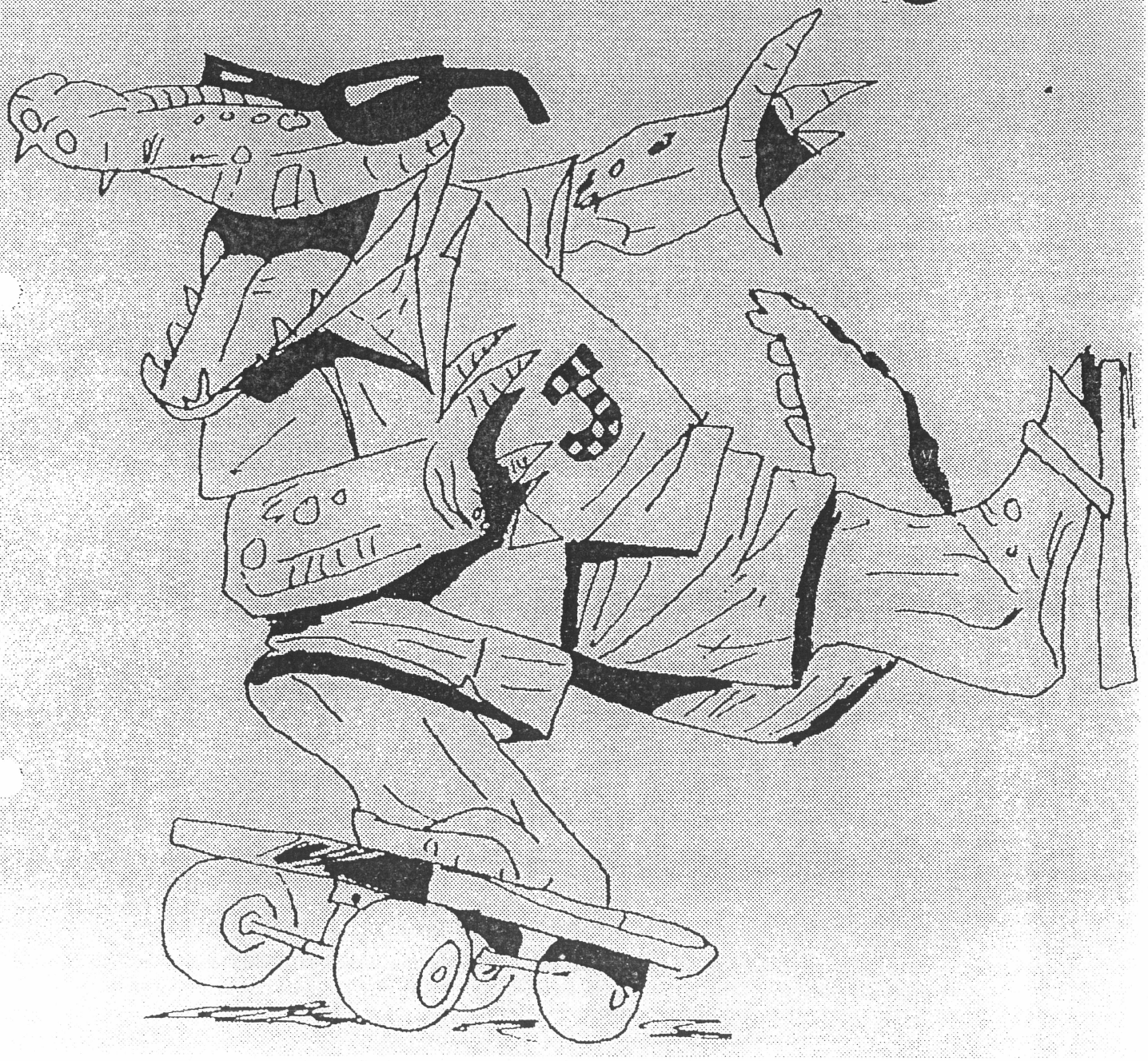
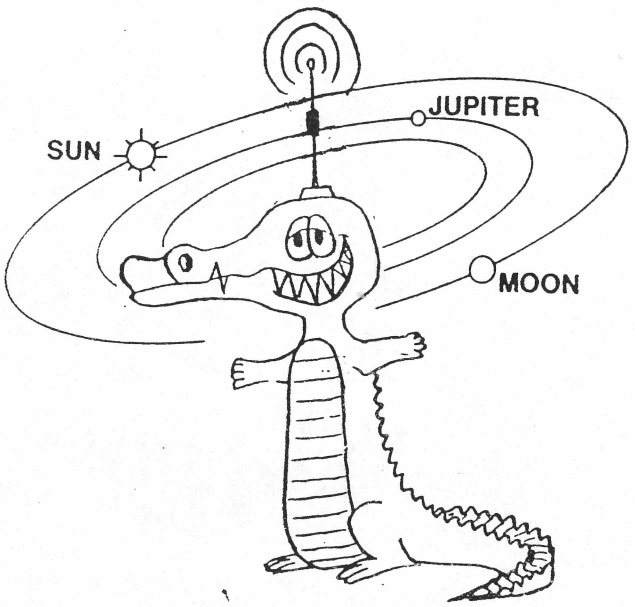
Jeremy



SPECIAL O-WEEK EDITION

The Official Journal of The Sydney University Physics Society
Volume 15 Number 1 February 1999

Contents



The JEREMYCENTRIC Model of the Solar System.

Editorial

Welcome all, to this the first issue of Jeremy for the New Year. The editors of Jeremy wish to extend a very warm welcome to all of you out there. If you are new to this enchanted world or didn't want to be here anyway (i.e. You failed your post examinations) a special welcome is extended to you. This is the SPECIAL O-WEEK edition and is designed to get you all thinking along the lines of true FIZICISTS.

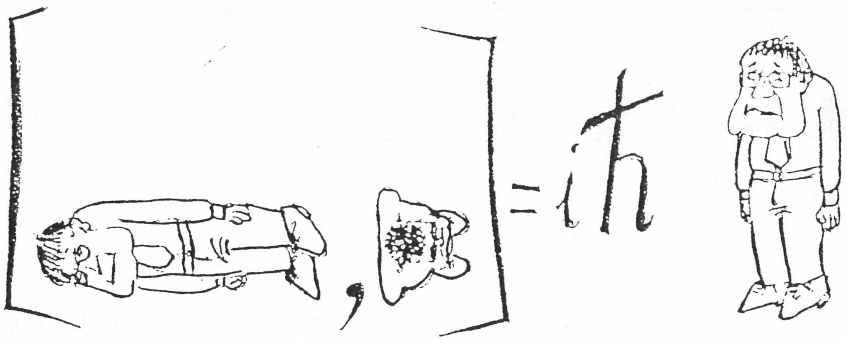
To those new students we can offer you no explanation for the existence of this Journal, nor can we explain where the title Jeremy originated from. Much relative time has passed and all the records relating these events were lost in the future!

Jeremy this year is running several competitions. You could win big prizes, become as famous as the Gaensler, even meet the Gaensler or just remain a forgotten geek. Whatever the outcome pull out those bigger brains and submit those entries! We will be running a Physicist of the Year Competition with awards galore, whether you are an artist, a mathematical genius or just plain good you will be a winner. See inside for more details.

Aside from this Jeremy tries to have a serious side and avoids having any articles with Dr Karl's name attached. Although experiments that use Dr Karl as a subject (remember to seek ethics approval) are gladly published. Each normal issue will also contain a short article about a current research project in the School of Physics.

Finally Jeremy is also supposed to keep you all well informed about up and coming events of the Physics Society, the only problem being that by the time anything is printed it is usually out of date and wrong. So check those notice boards in the lecture theatres and keep an eye out for notices that get plastered all over the place that are usually a little more reliable.

Finally Finally.. Send in those DOODLES, prose, poems, songs, pictures and of course serious physics questions and articles. BECAUSE you might win an award and because we need something to publish in the next issue.



The Kings Report

Hello everyone! We are still a monarchy! Welcome to another year of endless parties. I've been moved from the dungeon Room 102 up to Room 502 in the Western Tower. Now I can reign over and protect all from the threat of those evil lecturers. My door is always shut so you had better knock or call on 9351-5982 or email me at fletcher@physics.usyd.edu.au, or PHYSOC at physoc@physics.usyd.edu.au. So drop on by audiences granted at anytime to all Loyal Subjects.

King (President)	Peter Fletcher
Vice President	James Yardley
Secretary/Treasurer	Steve Edney
Editors	Unknown - Missing in Action
Party Organiser	James (Black-Jack) Yardley
Seminar Coordinators	Hogg and Fletch
Physoc Mascot	Associate Professor Ian D Johnston

We will be having our Annual General Meeting on Wednesday the 3rd of March in Lecture Theatre 8 starting at 1:00pm where you can come along and vote us all back into power or better still get yourself voted into one of the most dynamic positions on the Earth. Just imagine the impact of holding such an exulted position would have on your life. Just look at that Gaensler (Young Australian of the Year) his association and participation in PHYSOC was the clinching factor.

As mentioned in the editorial this is a SPECIAL EDITION to get you all in the mood. What we are seeking to do is tune your psyche to such a level that you will absorb and record (so that we can publish) those things that make this the School of Physics so great. Such as DUD Theories, doodles, quotes from lecturers etc... To assist the preparation of your minds the current editorial crew has selected some past classics to inspire you into a frenzy of journalistic enthusiasm. So sit back, relax and send us your contributions.

So avoid your studies, come along to the AGM in March and keep an eye open for the SPECIAL PHYSOC FIZIKS SEMINARS (see advertisement on this page) and those PHYSOC Parties where Fiziks takes on a new relativistic-reality. Just ask Freddie.

King Fletch

FREDDIE DIFFRACTS AS HE LEAVES A LECTURE AT Φ.8C

PHYSOC is proud to Present

The PHYSICS of SPORT

The AMAZING

Professor Rod Cross

Will dazzle you with his amazing balls
Discuss in intricate detail sweet spots
Explain the mystery physics of walking
and answer the age-old question -
Why can't babies run?

Bring your family, bring your friends
BUT don't bring your money because
it is FREE

Wednesday 10th March 1999
1:00 – 2:00pm
Physics Building Lecture Theatre 8

DUD THEORIES

Jeremy will publish all your inspired thoughts without regard to accuracy, reproducibility, or correctness. Yes, I know, this ad is just a space filler and another blatant self-promotion device, BUT we really do want your contributions.

You can go all the way and submit a fully blown paper as below or cut through the crap and produce shear genius as displayed on the page ortho-diagonally opposed.

ENERGY FROM FIRST PRINCIPLES

By Fletch and Suman

In this edition we will investigate the history of infinitesimals and the development of the forgotten energy relations formulated by Sir Issac Newton while applying the yet to be born Dr. Albert Einstein's infamous Nothingness Theorem which is related directly to the question.

If I were to eat this damn apple is it still there, even though I cannot see it?

This theorem is best presented and illustrated by example[1]. We will derive from first principles a mathematical relationship for energy. Now embarking from first principles. E = Energy (an obvious and trivial slight of hand). Now examining E we notice that it is a vertically even function and thus can be rounded into a continuous distribution by transmorphation into an $\mathcal{E}$ multiplied by the remaining functional transformatium which we will call x.

$$\text{Thus} \qquad E = \mathcal{E}x \qquad \text{..... (57)}$$

As aforementioned, x is a function of $\mathcal{E}$ and is directly congruent to the symmetrical eigenfunction associated with space. We must therefore first consider the sub-elemental nature of $\mathcal{E}$ as this will of course provide its inner products. By employing the principle of elliptic folding symmetry we can determine that $\mathcal{E}$ consists of two c's vertically opposed and that the inner product must therefore be c^2. Now to take advantage of the inner product we must be sure that we are dealing with a Hermitian four-dimensional space in which mutual orthogonality rules. And of course we are. Therefore it is just a matter of applying the pi on two radians rotational operator (or the 90 degrees rotational operator for those less-thans that use Babylonian mathematical methods) to the original function. Therefore $\mathcal{E}$ must be rotated through 90 degrees ($\mathcal{E} \Rightarrow$ m) and multiplied by the inner product (c^2).

Therefore the resultant non-tensorial mathematical expression is thus:

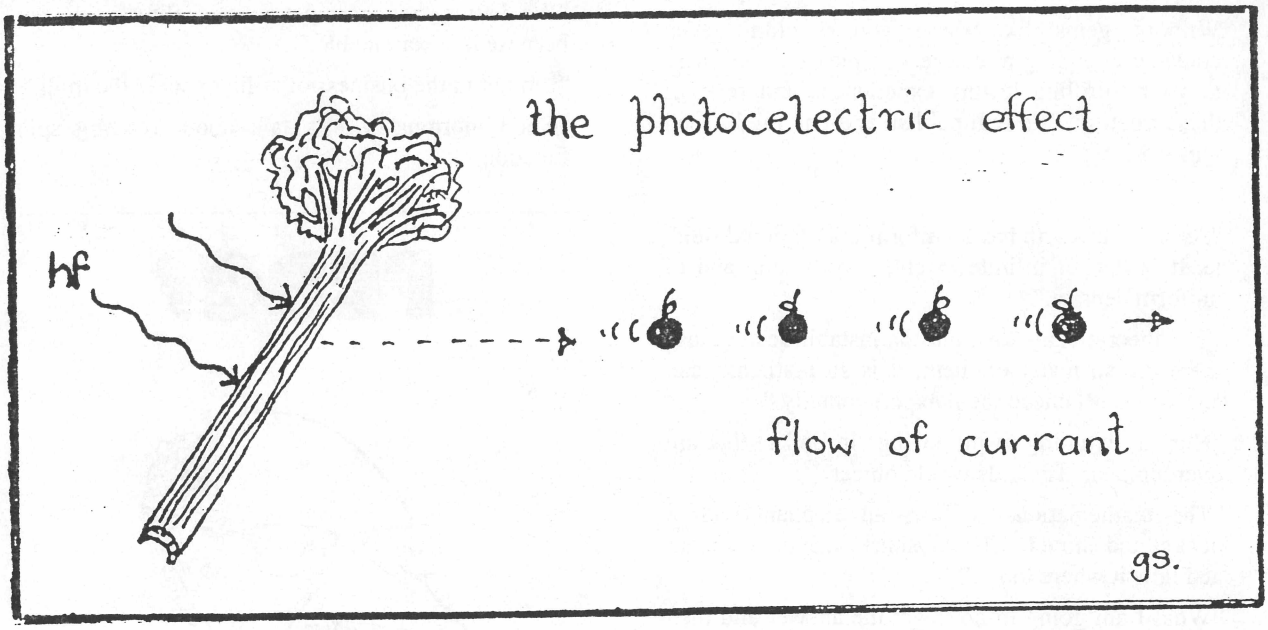
$$E = mc^2 \qquad \text{..... (72)}$$

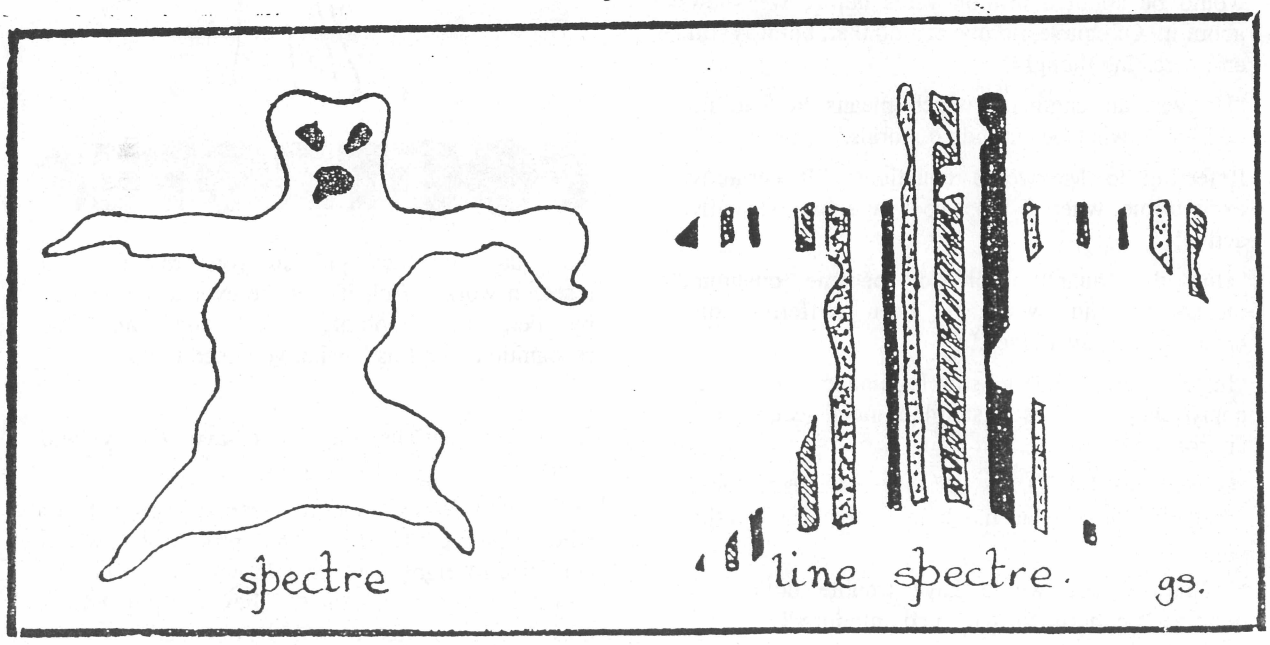
[1] For a full mathematical derivation see : Robinson, Johnston, McPhedran, Melrose and Hing., (1978). *Anatomical Spatial Geometries in the Cosmic Bath (a non-Euclidean approach to Spherical Abbarations)*, Wolfram Insert, Mesonpotamia.

HONOUR LIST

Listed below are all the Nobel Prize winners from the University of Sydney, School of Physics.

More Great Dud Theories





Well in the past we have had the great pleasure to publish such classics as : "Red is faster!", "Cosmic background radiation as a measure of alien civilisations" and "Jelly snake dynamics" just to name a few.

Just to help your thoughts along I've been mulling over some ideas : "Rest photons – the riddle to dark matter is solved", "Eating Chalk – the way to true knowledge" and "The moon is flat".

Release those cluttered minds, grab that pen and scribble those Dud Theories!

QUOTES

Without gems like these you wouldn't even consider attending a lecture. So please let us share in your fulfilling lecture experiences and send us those quotes. We will publish and you might even win a prize!

"Assume the earth has a uniform gravitational field, ie. It is flat, of infinite extent, non-rotating and of uniform density."

"The theoreticians love plasma instabilities because there are so many of them, it is so mathematical, and you can't check them experimentally."

"Nobody is going to put swings in parks that are overdamped. The kids would object."

"The mathematician follows an elephant with a bucket and shovel. The physicist rides the elephant and tells it where to go."

"What I am going to do is get the answer and then multiply it by 30 so that I get the correct answer"

"If you have a bird sitting on a charged wire and it puts one leg on another wire, you very quickly have a fried bird, and that is disturbing."

"If someone switched off the Sun at its centre, it would be about a million years before we knew about it. Of course, no one can do that, but it is still an interesting thought"

"He was an engineer, which means he had no credibility whatsoever and no morals."

Referring to Maxwell's equations: "It certainly excited me when I was your age and sexually active!"

"One day quantum physics became quantum mechanics and we have been suffering the consequences ever since."

"Instead of using a simple-minded first year approach, we will use a simple-minded second year approach."

"One of the Holy Grails of astrophysics is to see a star being formed, but like humans they do it in the dark."

"I suppose you would have trouble doing the double slit experiment with a commodore."

"An example of negative work is pushing against a charging elephant"

"It is an area of current research. In other words we don't understand any of it."

"For those of you studying our first year physics course, that's all a laser is, a device that you point at someone and vaporise them instantly."

"Now I left you at a temperature of about 3000K last Tuesday and cooling rapidly."

"S.M stands for Statistical Mechanics not Sado-Masochism... although some people think they're the same."

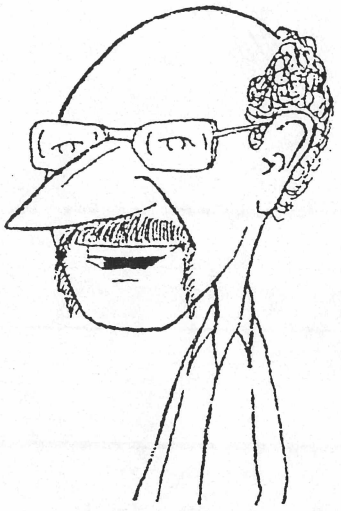
"We have so far seen its volume in one dimension."

"We do this so you can get a nice feeling inside, not because it's examinable."

"I'm not in the business of telling people the truth."

"Good morning... let's talk about rotating spin functions. "

FERGS



FOOTNOTES

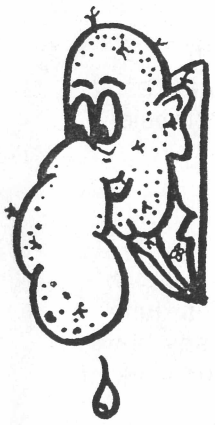
You may one day publish your distinguished research work. Well if you are ever to be noticed by Ferg the Footnote Fiend and gain true recognition then this is what you need to do...

IEEE Transactions on microwave theory and techniques, August 1997, p711

[1]The author is indebted to the reviewers both of whom observed that the original proof of (8), which consisted of eight pages and 33 equations could be reduced to one or two lines. They also pointed out how higher order terms could be obtained

Photonic Band Structure, Physical Review Vol 67, 17, p2298

John deserves special thanks for his patience, dedication and skilled machining of tens of thousands of holes, which made the project possible.



- - - - - SPECIAL - - - - -
- - - LIFT OUT SECTION - - -
LOG BOOK and REPORT WRITING

Hints on ensuring that your log book is a

LAY-DOWN MISSERE

(Including hints on REPORT writing)

These notes are provided for those students anxious to reduce the marks awarded for Experimental Physics. They are subject to revision at any time without notice, and are not guaranteed. However in the past many students have found these and similar techniques to be extremely effective.

1. Do not date your work

2. On no account form an index of your experiments, nor number the pages. You could try entering the occasional experiment upside down.

3. Always omit the experiment name and reference number.

4. Never include a diagram of the apparatus (don't even be tempted to stick in a photo copy from the lab notes).

5. Write any experimental results you obtain on old scraps of paper, leaving equivalent blank pages in your log book. If you must copy the data into your log book, don't do so for a day or two. Ideally you should lose the scraps of paper, and enter the results from memory; alternately you can work back from the answer.

6. It is unwise to even think about plotting a graph, but if you do be sure that you don't paste it into your book anywhere near the corresponding table of data. Never give a graph a title or label the axes. If you accidentally put scales on you axes, be sure never to adopt the convention for the units recommended by the Union of Pure and Applied Physics. An even better choice is to present a computer-plotted graph with no axes at all. Remember that error bars spoil the appearance of all graphs.

7. If you have included a graph, don't under any circumstances plot any "expected" or "theoretical" line to compare with your points. You should just join the points with a shaky hand drawn line. Quite a good tip is to use a really thick pencil, or smudgy ball-point, so that the plotted points are obscured.

8. If the Notes ask you a question, NEVER ANSWER IT. Failing that, couch your reply in vague, mystifying terminology and don't identify it as an answer to an explicit question.

9. Many experiments require arithmetic to be done with numerical results. Always do such calculations using your hand-held calculator *without writing down anything except the final result.* This last point is most important, indeed you should avoid any clue as to the theoretical expression you are using.

10. Where ever possible avoid quoting statistical uncertainties and physical units for numerical data; alternately make these ridiculously small and quite wrong respectively.

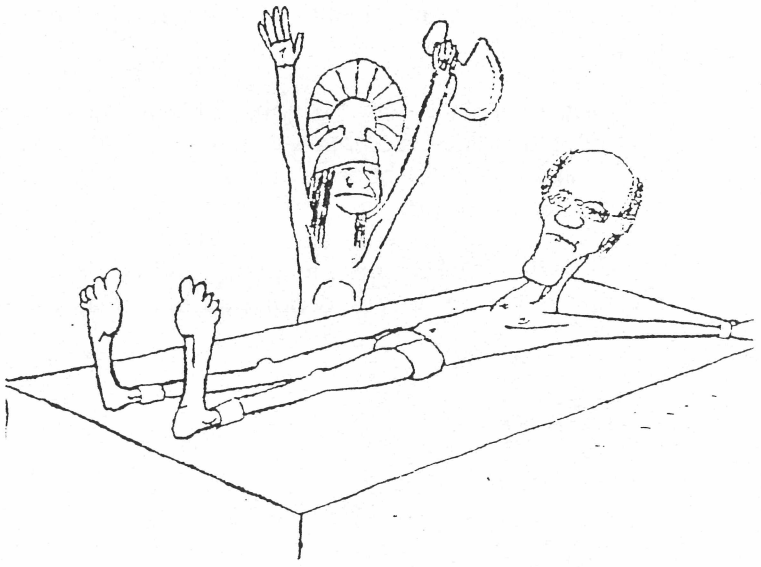
11. In general do not compare your result with any theory or accepted values. However it is quite acceptable to subtract your result from the true value of the known physical constant, and say how much you are "out" by. In fact it is an excellent way of finding statistical accuracy of your work, if you think about it.

12. When you make a mistake in your log book, never simply cross it out with a single line, and NEVER EVER include any note as to what was wrong, not even "oops". There are too many deletion techniques to list here, but they include white-out, removing pages, sticking in patches, total obliteration with ball-point ink, rubbing out. This last is most effective in ink-written books. However the use of pencil is strongly recommended for all log books... there is just so much scope for illegibility of *correct* material, let alone mistakes.

With the above hints, together with some creative individual ideas, no student should be disadvantaged in the quest for the null mark result. Nor should most students have much difficulty adapting these principles to REPORT writing. That said, it would be unfair not to mention in this context, the effective but very challenging technique of writing reports according to the so-called "parallel paradigm". Our experience is that many students make worthy attempts, but few achieve perfection. This paradigm applies where experiments have multiple parts. The greater the number of parts, the greater the benefit of parallel writing. It goes roughly like this: First, write the aims of each part, one after the other. Then draw and/or describe the apparatus for each part, one after the other (FEP,OATO). Continue with the theory FEP,OATO, then the technique FEP,OATO, the tables of results FEP,OATO and so on to complete "m" sections for an "n"-part experiment, making a (m x n)-order parallel report. *Be warned:* this style of report writing is not easy.. nearly as hard to write as it is to read.

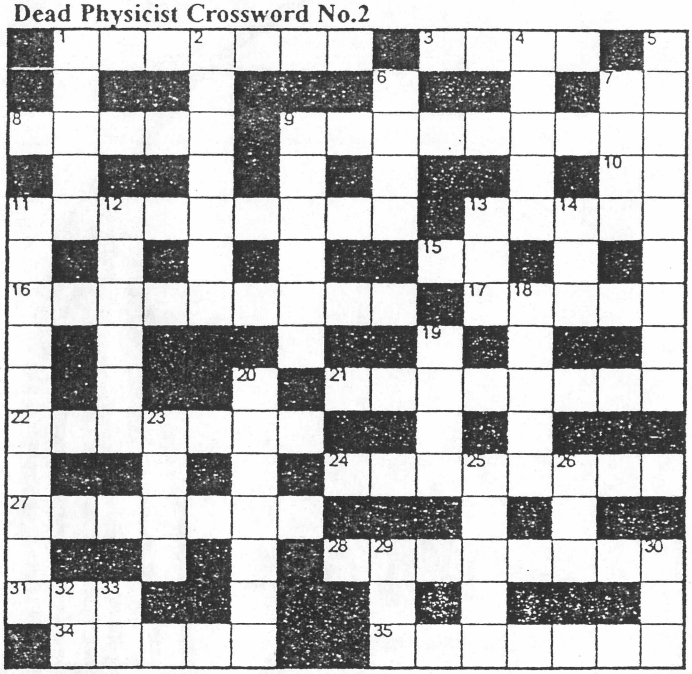
If you have any comments, queries or suggestions for improving this document, please present them (signed) in writing to your demonstrator.

Dr. MIL inc.

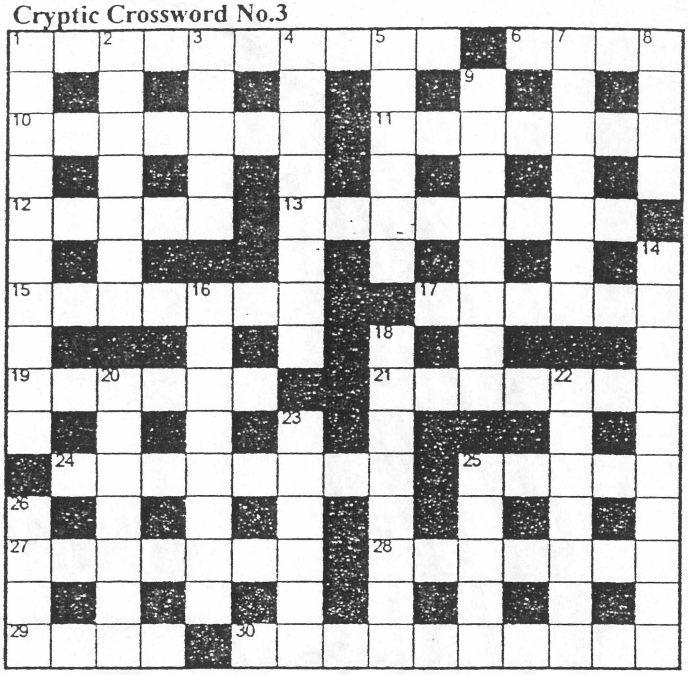


THE ALL NEW DEAD PHYSICIST CROSSWORD!

Dead Physicist Crossword No.2



Cryptic Crossword No.3



Dead Physicist No.2

Across

1.Physicist d. 1962
3.Physicist d. 1970
7.666 Kg.
8.Physicist d. 1958
9.Physicist d. 1908
10.Once a unit in phyics.
11.Physicist d. 1960
13.Physicist d. 1894, 1975
15.Unit in physics.
16.Physicist d. 1907
17.Rays.
21.Physicist d. 1953
22.Physicist d. 1923
24.Physicist d. 1856
27.Physicist d. 1940
28.Physicist d. 1988
31.How not to drink beer.
34.Physicist d. 1984
35.Physicist d. 1827

Down

1.Physicist d. 1906, 1934
2.Physicist not dead.
4.Superman.
5.Physicist d. 1906
6.Curse of the single physicist.
7.Experiment.
9.Physicist d. leaving series
11.Physicist d. 370BC
12.Physicist d. 1899
13.Old woman.
14.Unit in physics.
18.Good Japanese comic.
19.Where physicists find their sex tips.
20.The nature of women.(more than one answer possible)
23.Unit in physics.
25.A style.
26.Deoxyribonucleic acid.
29.Unit in physics.
30.Creationist's ability to reason.
32.The instinctive mind.
33.Constant in physics.

Dead Physicist Comp

Again, the best solution to be handed to a Jeremy box by next issue's deadline wins.

Cryptic No.3

Across

1. Reciprocated between two to determine the right way to attend rice (10)
6. The safari crossed a huge distance. (4)
10. Trifling with three glasses. (7)
11. Order it acted. (7)
12. Scribbles down some music. (5)
13. A first timer makes the men cower. (8)
15. Americans and I sin madly. (7)
17. School boy in agreement. (6)
19. Mr Odin upset at the thought he wasn't the first great hunter. (6)
21. Champion with a century looks east for a solvent. (7)
24. Decisive state of patient. (7)
25. Spirits conjured up disc jockey in Nigeria's capital. (5)
27. Companion swindles or tricks his leader. (7)
28. No age is made to suffer. (7)
29. Ride around the urgent. (4)
30. Donkeys son meant for test. (10)

Down

1. Tin Tin's one who hides what his purposes are. (10)
2. You really warped that dance Edward?(7)
3. Destroys what remains. (5)
4. Cape Old, a cape for warmth. (8)
5. Gives an end to painful cries. (6)
7. Roman priests burn Nicholas Spratt. (7)
8. Lou can't play his sax without one. (4)
9. Forage around for a Cure song. (8)
14. Tin men rent an unpleasant confinement. (10)
16. To take a child as a proposition for parliament. (8)
18. Story of great or dubious value depending on the reading. (4,4)
20. Seamen sings an ancient rhyme. (7)
22. Cow fish I see endlessly will rust. (7)
23. The Schutz-Staffel surrounds cute coins or body plates. (6)
25. Opening portals reveals 70s super group. (5)
26. Around half of all decimals froze. (4)

MAKE YOUR OWN DICK COLLINS™ MASK

INSTRUCTIONS

1) Cut along dotted lines

2) Carefully punch holes in each side with sharp implement

3) Connect holes with enough string, fishing line or razor wire to fit comfortably around your head.

4) Wear to lectures to intimidate lectuter (but in a nice kind of way)