Yangtze at Nanking, the Chinese determined to do the job themselves. (The word "perfidiously" was always used when our hosts spoke of this and similar incidents.) Learning to make steel to the required specifications took two years, construction eight years; and now the bridge is there. The river is 1.5 km wide; the bridge, including road and rail approaches, stretches 6.5 km, carries 120 trains a day, and has shortened the crossing from two hours by punt to four minutes. The Li Shia Ho flood mitigation and irrigation scheme, another project of vast scale, serving a population of ten million and one million hectares of cultivated land, was developed by the Chinese themselves, and had broken the centuries-old cycles of drought and flood. Behind these projects lay the Chairman's dictum of 1945: "We stand for self-reliance. We hope for foreign aid but cannot be dependent on it; we depend on our own efforts, on the creative power of the whole army and the entire people"; and, more specifically, a directive given in 1951, "The Huai River must be harnessed." Edgar Snow had written that the Chinese avoided incurring large debts for expensive machinery by using labour as the West uses capital. Half a million men and women carrying a small quantity of soil each can soon do the work of earth-moving machinery—and if you lack the machinery but have the people any job can be done, provided the dedication is there.

Could Peking's underground city have been a showplace, the only one of its kind, built to impress visitors? At Wusih, half way between Nanking and Shanghai, we visited a silk factory. On the way to one of the workshops we passed a large circular structure rising above the ground, made of concrete and lined with brick. The diameter was about 5 metres, and the walls were several feet high, with work clearly at an early stage.

It could have been a storage tank, possibly for liquid, possibly some other material used at the factory. I asked the interpreter what it was. Her reply was prompt and quite laconic. "Anti-air raid tunnel," she said. So the Chinese were doing what their great Chairman had advised years before. "Dig tunnels deeply, store grain everywhere," said Mao Tsetung and, with much accomplished, the process is still going on.

* * *

Many of our hosts impressed me but none more than Mr Yien. He was an interpreter attached to Lüxingshe, the Chinese International Travel Agency, based at Peking. His IQ may have been near the 160 mark, his knowledge was encyclopaedic, his English perfect, his vocabulary extensive. He had an excellent sense of humour, could play any part, and at times I wondered if he were a senior government official in the security department who occasionally attached himself to touring parties to get first-hand information of what other people thought. (I could have been quite wrong—there could be thousands, tens of thousands of people like Mr Yien scattered over China. Eight hundred million people must throw up a great deal of talent.) "May I publish a description of your defence system?" I asked Mr Yien at the end of our visit. "By all means," he said. "Why not? But please make one thing plain—this is a purely defensive complex."

Perhaps the Chinese have studied the old Roman writers. Perhaps they independently discovered the dictum that, if you seek peace, you should be prepared for war. At all events, there could be no doubt on one point: if war comes, the Chinese intend to survive.

Medical Education

The abuse of slides

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"What is conceived well is expressed clearly"—BOILEAU

The standard of verbal delivery of scientific lectures has improved in recent years (largely as a result of the insistence of most research societies that papers must not be "read") but that of visual presentation has not. Audiences are expected to accept and tolerate bad slides, despite the efforts of such pioneers as Hawkins,¹ Calnan and Barabas,² and Dudley.³

"None can be said to know things well who do not know them in their beginnings"⁴; perhaps lack of understanding of the purpose of slides is at the root of their continuing mediocrity. They are often misused as aides-mémoire by poor speakers, who declaim the contents to the last digit to the mounting irritation of the audience. Their correct function, however, is to complement a talk in the same way that pictures enhance the effect of an advertisement and "give a truthful, exact, apt and

striking description of the nature, quality and properties of the goods advertised."⁵

Many lessons may be learned from the world of advertising. Ogilvy⁵ wrote that "the purpose of illustration is to telegraph the message to the reader" and a useful rule to remember is that if a slide is not understood by the audience in four seconds it is a bad slide. Slides that take attention from the speaker for any longer detract from what he is saying.

If more than two of the following seven adjectives do not apply to your slides scrap them and start again. If they are good they can be shown at the rate of one every 50 seconds.

Appropriate

Tables, graphs, and drawings produced in enough detail for journals (where they may be studied at leisure) are unsuitable for slides (fig 1). Only the salient points should be abstracted and, where possible, presented as pictures, cartoons, or diagrams that must produce an immediate effect impossible to achieve in any other way. If words must be used then only a précis should appear. Yorke⁶ showed the virtue of abbreviation when he pointed out that had Nelson's signal read "With reference to previous instructions appertaining to naval discipline, it is felt

that all personnel in the immediate vicinity of Cape Trafalgar will carry out the navigational and/or combative duties allocated to them, whichever is applicable, to the satisfaction of all concerned" instead of "England expects every man to do his duty" the sentiment would not have been remembered.

Accurate

"I do not mind lying but I hate inaccuracy."—SAMUEL BUTLER

It should be unnecessary to make this point. Suffice to say that the following spelling mistakes appeared on slides shown at national and international meetings in Britain during the past 12 months: ileostomy, strep pneumoniae, anticoagulant, femoro-femoral, ilio-rectal, and intermittant.

Richard Asher's⁷ plea is well founded—"However good your

COUNTING FOR PAIN			
SEX			
MALE	01		
FEMALE	02		
AGE			
0-9	03		
10-19	04		
20-29	05		
30-39	06		
40-49	07		
50-59	08		
60-69	09		
70-79	10		
SITE OF PAIN			
RIGHT UPPER QUADRANT	11		
LEFT UPPER QUADRANT	12		
RIGHT LOWER QUADRANT	13		
LEFT LOWER QUADRANT	14		
POSTERIOR	15		
ANTERIOR	16		
RIGHT HALF	17		
LEFT HALF	18		
CENTRAL ABDOMEN	19		
GENERAL ABDOMINAL	20		
NO PAIN	21		
AGGRAVATING FACTORS			
MOVEMENT	22		
CLIMBING	23		
RESPIRATION	24		
FIRED	25		
OTHER CAUSE	26		
NULL	27		
RELIEVING FACTORS			
LYING STILL	28		
VOMITING	29		
ANTACIDS	30		
FIRED	31		
OTHER	32		
NULL	33		
CHANGE IN INTENSITY PAIN			
PAIN GETTING BETTER	34		
NO CHANGE IN PAIN	35		
PAIN GETTING WORSE	36		

FIG 1—Inappropriate. A computer print-out has been photographed. The proportions are wrong, there is far too much on the slide, and contrast is poor.

FIG 2—Inaccurate. These two graphs give the same information but the one on the left is misleading.

VERTEBRAL CANAL MEASUREMENTS (MM)						
No.	Patient No.	Lumbar Vertebral Level	Anteroposterior		Interpeduncular	
			Scan	Caliper	Scan	Caliper
1	1	2	16	16	24	24
2		3	20	17	26	22
3	2	2	18	17	26	22
4		3	18	17	22	22
5	3	2	22	19	26	26
6		3	19	18	27	26
7	4	2	17	16	23	22
8		3	20	16	20	22
9	5	1	20	19	25	24
10		2	20	20	26	25
11		3	21	18	26	25
12		4	18	16	26	25
13	6	1	20	20	22	20
14		2	17	17	22	21
15		3	17	16	21	21
16		4	17	17	23	22
17	7	1	19	19	20	25
18		2	18	19	24	25
19		3	21	21	25	25
20		4	22	23	25	20
21	8	1	19	20	21	21
22		2	18	18	21	21
23		3	18	18	23	23
24		4	19	17	25	23

FIG 3—Illegible and uninteresting. "Portrait" style. Too much information, dull, and means nothing.

memory is, you should look up everything you quote." One should add "and then check it." This is particularly true if the slides are being typed by someone lacking a detailed knowledge of medical terms. An illegible draft may result in errors in the final layout through sheer ignorance (fig 2).

Legible

Expensive machinery (such as the Varafont 3000) or Letraset is unnecessary to make a legible slide, although such devices do give a professional appearance. Clear handwriting with a fibre-tip pen on a sheet of A4 paper is adequate and looks attractive, provided that not too much information is put on the slide. Calnan and Barabas² suggest a maximum of four columns and seven lines, but even this amount—badly set out—cannot be read easily (fig 3).

Always remember that a "landscape" slide is 35 mm wide and 22 mm deep, and plan your design to fit these proportions. If the Varafont or Letraset is used A4 matt cartridge paper with margins of 35 mm at top and bottom and 30 mm at each side and a type size of 24 point will give the correct balance and makes legible slides. It should be possible to read the original from a distance of four metres.

The typewriter keys must be clean. The effects of dirt are embarrassingly obvious on the screen. An electric typewriter with a carbon ribbon is an advantage. Use double-line spacing, preferably with double-letter spacing between words, and a maximum width of text of 87 mm with a maximum depth of seven lines. If less information is to be shown, the proportions of 35 to 22 should be adhered to strictly. Thus a fixed width multiplied by 22 and divided by 35 will give the correct depth, and a fixed depth multiplied by 35 and divided by 22 will give

the correct width. This is no problem with a pocket calculator, and most typists would welcome this challenge. These rules apply no matter which method of production is used (colour, Diazo, or negative) and they ensure that full use is made of all the space.

Several other rules should be observed to achieve legibility. Firstly, do not use full stops—they disturb the visual flow of type—and use other punctuation marks sparingly.

Secondly, choose upper and lower case consistently. Use upper case for titles and lower case for text; it is more pleasing to see a line either completely in upper or completely in lower case except where initial capitals must be used for proper names. Eric Partridge⁸ quotes from the preface to Webster's *International Dictionary* of 1934: "It should be clear to even the meanest intelligence that the unnecessary use of capitals may easily lead to ambiguity or, at the least, to discomfort and resentment."

Thirdly, use space between letters, words, and lines with care. In road signs the largest observed effect on reading distance is produced by changes in spacing.⁹

Fourthly, use a sans-serif typeface. It is easier to read at a glance,⁵ though a serif face is preferable on the printed page. Attractive and legible typefaces are Helvetica, Microgramma, and Univers.

Finally, in a "summary" slide asterisks are more arresting than the more formal 1, 2, and 3.

Comprehensible

How often has a speaker when displaying a slide commented apologetically "This may look rather complicated"? It is usually an understatement and signifies only that he has not taken the time and trouble to simplify it. Complicated formulae and experimental methods have no place on slides (fig 4). They need only be mentioned and those who want the details can be referred to the publication.

$$\begin{aligned} \text{var}(S) = & \frac{1}{18} \{ n(n-1)(2n+5) - \sum_i t(t-1)(2t+5) - \sum_u u(u-1)(2u+5) \} \\ & + 9n(n-1)(n-2) \left\{ \sum_i t(t-1)(t-2) \right\} \left\{ \sum_u u(u-1)(u-2) \right\} \\ & + \frac{1}{2n(n-1)} \left\{ \sum_i t(t-1) \right\} \left\{ \sum_u u(u-1) \right\}, \end{aligned}$$

FIG 4—Incomprehensible. Kendall's "S" statistic. Suitable for publication but not for a slide.

Well executed

Though this is inseparable, at least in part, from "legible," it should be remembered that "an ugly layout suggests an ugly product."⁵ Slides should be well balanced and, where possible, designed to be shown horizontally (landscape) rather than vertically (portrait) as there are surprisingly few lecture halls in which the screen does not cut off one end of a vertical slide. Always write horizontally, even when annotating the vertical axis of a graph. Never, under any circumstances, do your final drawing on graph paper as the lines will confuse and distract (figs 5, 6).

The choice between full-colour transparencies, Diazo, or negative slides is a matter of taste and opportunity. Dudley³ states a preference for Diazo as he finds the blue and white restful. Some would indeed describe it as soporific. In large traffic signs light-coloured lettering on a dark background is in fact recommended.¹⁰

Negative slides are the quickest and easiest for the amateur

FIG 5—Ill-executed. Too much information, badly drawn on graph paper, vertical lettering on the ordinate, etc, etc.

PLAIN RADIOLOGY - 50 PATIENTS

8 "Spinal Stenosis" Cases proved at Surgery
Measurement and "Ration Analysis" failed to
isolate Stenosis Cases

FIG 6—Ill-executed and inaccurate. Proportions wrong, badly mounted, capital letters scattered throughout, "ratio" misspelt, and spacing inconsistent.

to produce, and colouring may be used most effectively to highlight headings and important points.

Whichever style you use, your slides will make a bad impression if they are not mounted straight or if they are dirty. Always put a clear dot in the bottom left hand corner to help the overworked projectionist.

Medical art departments should concentrate on medical art, whether in drawings or in photographs. Too often they are expected to produce sensible slides from material that is suitable only for publication. There is no better way for a speaker to clarify his thoughts than to be obliged to construct the slides himself.

Interesting

"You cannot bore people into buying."⁵ If your slides are dull, inaccurate, badly-made, and illegible your audience will either go to sleep or leave the hall. As Hopkins¹¹ pointed out, "A person who desires to make an impression must stand out in some way from the masses" and this is particularly important if you are presenting one of 20 or 30 papers at a research meeting where each one of your audience has his own axe to grind.

Memorable

There are few memorable slides. We all know which they are—we remember them.

Conclusion

I wish I could say with conviction (pace Samuel Johnson) that when a man knows he is to speak in a fortnight it con-

centrates his mind wonderfully. Even more do I wish that this would be reflected in his slides.

My most grateful thanks go to Mr A V Pollock for his support and criticism and to Dr J P S Whitehead and Mr D W Lane for their advice and technical help.

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A patient with slowly progressing central cataract in both eyes can no longer do his routine work due to deficient vision, but it will be some time before the cataract warrants an operation. If, however, the pupils are dilated midway—that is, semidilated—he can see quite clearly. Is there any recognised treatment whereby the pupil can be kept semidilated without harm to the eye or any recognised surgical procedure such as a partial iridectomy that would provide an artificial pupil to increase the vision now and later can help in the removal of cataract as and when it becomes necessary to do so?

Patients with early central lens changes can often be helped by use of a mydriatic such as hyoscine eyedrops 0.25%. A mydriatic should not be used in patients with a narrow angle of the anterior chamber as there is a risk of inducing an attack of closed-angle glaucoma. Occasionally patients are sensitive to hyoscine, so cyclopentolate eyedrops 0.5% may be used, although their effect is shorter lasting. If interference with vision is enough to warrant surgery it is usually better to perform a cataract extraction rather than an optical iridectomy.

What is the current medical advice to parents who wish to have their baby son circumcised?

The wishes of the parents, aunts, mother-in-law, or anyone else are virtually irrelevant. It is the child alone who matters. After examining many thousands of babies, I have seen no indication for the operation except when there has been so much scarring from neglected ammonia dermatitis that the foreskin can never be retracted. I note that in the 2115-page *Textbook of Paediatrics* by Forfar and Arneil¹ the word circumcision is not in the index. There are still clinic doctors and others who repeatedly examine babies' foreskins to see if the foreskin is "redundant," or "cannot be retracted," or to see if there is a "pin-hole meatus." They are wasting their time, which would be more profitably spent on learning what is normal.

¹ Forfar, J O, and Arneil, G C, *Textbook of Paediatrics*. Edinburgh, Churchill Livingstone, 1973.

What might be the cause of persistent pain (nine months) in the lower part of both quadriceps and triceps muscles? The patient is in her 40s, the pain is not relieved by rest, and she suffers from restless legs at night. The results of investigations have been negative.

In any patient complaining of persistent limb pain for such a period in the absence of clinical, laboratory, or radiographic abnormality the possibility of an underlying psychological problem becomes more likely, especially as this patient is a middle-aged woman with "restless legs." Restless legs or Ekbom's syndrome¹ is associated with several conditions including iron deficiency anaemia, uraemia, and diabetic neuropathy. Symptoms have also been reported with the use of prochlorperazine and barbiturate withdrawal.² Muscular or musculo-tendinous pain may result and be especially apparent at rest, but involvement of both arms and legs is unusual. Many patients are found to have significant psychological problems, and investigations should be directed towards this in addition to excluding the known physical associations. Chlorpromazine given last thing at night is

often useful in controlling restless legs, and a trial of this drug would be worth while in this case.

- ¹ Ekbom, K A, *Neurology (Minneapolis)*, 1960, **10**, 868.
- ² Foster, J B, *Disorders of Voluntary Muscle*, ed J N Walton, 3rd edn. London and Edinburgh, Churchill Livingstone, 1974.

I have heard that prolonged use of corticosteroids may lead to contraction of the bladder. Is this true and, if so, what is the mechanism?

I know of no evidence that prolonged use of corticosteroids may lead to contraction of the bladder. In fact, the reverse may be the case, as corticosteroids are used in treating refractive ulcerative cystitis (Hunner's ulcer). There is acceptable evidence that the reduced bladder capacity caused by refractive ulcerative cystitis will increase in some cases. Various other treatments have been suggested for this condition, including oxyphenbutazone (Tanderil), which is an anti-inflammatory agent.¹ On the other hand, corticosteroids are of no use if the bladder is contracted for any other reason, such as after radiotherapy or as a result of previous tuberculous cystitis.

¹ Guerrier, H, Roberts, J B M, and Slade, N, *British Journal of Urology*, 1965, **37**, 88.

A patient of 57 has had severe left facial hemispasm for two or three years, which is worsening. Is there any suitable medical or surgical treatment for this condition?

Facial hemispasm is notoriously difficult to treat. Usually the cause of the spasm is not found and the pathology is unknown. It is important to exclude any irritative lesions of the facial nerve throughout its course that can be treated (for instance, an acoustic neuroma). Some cases resolve spontaneously. Generally, relaxant, tranquillising, or antidepressive drugs have little effect unless obvious stress or depression (or both) is present, in which case the patient should be energetically treated. In severe intractable cases the facial nerve has to be attacked, usually at the level of the parotid gland. In good surgical hands the fibres can sometimes be divided in such a way as to stop the spasm but not cause paralysis. There is, however, a small risk of permanent paralysis, which if it occurs is very distressing to the patient.

British Medical Journal, 1973, **1**, 235.
Janetta, P J, *Transactions of the American Neurological Society*, 1975, **100**, 89.
Scoville, W B, *Journal of Neurology, Neurosurgery and Psychiatry*, 1975, **38**, 408.

Is megavitamin therapy of value in the treatment of cataract?

There is no reputable scientific evidence that any form of medical treatment, including vitamins, is beneficial for senile cataracts. These are due to degenerative changes within lens fibres, many of which die and become opaque. They are not solely the result of alterations in hydration of the crystalline lens. Certain specific types of metabolic cataract in young people are reversible at an early stage—for instance, the cataractous changes that develop in transferrase deficiency galactosaemia in early infancy may disappear when lactose is excluded from the diet.