

The Old Professor in Action

By GABOR TEMES

Oregon State University, Corvallis, OR, USA

LASZLO SOLYMAR

Imperial College, London, U.K.



I. INTRODUCTION

A recent segment of a news program on the American public TV network discussed a new phenomenon in higher education: the reluctance of older professors (denoted hereafter as “OPs”) to retire at a customary age, say at 65. The program analyzed the effects of this curious phenomenon on the academic job market, on the university, on the individuals involved, and on the career of the unfortunate younger teachers waiting to occupy the positions to be vacated by the OPs. It did not, however, discuss the effects of the special teaching and research style of the OPs on the education process. The purpose of this article is to fill this gap, and to point out the main differences between the activities of OPs and regular professors (RPs). This is a major enterprise; to be comprehensive is practically impossible. Due to limited space we must confine

our analysis to no more than a few important aspects, like the style of the OP’s lecturing, his approach to reviewing journal papers, to being on Committees, and to guiding graduate students. We are highly qualified to provide such information, since we are both in our mid-eighties, and both are still active at our schools in England and the United States. Also, in case our first names do not provide sufficient evidence as to our gender, we wish to note here that we are both males, and thus will describe the activities of male OPs only. This is not because we are sexist; we just do not want to make general statements in a field where we have no personal experience.

II. THE OP IN THE CLASSROOM

Although it may not be claimed universally that all professors love lecturing, we would maintain that by the time the OP is past retirement age his fondness of lecturing duties is likely to be at maximum. Why? First, because it is a job which they find easy to do. When you have lectured on the same topic for $N - 1$ years ($N \gg 1$), then to do it for the N th time demands no great effort. The second reason is that all their accumulated store of jokes must have an outlet. If you give a lecture to, say, second-year students, then it follows from the nature of the things that in a year’s time most of the second-year students will be different, so you can deliver the same joke with the same wooden face, and you may expect in the same manner the wave

of laughter that follows. As we all know, the age of student revolution is over. Today's students are quite willing to laugh at the Professor's jokes. In fact, they are willing to laugh at the Professors' jokes, whether they are in the OP or RP category. There is, however, a difference. Most RPs believe (rightly or wrongly) that they have to refresh their repertoire each year. OPs do not feel such urge.

We must also mention anecdotes. They are extracted from the same store where jokes reside, and they are of the same kind, but there is a difference. Jokes are short and poignant, while anecdotes can be long. Jokes are age neutral; anecdotes might be neutral too (in the sense that age is not a factor) when told by RPs. Here is, for example, the well-known anecdote about Faraday and Gladstone that might be delivered by an RP:

"Would electricity be of any use in the future?" Gladstone asks Faraday. He replies with prescience: "Yes, sir, one day you will tax it."

Here is another RP anecdote about the lack of modesty of some great men of science. Sir Arthur Eddington is asked by an interviewer: "Is it true that general relativity is understood only by three men?" Eddington seems worried, finally says: "I am trying to think who the other two might be."

But the anecdotes an OP might deliver are of a different kind. He, himself, will be the protagonist in all of them, and all of them will serve some purpose. They are designed to demonstrate that the OP is not a tottering old man, not a bumbling idiot. No, he is as smart as ever, and he has a grandiose past. He will tell stories about the great scientists and engineers (most of them Nobel Prize winners) whom he knew in person, and he would emphasize that for getting the Nobel Prize one needs luck as well (clearly, he was unlucky). The stories will be reminiscences embellished without danger, because the Great Men are usually no longer around to contradict the narrator. *But,*

and this is an important but, the OP must not go too far in that direction. He must avoid having the reputation of being "a conceited old bugger." He must occasionally show humility as well. Anecdotes may give the opportunity for that too. Let us assume that the OP's name is Alexander Egri, and he is a reasonably well-known electronic engineer. Here is a story that he might tell:

My dentist of long standing suddenly died. I had to find a new one. I made an appointment, giving my name as Professor Alexander Egri. I turned up at the right time. I wasn't called upon by the secretary. The dentist himself came to the waiting room offering his hand. "Pleased to meet you. Are you the famous Professor Egri?" he beamed at me. I produced a modest smile and nodded. He continued, still beaming, "the famous Professor of urology?"

This humility campaign might also find expression in anecdotes which show that some other OPs (not him!) might have become somewhat absent-minded with age. There is the famous story of Prof. Theodore von Karman who was one of the founders of the discipline of aeronautical engineering. Born in Hungary, made his name in Aachen, moved to the United States when the Nazis came, resided in the Pentagon during the war, and lectured until late in his life at CalTech. The anecdote concerns the early-morning lecture which forgetful Dr. von Karman delivered in his class *in German*. According to the legend, when he realized what he did and apologized, a kind student reassured him, "Professor, don't worry. It makes very little difference."

But jokes and anecdotes, important as they are, are not the full story. The OP wishes to transmit some knowledge too. He dearly loves to do that because he wants to avoid that dreadful situation in which he has all the answers and nobody asks him any questions. Thus, an OP is more likely

to pause toward the end of a derivation and ask: "These are rather difficult concepts. Shall I go through the arguments again?" So he goes through the derivation again and asks at the end: "Any questions?" Having heard the same derivation twice, still half-digested, the brighter students feel bound to put in a question or two. "A good question," will say the OP. He may or may not be able to show that the question is "good" but he will produce an answer—and that is what the OP wants in the first place.

The OP will not, of course, be *too* modest. If teaching a subject to which he contributed some results, he will allow at the right moment to don a slightly embarrassed smile. Smart students will take due notes: this is the topic that will come in exam questions.

A problem for OPs is new classroom technology. Let's face it: OPs are not good at it. We use media that are behind by at least one generation. Our PowerPoint software is in great need of update, but we are afraid of downloading anything new from the Internet, in case we cannot handle it. So we soldier on, and when suddenly the integral equation disappears from the screen and is displaced by the birthday party of our youngest grandchild (or something worse), we do turn to the class and with genuine humility ask for help. Invariably, help is offered quickly and efficiently. The present generation of students is kind and helpful. The integral equation is made to reappear in no time.

III. THE OLD PROFESSOR AS A REVIEWER FOR RESEARCH JOURNALS

In two earlier publications separated by 50 years [1], [2], one of us gave advice to prospective authors on how to write papers which are likely to be accepted for publication, even if their originality and/or usefulness is not whelming. In this communication, we add another strategy to the ones earlier presented: the deliberate targeting of old academic reviewers. First, let us justify the assumption

that at least one, and more likely several, of the reviewers of your opus will be an old professor, retired or still active.

As we all know, the number of papers submitted is increasing exponentially. Hence, the number of reviewers required to review those submissions also increases exponentially. Where to find those reviewers? No Editor can ask the very young, because they do not yet have the reputation and experience. They can ask those in the middle of a successful career, but they are usually rotten reviewers. They guard their time jealously, and tend to keep the manuscripts for month after month, ignoring the pleading letters from the Editors. But, fortunately for Editors, there is the pool of people close to the end of their careers: the *Old Professors*. They have dumped most of their obligations, and they have the time, they have the willingness, and they might even be eager to do the job as a proof of their continued importance. However, they have their special prejudices and preferences. They are vain, one might even say, vainglorious.

Because of the above, there is a good chance that at least one of the reviewers of a given paper will be an OP. So what should a clever young author do? We are happy to offer some free advice.

- 1) Pay proper attention to the list of references. Do a little research. Find the OPs who sometime in the distant past did some fundamental work in your field, now half forgotten. That work may not be relevant any more to your subject, but that should not deter you from quoting the early papers in which he disclosed his ideas. How many? Make one reference to the Old Prof's work and your paper will be looked at by him. Make two or three references and the Old Prof will be favorably inclined. No need to overdo it; if you make

four or more references that might even work against you. You might be suspected of deliberately targeting him.

- 2) If you really want to make an impact on the Old Prof, then choose carefully the words you use in describing your reference. If you call the Old Prof's method of investigation "conventional," then all your efforts to dig out those references will be wasted, and you will invite rejection. Call the method "classical" and the Old Prof will grin. Call his papers "seminal" and you are in!

IV. THE OLD PROFESSOR AS A UNIVERSITY ADMINISTRATOR

Whenever possible, the OP will shun committees or any administrative work. This is partly due to his embarrassing tendency to fall asleep at meetings whenever topics which he regards as unimportant are discussed. (These topics include almost all bureaucratic issues such as school rules and regulations, or trivial changes in the timing or prerequisites of the various courses.) Also, he has heard too many times passionate arguments in favor or against converting from the quarter system to semesters (or vice versa) to take any such discussions seriously. He believes that good teachers will successfully educate good students in either system, and bad teachers will fail regardless of the time schedule. However, he is wise enough to know that voicing such views will make him highly unpopular with the partisans on either side, so he prefers to stay out of the fray, and just makes vague consenting noises during the debate.

Some OPs have strong views about some truly important matters, e.g., to keep the area behind his building available for parking. He prefers to walk as little as possible. In case there is a proposal in front of the Committee to build on that car park, the clever

Chairman will put it as the last-but-one item on the agenda. Not the last one, because by some inner clockwork, the OP always wakes up when the last item is discussed. During the last-but-one item, he is, as a rule, soundly asleep and harmless.

V. THE OLD PROF AS GRADUATE STUDENT ADVISOR

Since the OP has mellowed over the years, he is now regarded as a kindly and considerate person, no matter what an SOB he may have been in his prime. As such, he is sought after by prospective research students who prefer a quiet life (and the certainty of a higher degree) to an exciting adventure. He will not get the cream of the cream but, anyway, he is no longer interested in the top cream. An overly bright graduate student is often a nuisance, who needs time and energy, and might even cause some embarrassment. No. He wants those slightly below the top. Numbers? Numbers do not matter. He is happy to take three or four every year. The topics he hands them out will all be somewhat similar reflecting his accumulated knowledge in some research areas. They are similar enough so that the students can talk to each other, but different enough so that each topic can count as a separate Ph.D. He may not be as good as an RP would be to help when the students run into mundane problems. On the other hand, he may remember 40-year-old papers in his field, and thus prevent his students from reinventing ancient ideas, circuits, or systems.

Funding is rarely a problem for the OP. Most of his peers are good friends who would never write anything nasty about his research proposals (and he would, of course, reciprocate). He has former research students on many a grant-giving body, and, of course, he still has his industrial contacts. All in all, the output he produces (three or four Ph.Ds a year) is of good quality, and are quickly picked up by industry. This may cause occasional tension

with some RPs who are less successful in placing their Ph.Ds. These same RPs are often heard to mumble, “why doesn’t Old Smith retire already?”

VI. WHY DOESN’T THE OLD PROF RETIRE?

An excellent question. Since the OP has been teaching at the same school for many years, he has accumulated enough years for a full pension, plus he has collected savings. The living standards of his family would thus not be significantly affected if he were to retire tomorrow, while his continued employment involves restrictions in his daily schedule and family life, and

many inconveniences. He needs to get up early to get parking place, and gets home too late to catch his favorite programs on TV or radio. He tends to be tired much of the time, in spite of the regular naps he catches at departmental meetings. So why does he keep doing it? We shall try to explain it next.

To succeed in most professions requires a long-term focused commitment. In return, the profession presents you with exciting challenges, and also allows close involvement with your students, as well as with your peers locally and worldwide. You definitely feel relevant to your students, to your colleagues, and to the

world in general, while you are in practice. The thought of giving this all up while you are still in full possession of your abilities (or at least so you hope) is scary. Abandoning your half-finished students, papers, and books, as well as research projects seems to be irresponsible, and the thought of hundreds of future days without organized activities is horrifying. Also, the consequences of the “use it, or lose it” rule are threatening. So you soldier on, and hope for the best. You also hope that you give something worthwhile to humanity by doing so, which will survive you, and thus extend your effective life by at least a little. ■

REFERENCES

- [1] L. Solymar, “The motivation and technique of writing scientific contributions,” *Proc. IEEE*, vol. 51, no. 4, pp. 628–629, Apr. 1963.
- [2] L. Solymar, “The motivation and technique of writing scientific contributions,” *Proc. IEEE*, vol. 101, no. 2, pp. 220–222, Feb. 2013.