



# NEWSLETTER

No. 106

March 1970

## ON WRITING A BOOK (Continued)

Someone once told me that only half the job was done when a manuscript went to the printers. It wasn't as bad as that for me but certainly there was plenty to do during the year after our book went to press in June 1968. At first there was a comparative lull during which I cleared up the permissions for diagrams and compiled a list of the most important symbols used in the text. The latter job ought to have been done sooner, as it brought certain errors and inconsistencies to light. I answered queries from the publishers about details of the text and received a questionnaire about the sales promotions blurb (I turned that over to Owen Garriott; it seemed an American sort of job).

I also completed the bibliography and sent it to press. It has represented a major task. We wanted to have plenty of references and eventually we had 754 of them. Each was typed on a card in the standard "name and date" style, with cross-references to the text written on the back. Hilda Hawkett had worked on Monday afternoons for a year checking the cards against the original books and journals. When this work was complete the cards were put in alphabetical order and fed five at a time into the Bruning copier. Thus the final list of references was produced without retyping, and the cards remain available for producing future bibliographies.

Then in September 1968 all the diagrams came back from the publishers with the lettering redone. This was quite a good thing as it made the style of the lettering much more consistent (e.g. "metres per second" consistently became  $m s^{-1}$ , not m/s or m/sec). However there were errors on more than half the relettered diagrams and I was glad that they were again sent back to me for

a further check, when only six mistakes were found. They all seem to be O.K. now. I received sample pages showing typeface, layout, chapter openings, section headings, etc. for approval.

In November the galley proofs began to arrive, and for a month all else had to be laid aside. The galleys contain all the text in page-sized chunks, but they do not contain the figures so their layout is unrelated to the final paging of the book. Actually the eight chapters forming the main text occupied 289 pages in manuscript, 242 galleys and 270 pages in the final book. The printing was done by the Dutch firm of Reidel, who did the job very well (they even helped by correcting my spelling mistakes in a Dutch name in the text).

Each galley was read by at least four different people :

- (a) by me
- (b) by my wife (a non-scientist), with me reading the manuscript to her,
- (c) by one of Anne King's band of part-time wives,
- (d) by Owen Garriott.

I was horrified when I compared the results of these readings. Each one of these "error-detecting channels" detected at least one error which all the others had missed. The errors were pretty evenly divided into three categories. First, author's errors - many mistakes in the manuscript I thought I'd carefully checked. Second, editor's errors, introduced by some whim or misunderstanding of the copy editors at Academic Press. Third, printer's errors, and I soon found that these tended to happen at the ends of lines where the printer was trying to squeeze in words that wouldn't go.

There were difficulties about "oh" and "zero", similar in typescript but not in print (I should have taken more care with that). There were inconsistencies because Chapters I-IV and Chapters V-VIII had different copy editors who had different ideas about hyphens and other matters. One copy editor kept changing "which" to "that"; sometimes this change was acceptable, sometimes it was clearly wrong. The other had evidently disliked our "name and date" style for the references and instead had started numbering them in a series 1-754. Fortunately this idea was dropped; I hate to think what confusion there would have been when the inevitable errors necessitated a few changes in the reference list! As I expected American spelling was generally introduced, though one editor was too intimidated by "travelling ionospheric disturbances" to remove the double "l", and I'm glad to say "aluminium" slipped through intact. Fortunately there was no attempt to translate the entire wording from English into American, as had once happened to a paper of mine.

Eventually the galleys were returned and we set about preparing the subject index. One cannot complete this job until the page proofs are to hand, with the final page numbers, but a start can be made with the galleys. I marked in the galleys the items that I thought should be indexed, and my wife assembled them into an alphabetical list. Including all the cross-references that were put in, there were about 770 items in the index; since most of them are referred to on two or three different pages, there are around 2000 entries in the index. When the page proofs came in March 1969 all the galley numbers had to be converted to page numbers. Of course we had to be careful not to introduce "closed loops" of the sort "A ---, see B ---" and "B ---, see A ---" in our cross-references.

The publishers made the author index, which is comparatively straightforward; but even there one has to look out for traps. For instance, is the "Robbins, A." who wrote one paper the same as "Robbins, A. R." who wrote another? Do those two slightly different Russian names belong to the same person? Do we put in Americanisms like "Jr" and "III", and can we be consistent about it? The author index incidentally showed that surnames starting with B dominate the ionospheric literature (190 references in the index). The runners-up are S (149), H (112), M (105) and C (102).

When the page proofs came we had to check them to make sure all the galley corrections had been properly done. Mostly they had, but some of our corrections had been misunderstood and sometimes the printers introduce completely new errors while making corrections. We had to check that all the figures were in the right places, that all the page headings were O.K., that the tables were suitably displayed (some weren't). And, distressingly, we kept finding errors that had slipped through before. In May came the proofs of the indexes, the front pages and preface; both authors' surnames were misspelt on the title page!

At last the job was done and we eagerly awaited the finished book. Now we have it, and in its red and white dust jacket it looks quite startling. Very few errors have shown up yet. We've been getting comments, complaints about the excessive price (which we had no say in) and remarks such as "that collision frequency value must be wrong" or "that wasn't what so-and-so's paper actually said". A phone call comes from the editor of a journal. Would I have a copy sent for review to Professor ----- ?". I comply with some trepidation about what Professor ----- will say.

The Director has the final word. On being shown a copy of the book, he remarked "Well, now you've got that out of the way, perhaps we'll get some work out of you!"

HENRY RISHBETH

Staff News

Welcome to:

E. H. White	E.O. (perm)
Dr. E. M. Doyle	S.O. (fixed 3 year term)
D. J. Sandcraft	Ex. Officer (non-perm. Winkfield)
Mrs. J. M. Cobb	C.A. (non-perm)
Mrs. S. Davies	Tele. Operator (part-time)
Mrs. E. W. M. Scammell	C.A. (non-perm)
C. W. Corbet-Singleton	S.A. (perm.)
Mrs. I. Jack	Typist II (part-time)
Mrs. D. J. Thorpe	Ind. Messenger (part-time)

Resignations

A. D. Hart	S.A. (perm.)
J. W. Murray	E.O. (perm.)
S. Amarasinghe	A.E.O. (perm.)
H. L. Ho	Tech. Off. (Singapore)
S. H. Phey	Tech. Off. (Singapore)
P. R. Cook	H.E.O. (perm.) (transferred to S. Africa)

Other Changes

U. M. Yilmaz	A.E.O. (returned to duty R.S.R.S. rm.4)
A. A. Handley	Ex. Officer (returned to R.S.R.S. from Winkfield)

SPORTS AND SOCIAL CLUB

Ballot for Radio and Space Research Station Sports and Social Club

This year there is a larger number of nominations for the committee than usual which is good to see. This will necessitate a ballot amongst club members, and the following timetable is proposed:

Friday 17th April	- Nomination list closed 1630
Monday 20th	- Ballot papers circulated
Monday 20th-Friday 24th	- Ballot box available in Library
Friday 24th	- Ballot ends 1630
Monday 27th	- Results available for A.G.M.

M. P. M. Hall, V. Harrison

Motor Club

The club held a rally on March 22nd. The competitors spent an enjoyable afternoon, in perfect weather, tracing the route of Slasher Mick on his escape from the Borstal at Huntercombe End; following tulips; and hunting for clues. The final results were very close, with only 8 points separating the first and fourth positions. The winning team were Ted Golton (driver) and Bob Pratt (navigator) who managed to escape with 62 penalty points. Tony Gibson beat Bob Slater into 3rd place on the tie decider, both drivers having accumulated 66 penalty points.

R. Marsh

Table-Tennis

The Slough Table-Tennis League competition is now complete and the R.S.R.S. team has finished third to Glaxo and Centre "Hunters" in the 4th Division. The teams record is Played - 14, Won - 10, Lost - 4, Points - 20 (possible 28). Three friendly matches have been played against 3rd Division teams. It is hoped to arrange more friendly matches for 'A' and 'B' teams. With sufficient regular support two teams could be entered in next season's competition.

P. Muzlish  
Team Secretary

### Bridge Club

The score in the bridge match against RRL on 6th March was 114 IMP 's to 54. At the half way stage R.S.R.S. were ahead by 21 IMP's, a lead which was increased to 60 IMP's by the finish.

There was an attendance of 8 at a bridge evening on Friday 20th March. This was arranged as a teams of four contest, in which the batchelors' team narrowly beat that with 3 married members.

As mentioned last month, the competition for the "ex-DSIR" cup is to be held on May 3rd at the Warren Spring Laboratory, Stevenage. We hope to enter 2 teams of four for this event which is to be held, as is usual, on a Sunday afternoon.

R. J. Pratt

### Guess What?

1. Ran over a mole
2. Hand too cold
3. Must go to the toilet
4. Couldn't find my pen
5. Had no pen
6. Couldn't find the book
7. Queue too long
8. Forgot
9. Didn't know I had to
10. I have, haven't I?
11. Pen ran dry
12. Had to change from wet clothes first
13. Left my car lights on
14. No Excuse
15. My Hamster was ill
16. Too foggy - Couldn't see the book
17. Got into mud rut across field, couldn't get out
18. In early - so wasn't properly awake
19. My Father was away
20. Couldn't get ice off my windscreen

There will be no prizes for guessing what these excuses are for, but the lucky winner will have the honour of seeing his or her name in print.

LADIES SECTION

Car Mechanics Course Part II

Hello once again lady drivers, welcome to Part II of the saga of the Internal Combustion engine. I do hope Part I benefited you not a little (anyone seeing me in the car park last week will realise it did nothing for me) and that you are now ready to complete your education.

Let us then launch ourselves into:-

SECTION 3 LOCATING FAULTS

Fault finding is mainly a matter of trial and error, and, as with people a car may have a symptom of a fault which may be a minor matter or a catastrophe. I believe in optimism, and always plump for the simplest thing (possibly because of my purely elementary knowledge) and on most occasions have been wrong - a fact which suggests that a realist cannot be an optimist.

In this section I suggest we start with starting and work our way through all eventualities.

Lesson (1). Starting Troubles

These begin when a straightforward pull on the starter does not throw your car into vibrant pulsating life. The first thing to do is to increase the flow of petrol, this can be done in either of two ways, both mechanical aids. Neither of these aids as far as I am concerned conjures up a picture of petrol rushing into the engine in fact quite the reverse, they are the choke and the throttle. These words to me are not evocative of life inducing petrol, rather they suggest a violent lingering death, however, if you pull the choke out and/or depress the throttle pedal your car should respond.

If this has no effect we must go back to first principles and ask ourselves three questions:-

1. When I pull the starter does the engine fire → yes → this indicates petrol troubles, see (a)

2. ↓  
← No

When I pull the starter does the engine move at all, in fact does the pull on the starter have any effect whatsoever on the car as a whole → Yes → oh Boy! are you in trouble, see (b)

3. ↓  
← No

When I pull the starter does it just whirr and cough → yes → battery problems, see (c)

↓  
← No

I'm afraid I can't help you.

(a) The problem here is the slow-running jet (no not the new Jumbo service). When blocked this jet tends to inhibit petrol flow and as everyone knows "no flow, no go". Alternatively your gasket may be blown, which is I assure you very painful.

(b) A multitude of troubles come under this heading. For instance my fiancé's mother had this problem and found she was stuck in top gear, but apart from the fact that we didn't make it to the top of a 1 in 8 hill we did fine. So who needs gears?

On the other hand your starter could be jammed, the cure is inelegant but very effective. Push it! (preferably in top gear).

(c) A sort of whirr-type whirr is probably loose terminals or corrosion, but a dead-type whirr is a flat battery. You are beyond help.

### Lesson (2). Moving Troubles

Someone once said, and I've no doubt in my mind at all that it was a man, that the definition of a tree was a lump of vegetation which, having stood still for fifty years, suddenly jumps out in front of a woman driver. Ludicrous though this definition is it does serve to illustrate a point, namely, it is wise to steer clear of inanimate solid objects.

Collisions are indeed the cause of most mobile difficulties, there are however one or two other things. On the whole if something is wrong there is a light or condition in the car to indicate the problem. For instance I once drove all the way from Wokingham to Englefield Green with the red ignition light on. When I told my fiancé he started to do a wild native dance all over the front lawn chanting "Fan Belt", at me, very despondently and heaping coals upon my poor ignorant head. After about five minutes of this he dived under the bonnet only to re-emerge beaming and shouting "Brushes". Now I'm sure this has some significance and the red light certainly was extinguished but I leave it to a better man than me to explain.

The only other contingencies are oil light coming on, in which case it is better to invest in a can of oil than to drive to your doom and certain destruction, and possibly a boil up (in which case it is not tactful to suggest a cup of tea!).

### Lesson (3). Stopping Troubles

The most usual things to stop a car with are brakes. If they don't function at optimum efficiency there is always Faith, Hope, and Prayer. Failing this you can always sling the car into reverse (if you've the strength) or if you have sufficient nerve drive into a hedge or some other soft obstruction remembering Lesson (2) § 1.

Lesson (4). Major Disasters

I am pleased to note that my last selection of Handy Phrases was useful to you, and, in view of the fact that Major Disasters are generally not dealt with by us women but by the men, I thought that a few handy phrases in this section would not come amiss.

I mentioned in the last article the phrase "Drain the block" this means that all the liquid and general gunge is drained out of the cylinder block. I am informed that this is where one keeps one's pistons in holes called cylinders, and I am quite prepared to take their word for it.

Gaskets are things which go occasionally and they are found sandwiched between almost any two metal surfaces it seems. My carburetter gasket once disintegrated and my fiancee made another one out of a cornflakes packet (my car usually breaks down on a Sunday) so they can't be that important. Although I must say if your head gasket blows you would need a jolly big cornflakes packet.

The distributor head is fairly easy to recognise as it has heaps of wires coming out of the top, it is the initial instigation of the peculiar firing order which I have been informed since my last article is in fact 1, 3, 4, 2.

If anything happens to this the car is said to misfire.

Other Useful Terms

Rocker Box

Crank Shaft

Rotor Arm

Cam Shaft

Tappetts

(or Valve rocker arms)

Big Ends

Little Ends

Meanings

A name that conjures up a beautiful picture. No you don't keep your rocks in it, as usual the name is descriptive, it's the box you keep oil in.

This is a rod of buckled metal running from the front to the back.

Found in the distributor, it rotates.

A rod with cams on it that push the push rods that operate the valves via the tappetts.

When they are maladjusted they tap.

fixtures either end of connecting-rods which connect the pistons to the crank shaft.

I do hope you have enjoyed reading this article as much as I have enjoyed writing it, and also, if any of you have any queries about your car, if you write to me, I will answer your queries via the Newsletter.

Happy Motoring!

Patricia Dadds

LETTER TO THE OUTSTATIONS

Dear Colleagues,

The approach of spring, according to calendar if not climate, has here been heralded by signs other than rising sap, crocuses (croci?) and idiot birds that have nothing better to do than fill the air with cries of jug-jug, poo-whee etc. Jug-jug forsooth! I refuse to hold a bird responsible for that, it seems to me much more likely to be a subjective resonance excited in the head of a thirsty poet.

Be that as it may, our spring's harbingers are two splendid new white huts. The one is hut six reborn more spacious than before and endowed with all mod. con., well, nearly all; the other is a new ionospheric observatory, similarly enlarged and including offices for the staff. This rehousing operation has brought about a kind of travelling vacuum which is being propagated throughout the building, each inhabitant leaving his present office to settle in a new and, it is hoped, more convenient situation.

When this not entirely random motion ceases, there will dawn a new era of satisfied staff suitably settled in situations relevant to their studies. Naturally a few carefully controlled anomalies have been introduced lest it should be thought that the millenium has arrived and there is no need for any further work. Such things as the penetration of window fittings by raindrops arriving at a critical and seldom occurring angle serve to remind us that the elements rage without and can invade even the comfortable fastness of the office of

Yours sincerely,

THE EDITOR

MARCH 1970

REPRINT LIST

- G. W. Gardiner            Origin of the term ionosphere  
Nature 1969 224 1096
- J. A. Lane                Anomalous propagation on V.H.F. radio Links in the  
United Kingdom.
- F. G. Bennett            Gain degradation of lead type channel electron multipliers  
in ultra-high vacuum.
- W. R. Piggott            The use of satellite data for prediction purposes.

INTERNAL MEMORANDA

NIL