Original	Clearer/less pompous
Approximately	About
In order to treat	To treat
At the present moment	At present, now
Were of the same opinion	Agreed
Anticipated	Expected
Be of assistance	Help
Spectrum (technical term)	Range
At some future date	In the future
Commences	Begins, starts
Black in colour	Black
Comparatively	—omit
A considerable proportion	Many
Demonstrate	Develop, have
Skin rashes	Rashes
Due to the fact that	Because
BLAC	Boro-lithium activated charcoal
It may be noted that	—omit
The literature	Other workers have reported
During the time that	While
Level	Concentration
Elevated in excess of	Above
It is also probable	Probably
Lower limbs	Legs
Significantly (technical term)	Noticeably, markedly
Decreased relative to	Lower than
Upper limbs	Arms
Females	Women
In this situation	—omit
It seemed to the present writers	We thought
As already stated	—omit
Sophisticated	Advanced
Theorised	Suggested, argued
Sacrificed	Killed
Following	After
Reveal	Give
Data	Facts
Communication	Paper, article

I have illustrated these simple techniques because I am sure that each author, however eminent, should learn to do his "subediting" himself. Books often do not get any subediting at all. As it is extremely difficult to do this objectively on one's own writing, he should then enlist the help of a sympathetic colleague who also knows the rules. The colleague should go through it in front of the author, quizzing him on every point that is not absolutely clear. As this dialogue may become quite acrimonious, it is best for the colleague, however senior, to agree to a return match on his next paper. In this way differences in experience can be made constructive rather than destructive. Unintentional changes of meaning are avoided by this tête à tête verbal method, which is much better than the use of a remote subeditor. The latter can then get on with making the paper conform to the house style of the journal and with preparing the script for the printers. The remote subeditor is also spared the embarrassment of dissecting the verbiage only to find that the content is very small. With papers from non-English-speaking countries the subeditor will still have to spend some time in making the paper sound English to English ears, but this is a relatively minor task if the paper is well constructed in the first place.

As a pathologist I am naturally fascinated by the most elephantine example of any condition and conclude with a true one (though altered to disguise it) on which readers may spend a few happy minutes practising their subediting technique.

It is suffice to say that although substantial data has been presented demonstrating the antigenicity as well as the presence of tissue and species-specific antigens of prostatic tissue and other associated adnexal glands tissue of reproduction of the various species studied, the demonstration of the presence of tumor specific antibodies, or for that matter, circulating antibodies to prostatic tissue or secretions by the methods of precipitation and of passive haemagglutination in the sera of patients with benign or malignant diseases of the prostate and/or following cryosurgical prostatectomy has been, despite histologic and roentgenologic observations of the remission of distant metastases in cases of metastatic adenocarcinoma of the prostate (stage 3) following the cryosurgical treatment of the primary prostatic tumor, for the most part discouraging.

How I write a paper

ALEX PATON

Don't believe people who tell you that writing is easy. Except for the fortunate few, writers are made, not born, and the fashioning is a painful process—a very private struggle between you and a blank sheet of paper. Fortunately for the medical author there are certain guidelines and plenty of advice, but the challenge remains. Doing the research or collecting case material is child's play compared with the moment of truth when you come to write up (or down) your results. But given that you have something worth saying—and too many papers seem to be written because someone other than the author thought it would be a good idea—get down to it, learn a few basic rules, and write—and write.

The structure

The writer of scientific and medical papers has the advantage of a ready-made scaffold on which to build. This is the IMRAD structure and corresponds with the questions (table) which Sir Austin Bradford Hill said an author should try to answer. If you wish you can start with the *Introduction* and work straight through, but you don't have to. Sometimes I find it easier to begin with *Results*, because this is the core around which the rest of the argument can be written. Most introductions need only a couple of paragraphs, at the most; they do not require a review of "the literature." *Materials* (or *Patients*) and *Methods* should also be short. You do not need to give details of common techniques, but if your work is based on a new method you must provide adequate details so that others can repeat it. This is not always done with sufficient care, and gives rise to a suspicion, no doubt entirely false, that the author does not want other people to verify his work. *Results* are results. One of the commonest faults is to introduce snippets of interpretation into this section; the proper place for them is in the discussion. The *Discussion* is always difficult. If you are stuck, begin by giving your results in the light of other people's findings, proceed to discuss their meaning, and end by stating how they alter or advance current ideas. If possible, indicate future lines of research.

There is no need to sum up or conclude at the end of the discussion. Most journals now print a *Summary* at the beginning of the paper, and this is often the only part that people read. Take as much trouble (or more) over composing the summary as in writing the paper. It must contain the points that you wish to get

Structure of an article (Imrad)

SUMMARY	
I ntroduction	Why did you start?
M ethod	What did you do?
R esults	What did you find?
A nd	
D iscussion	What does it mean?

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across as factually as possible. An abstract or a synopsis is something different.

The practice

I write it all out in long hand just as it comes, though I appreciate that some people prefer the typewriter or Dictaphone. Having summoned up the courage to begin, you cannot at this stage get tied up over niceties of style or meaning and you must keep on writing. I find it helpful to prepare notes of the points that I wish to make, and I pepper the pages of the manuscript with headings so as to maintain direction.

Next I type out (or preferably have typed, as I am a two-finger man) the written draft with wide spacing all round, including the margins. If you think that your first attempt was sheer hell and that the worst is over, you are in for a shock, for it is now that the hard work begins. You will find that the manuscript has to be corrected and corrected again, so that it ends up almost unreadable. I spend hours worrying about choice of words and the sequence of ideas. I often have to cut the script up, to cut out sentences and paragraphs and shuffle them around. They can then be pasted back in their new positions on another sheet of paper.

Having got as far as possible, you have the manuscript retyped and put it aside to mature. Unless you are working to a deadline (a useful disciplinarian) there is no point in hurrying, however ambitious you are to see your name in print. Editors of medical journals have little sense of urgency and your claim to have discovered a cure for ingrowing toenail is unlikely to impress. I give my paper to someone else to read, someone who will tell me the truth (often unpleasant when it applies to my masterpiece) and maybe give some practical help. I would like to see one or two people in each department or hospital prepared to read and criticise papers, not for the scientific content (that is a matter for colleagues in the same field) but from the viewpoint of the general reader. It might then be possible to dispense with editors.

After a month or so I begin to feel an irresistible urge to have another look at the paper. I hardly recognise it and can see at once its many shortcomings. It has to be rewritten once more, but this time the task is easier and there are fewer hang-ups. It is now essential to give the revised draft to a secretary who knows the style of the journal to which you are submitting the paper, and she may type the final or, if you are less confident, the penultimate copy. Note that there have been four, possibly five, drafts; I doubt if it is possible to get away with fewer.

The package

I hope editors are human enough to be favourably influenced by a nicely presented paper. I don't necessarily start writing with a journal in mind but by the second or third draft I know where it is to be submitted. And I have studied the style of that particular journal, the length of its articles (particularly important in these days of economy), and its notice to contributors. Unfortunately the variety of different styles and instructions is enough to put off the most dedicated author, and I am an active campaigner for uniformity in matters such as references, but I would regard it as bad manners to send off a paper to a journal you haven't bothered to look at.

The final copy of the manuscript must have double spacing, wide margins (for subediting), and type on one side of the paper only. Send two clean copies with the minimum of penned alterations—dog-eared ones that have obviously been the rounds are unlikely to be accepted. The first (and separate) page should contain the title, together with the names of the authors, their degrees and appointments, and the name and address of the author to whom correspondence is to be sent. It is often useful (sometimes essential) to provide a "short title." The summary follows on the next page and then the text itself. A short covering letter, not a full-length apologia, should be signed, if possible, by all the authors.

The *Title* is very important, both to catch the eye of the reader and for indexing. Many authors seem to think that titles must be long, dull, and "scientific," instead of trying to follow the examples of writers like Richard Asher or the anonymous composers of newspaper headlines.

If you are reporting large numbers of patients or experiments, which are split into groups, make sure they tally in text and tables. A reader who finds that figures don't add up rapidly loses interest. *Tables* should be typed separately from the rest of the text. It is difficult to say anything succinct about *Illustrations* since journals vary in their practice, but if you send photographs label them on the back in pencil with author's name, short title, and TOP with an arrow. Photographs have a nasty habit of getting separated from manuscripts in editorial offices or of being printed upside down. I am particularly obsessional about *References*—it pays to have a librarian or secretary who likes chocolates—but I'm told that editors aren't too fussy, since references are always checked in the office (though presumably only after the paper has been accepted). Be sparing over *Acknowledgments*, but avoid making enemies for life by leaving out genuine helpers.

The style

I have left to the last what is for the amateur undoubtedly the most difficult part of writing—style. I suppose the first (and rarest) quality is brevity: short words, short sentences. Why is it that intelligent people (among whom I include doctors) become imbued with verbosity the moment they put pen to paper? A staccato style must be avoided, though, and the best way to "pace" the writing is to read it aloud. Need I emphasise to a scientific audience the importance of accuracy and the correct word? Yes, I'm afraid I must. We all use words not only without knowing their true meaning but also without appreciating their *shades* of meaning. When you write that "your results revealed . . ." do you really mean that they were "made known by divine or supernatural agency" (*OED*)? It is a valuable exercise to make up sentences in which a key word—for example, the verb—is missing and to see how many alternatives can be used and which are the most appropriate.

I try to avoid vogue words like the plague (and clichés like that). Philip Howard, whose style is worth studying, is currently writing a series in *The Times* in which he points out how the meaning of such words eventually becomes completely distorted by popular usage, words such as parameter, charisma, consensus, obscene, interface. As for "situation" its present vogue is really becoming something of a "headache situation," as I recently heard a difficult problem described. There are clichés confined to medicine which make my hackles rise: "disease process," "the patient went rapidly downhill," "the patient presented to hospital."

Watch out too for the circumlocution, the round-about-talk, the gobbledegook beloved of civil servants and sociologists. Much of the "noise" can be removed altogether or replaced by a single word. In the fullness of times (cliché) we shall be introducing literary audit (vogue word) for medical writers, and one of the more difficult tasks (for specialist registration) will be to make précis of circulars from the DHSS. I have developed a special alarm system for "in-words," such as "red in colour," "moment in time," and for "un-words"—"it is not unusual," "it is not unexpected." Finally I try to use short, concrete, Anglo-Saxon rather than Romance words, which tend to be long, abstract, and imprecise. Dr Johnson, as always, provides the apposite example, which we imperfect writers might well display prominently in our studies: "It possesses insufficient vitality to preserve it from putrefaction" can be rendered both simply and devastatingly, "It has not wit enough to keep it sweet."

There are many books and articles giving guidance to the writer and I have prepared a list of my favourites. In them you will find not only good advice but so many warnings of the pitfalls that all but the most daring will, I hope, be put off. Don't forget that much can be absorbed with pleasure from one's everyday reading. But in the final analysis nothing succeeds like repeatedly doing a job yourself and, to leave you with a few crumbs of comfort, I pass on the words of a respected journalist friend who, when I asked how he managed to write with such ease, replied: "The first million words were the worst."

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How I referee

D A PYKE

The arguments in favour of refereeing are:

(1) No editor can know his subject well enough to be an expert in all its aspects. This must certainly be true for a general medical journal, such as the *BMJ*, but I think it is true even for specialist journals. My particular interest is in diabetes. That sounds a narrow subject but there are two English-language journals, each containing about 100 pages an issue, devoted entirely to this one subject. A quick look at the list of contents shows how varied are the papers: clinical, biochemical, pathological, statistical, and immunological. I do not know anyone who would claim to be an authority on all these aspects of diabetes. My view seems to be shared by the editors of *Diabetes* and *Diabetologia*; both these journals use referees.

(2) It takes a long time to establish a journal's reputation, but it may soon be lost if a few bad or hastily written papers or papers without proper acknowledgment of other work are published. It is the ease of making bad mistakes and their disastrous consequences that support the need for expert refereeing. (Referees makes mistakes too—there is only one sure way of not publishing bad papers, which is not to publish any.)

(3) Most manuscripts can be improved by advice from referees. This may have nothing to do with grammar or style but may concern a reference that has been missed, a conclusion which is over-bold, or a technique which needs description. The referee may see, in a way that an editor cannot, how a paper can be improved by amplifying or explaining part of the work, or that the paper would be better if deferred until more material had been collected or more experiments done.

The arguments against refereeing are:

(1) It causes delays. A paper can be killed by long delays in publication. Recently the process of publication has been speeded up in most of the more general medical and scientific journals (*BMJ*, *Lancet*, *Nature*); refereeing takes time, so omit it. But referees can be prompt. In practice the time taken to referee a paper is only a fraction of the whole submission-to-publication time.

(2) Refereeing does not lead to the best selection of papers. A general editor can do just as well. My bias is against this, and I think poor selection of papers shows, at least to the expert reader.

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I have set out some of the pros and cons of refereeing, but why must we come to any definite conclusion? Why not have variety? I am, in general, in favour of refereeing for medical journals but I am glad that there are some editors who never referee and some who break their own rules. The editor of *Nature* in 1953 cannot have needed a referee to advise him to accept that paper by Watson and Crick.*

If I were Chairman of the Journal Committee of the BMA I would say to the editor: "I hope you will go on using referees but I also hope that you will use your own judgment, not merely on bad papers, which I am sure you can easily reject without advice, but also on good papers, whoever the authors may be. It may be easy to decide to accept a paper by Peter Medawar or Cyril Clarke, but you may also get a paper by someone you have never heard of which you like, and then I hope you will take it."

How to referee

(1) The editor must know what he wants from his referees: straight advice on whether to accept or reject or, in addition, criticism of the paper and, if so, in detail or only in outline?

The editor must choose his referees and they must have certain qualities—they must be reliable and punctual (unpunctuality is an incurable curse). An editor soon learns whose judgments cannot be trusted. My guess is that most referees tend to err on the side of recommending rejection and the editor may have to put on a slight bias to compensate for this. On the other hand, a referee who recommends acceptance of a paper which is then demolished in correspondence should probably be dropped. A man may have been a good referee once but cease to be so because he does not keep up with his subject or takes on too many other commitments. He should be dropped.

Should the editor use one referee or more? If he uses a second referee, either simultaneously or after the first has reported and they disagree, what then? Use a third, or disregard them both? It is probably better, as a rule, to use only one referee but there will be exceptions. Indeed, a referee may himself suggest that the editor takes another opinion because he is unsure of his own judgment or is not familiar with the whole scope of the work being considered.

Should the editor transmit the referee's comments verbatim to

*But even that great paper could have been improved! The first seven words of the famous last paragraph—"*It has not escaped our attention that* the specific pairing we have postulated immediately suggests . . ." are superfluous.