

Page charges revisited—an old battle rejoined

David Lazarus

It is common knowledge that if you scratch a Frenchman, you'll find a farmer. An equivalent adage applies to physicists: Scratch a physicist and you'll find someone who thinks he's being ripped off by the page charges forced on him by the journals of the American Physical Society and the American Institute of Physics. The logic is simple, direct, and incontrovertible:

► I (through my alter ego) *did* the research and paid for it—why should I have to pay for publishing it, too?

► My research is *good*. Journals should pay *me* for the privilege of publishing it.

► I am strapped financially in my research program. I *need* every cent I can get to afford better (assistants, apparatus, computer facilities, and so on).

► There are lots of journals besides those of APS and AIP which ask no page charges and give good service. Why not publish in them?

Why not, indeed? They *are* journals of quality. They *don't* levy page charges (at least, many of them don't). What is there to lose?

Ask yourself a few more questions: How many of these no page-charge journals do you subscribe to *personally*? How much do they cost your library annually? How many people actually read them? I can't answer the third question. Even the circulation figures for many journals are closely guarded secrets, but logical inferences may be drawn from the answers to the first and second questions.

For question one, as it applies to me, personally, and to most of my known colleagues, the answer is *zero*. Very few of these journals offer "member" rate subscriptions that fit my budget.

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Relative costs of typical physics journals (1980 library rates)*

Publisher	Journal	Pages	Cost (\$)	Cost/Page (¢)
Society (non-US)	Journal of Physics	23419	2432	10.4
	Trans. Faraday Soc.	3006	315	10.5
Commercial	Acta Crysta	4308	512	11.9
	Advances in Physics	769	180	23.4
	Journal Molecular Spect.	3002	432	14.4
	Nuovo Cimento A-D	3112	532	17.1
	Nuovo Cimento Lett.	599	210	35.0
	Nuclear Physics A	7500 (equiv.)	2010	26.8
	Phil. Mag.	1062	320	30.1
	Physics Letters A-B	5966	1156	19.3
	Physica Status Solidi	4320	529	12.2
	Plasma Physics	1177	220	18.7
	APL/AIP	2505	75	2.9
APS/AIP	Journal Appl. Phys.	6714	135	2.0
	Journal Chem. Phys.	13780	235	1.7
	Physical Review	30140	530	1.7
	Phys. Rev. Lett.	3800	115	3.0
	Rev. Mod. Phys.	1328	50	3.8
	Rev. Sci. Inst.	1928	70	3.6

*Library subscription rates are higher in 1982 for all journals.

Data pertinent to the second question appear in the table, appropriate to circa 1980 (prices are somewhat higher now, all around). Of the journals listed, only those published by APS and AIP request payment of page charges. The resulting decrease in library costs is obvious, up to more than an order of magnitude in some cases. Member subscription prices, which are not listed, are cheaper than library prices by another factor of three or more. Indeed, compared to any other form of printed matter in physics, the APS and AIP journals, on a per-page basis at member prices, are probably the greatest bargain of all time! Roughly half the circulation of the APS/AIP journals are direct member subscriptions that do, at least, cross the desks of working physicists (whether read or not!). Where data are available, it appears that there are over twice the number of library subscriptions purchased for

APS/AIP journals than for many of the more expensive journals.

So, while it cannot be asserted that payment of page charges guarantees readership of papers, it can clearly be at least correlated with their increased accessibility.

It is also necessary, from time to time, to remind complaining authors of a few other facts pertinent to the page charge question:

► No piece of research can be considered completed unless the results are promulgated. Accordingly, the cost of dissemination of the results of scientific research is *not* peripheral to the total costs of doing the research.

► Most (essentially all) page charges are reimbursed by grants and contracts, which recognize the legitimacy of these costs as chargeable expenses associated with research.

► Page charges are *voluntary*, not

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mandatory. The only "penalty" involved in nonhonoring of page charges is that some delay may be imposed on the printing and mailing (not on the acceptance) of such papers. Even with such delays, the overall publication delays for APS/AIP journals are frequently less than those encountered for some non-page-charge journals.

► Editorial processing and acceptance or rejection of papers are done in total ignorance of whether or not page charges will be honored. Such considerations are *never* allowed to enter into accept/reject decisions.

Because of the second and third points above, income received from payment of voluntary page charges is volatile and could disappear with a stroke of the pen, in the name of "economy." The potential outcome of such an effect may be reasonably assessed from the data presented in the table. The following are likely consequences:

► Library prices would at least *treble* over their current values, and the number of library subscriptions would probably decrease concomitantly, by at least a factor of two.

► Low-cost, member subscriptions—now made possible because of the large print runs for library subscriptions, which permit pricing of extra copies at incremental costs for paper, printing, and mailing only—would either disappear completely or would increase in cost by around a factor of ten.

► Journals would probably shrink in size as costs escalated, so that a considerably smaller proportion of papers written would appear in *any* journals.

► Increased costs of the largest-circulation journals would inevitably force some journals completely off the shelves of most libraries and, effectively, out of business, exacerbating the third problem above.

The increased costs of publications, combined with decreased accessibility for papers written, will have inevitable and unfortunate consequences for the whole of the profession, which may be assessed by taking a hard look at the costs to other professions of existing and publishing in fields of human endeavor other than physics: much higher dues bills, much higher journal costs, much smaller fraction of submitted papers which can be accepted and published in a timely manner in high-prestige journals.

As my mother might have said, we physicists may have been "spoiled rotten"! I would just add the homilies: "Don't throw out the baby with the bath water." "Count your blessings." "Look before you leap." And for good measure: "Don't cry before you're hurt!" □