of service receives full

family pension plus a supplement based upon price-level index. The children also receive pension, if there is no widow, up to a certain age.

If a teacher dies while in service, even then the widow, or if there be no widow, his children receive pension in proportion to his service. No doubt the teachers contribute to the Pension Fund. But the teachers in those countries are made to feel that they and their dependents will be well looked after by the State. It is this that is responsible for the maximum efficiency in the schools there. If our Government, to start with, bring in the compulsory Insurance scheme for teachers of all grades, then they will be doing a great thing. They should publicly recognise that teachers are a class of civil servants and that they are entitled to all privileges which other civil servants have. The work that the teachers do, as has often been publicly recognised, is the most important one and in the discharge of this most important duty, the teachers should be free from cares and anxieties about themselves or their dependents.

SCHOOL BROADCASTS FOR SECONDARY SCHOOLS, OCTOBER 1942

Days of the week Time 2-10 P.M. to 2-25 P.M.	1st WEEK 5th—9th	2nd WEEK 12th—16th	3rd WEEK 19th—23rd	4th WEEK 24th—30th
Monday	Science in Every Day Life. The contribution of Physics Dr. J. P. Manickam.	Poems with a Story—Lochinvar Miss B. Ahalya.	Science in Every Day Life. The Contribution of Chemistry. S. S. Gandekhar.	Poems with a Story Lavdania B. K. Sarvottama Rao.
Wednesday	Chemistry for the Class Room— The atom M. M. Thomas.	The Growth of the Modern Concept— Heat K. Parthasarathy.	The Sea and its influence on man. The Mediterranean Sea. Miss A. Levasdan.	Chemistry for the Class Room— Solutions Miss Oommen.
Friday	A. R. P. in Schools, Makers of Harmony. —Bach H. Grumm.	Wings of War— Fighter and Bomber Col. D. M. Reid.	Inter School Debate By Machine or by Hand? M. M. Girls H. S. and St. Mary E. H. S.	A. R. P. in Schools Makers of Harmony— Rev. P. Kurlake.

EDITORIAL

The Brave Norwegian Teachers

The Nazi occupation of Norway, if it has achieved anything has brought out the great patriotism of the Norwegian Teachers who in the face of the greatest suffering and torture have resolutely refused to sell the children of the land. The teachers who refused to carry out the orders of the Quisling Minister for Education were sent to concentration camps, were imprisoned and subjected to untold humiliation and suffering. But in spite of all these characteristically Nazi brutalism, the teachers stood heroically. When the schools reopened the teachers that were not arrested stood before their pupils and quietly read to them the declaration which concluded in the following words:—

"We have been entrusted with the task of giving you, children, that knowledge and training in thorough work which is necessary if you are to receive full and many sided development as human beings, so that each one of you can take his or her place in the community for the benefit of himself and others. We have been given the calling by the Norwegian people, and the Norwegian people can call us to account for it. We also know that the sum total of the knowledge and working capacity which a country disposes of are the greatest and most durable of all its source of wealth. It is our duty to protect those values. We would be untrue to our vocation if we did not devote all our energies to the service of this task, especially in this period of affliction through which we are now living. Every restriction on the activity of the school undermines the foundation on which our people's future must be built.

"The teacher's vocation, however, is not only to give children knowledge. He must also teach the children to believe in and desire that which is true and just. He is therefore unable to teach anything which is in conflict with his conscience without betraying his calling. Any one who is doing so is committing a wrong both against the pupils whom he should lead and against himself. That, I promise you, I shall never do. I will never ask you to do anything which I consider to be wrong, nor will I teach you anything which in my opinion is not in accordance with the truth. As hitherto, I will let my conscience be my guide, and I believe that I will then be in agreement with the great majority of the people who have entrusted me with my education duties."

But as days rolled on more of these teachers were taken away to the prisons. Some were put in ships and transported, God knows where. But the teachers refused to submit and it is reported that the quisling government sought the aid of the gestappo to break their resistance. One of the Nazi commandants, entrusted with the job, is reported to have said, 'if they thought a bunch of filthy Norwegian school teachers could set themselves in opposition to the New Order in Europe they were mistaken.' But the teachers are holding on. No wonder their heroic stand has won the admiration of all just men. It has rightly lit the flame of freedom and humanity in the hearts of all Norwegians and of the freedom loving people the world over. The following is the text of an appeal from Norway:—

"There is darkness over Norway today. The Norwegian people are crushed by an iron heel. A small gang of traitors have delivered over their country and their countrymen to the terror of a foreign power. This gang is consciously seeking to destroy the things which the Norwegian people hold sacred: freedom, humanity—the very basis of Norwegian culture. But a flame has been lit which shines through the darkness: every Norwegian is ready today to play his part in throwing off the yoke of the oppressors. Today the Norwegian people know that the schools and the churches are in the very front line. They see that the Norwegian teachers are fighting, despite suffering and anguish, as proud and courageous unarmed



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shock troops in the battle for the very foundations of the life of the Norwegian people: freedom and culture. The treatment of the Norwegian Teachers will arouse a storm of indignation—a storm which will go far, far beyond the frontiers of Norway. We Norwegians appeal to right thinking men and women the world over: consider well what is happening in Norway. Thousands are suffering in prisons and concentration camps; Many have been shot. The teachers are being driven like cattle through the land. Stop this barbarism."

It speaks for itself, and we are sure it is not being made in vain.

Teachers and Dearness Allowance

Prices of commodities are rising very steeply and the cost of living all over the province has increased very much above the 1941 level. The economic condition of teachers has never been rasy and the present increased cost of living has made it worse. Many teachers are finding it impossible to make both ends meet. The Hindu has been publishing the family budgets of several typical families and it may be easily found out that the worst family budget, with regular monthly deficit to be made up by loans are those of teachers. In days of prosperity the teacher is never thought of for an increase in salary. In these days of stress, the teacher's claims for help are simply put in cold storage with the usual statement that funds are not available.

We are told that many local bodies are granting dearness allowance to all their employees except their teachers. We wish to ask why there should be any such differentiation. Is it the view of the Local bodies that their emoluments are sufficiently high or is it their view that the teachers are unaffected by the increase in the cost of living? It is unfair; we hope that the Local bodies will treat all their employees alike. We request Government to direct the local bodies to adopt a uniform policy in this regard towards all their employees. In regard to teachers in aided schools Government will have to take a more direct responsibility in helping them. If the question be left to the managements alone, in most cases it will be impossible for the managements to do anything, however much they may feel the need for help. Their financial burden under the grant-in-aid code is too well-known to need elaboration here. It is for the Government to take the matter in their own hands and place at the disposal of the managements sufficient funds to enable them to grant their teachers a suitable allowance. Some years ago Government were sanctioning each year about a lakh of rupees as special Teaching grant to enable managements of secondary schools to adopt a suitable scale of salaries for their employees. A similar grant may be made and we hope a few lakhs of rupees, say about 5 or 6, may be fairly sufficient to give help to the many thousands of teachers who are drawing very low salaries in aided elementary and secondary schools. It should not be difficult for them to find a few lakhs of rupees for a year when they are spending 150 lakhs a day on war.

THE THIRTY-THIRD MADRAS PROVINCIAL EDUCATIONAL CONFERENCE

It is understood that the Working Committee of the Reception Committee of the 33rd Madras Provincial Educational Conference has decided to have the Conference in May 1943.



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