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Perils of being politically correct

Peter A. Rinck



Recently I read a scientific paper about some new imaging method in rats. The paper was co-authored by eight writers. They had slaughtered four rats. This makes two authors per rat. With two authors per rat, no rat has a chance.

Of course, they did not slaughter the rats; rather, in their own words: "The rats were sacrificed", conjuring up of something precious that is offered to the gods for a greater good. What is difficult to determine in this case is the question who is or are the god(s)? The publisher of the journal, the head of their institute, God, or mankind in general?

Some other authors do not sacrifice animals but "euthanize" them. The noun "euthanasia" is well known. It means the act or practice of putting to death in a merciful manner a person who is suffering from incurable conditions or diseases. The verb, however, is a recent addition to the English language. There is something slightly distasteful about this word because of its application during the Nazi period. Inflicting injuries in animals and euthanizing them afterwards is also rather tasteless.

The rats were simply killed – hopefully for the sake of mankind. I am not opposed to animal experiments; there is no doubt that medical research needs them.

"Did we euthanize or sacrifice the laboratory animals we killed?"

What I do oppose is the exaggeration of political correctness in scientific papers. Many authors try to write their scientific papers in politically correct language so as not to offend certain readers, for instance those people who have sponsored the research. A paper written in this way is not necessarily a well written paper. Political correctness often deviates into the absurd and nonsensical. Articles like these offend me.

In the United States it is politically correct to describe a person with white skin color as a Caucasian, a black person as an African American, and a Latin

American as a Hispanic. Most Europeans are white (or somewhere between pinkish and brownish), but in such a paper would you describe a black Frenchman as Afro-European?

Every time I read or hear the term "Caucasian" I imagine a member of the mountain tribes, stout, bearded, on horseback, riding on the slopes of the Elbrus. I do not imagine a white Anglo-Saxon Protestant in his Chevrolet (politically correct: 'in his or her' Chevrolet).

It sounds rather strange that Europeans, contributing scientific papers on clinical studies to U.S. journals, refer to their patients as Caucasians which in the United States is the political correct replacement for "Aryan", a term coined by the Comte de Gobineau, which was later turned into the infamous racial political theory of Houston Stewart Chamberlain and the followers of Adolf Hitler.

A more appropriate term is "Caucasoid geographical race" or, better, "European geographical race". By the way, there is no racial, but rather a linguistic background in these terms – which is usually unknown to the users.

These examples are some of the most poignant illustrations of aberrant language in scientific publications. You find them as often in papers written by native English speakers as by authors for whom English is a second language.

■ If a paper submitted to a scientific journal is written in rudimentary English and looks as if a termite has bitten the letters into the paper because the authors do not have access to a Laser printer, the likelihood that it will be rejected is far higher than a paper submitted in excellent English printed flawlessly.

Content is of minor importance.

Many run-of-the-mill articles published in scientific journals and books use a peculiar, yet characteristic language and narrative. You have to learn how to read between the lines to understand what has really been done and is being described.

The following is an abridged prototype paper. The real meaning of the phrases in the paper is given in italics. Authors of papers like this usually follow the motto:

"Stealing from one source is plagiarism, while stealing from many is research."

MR Imaging of the Ear Drums

by Ink Blot, Carl Murks, and Joe Shlabotnik

Introduction. For a long time it has been known that MR imaging is of advantage in ear diagnostics, but to our knowledge, no one has performed MR studies of the ear drums yet (*= we did not look up the original references nor any other reference*). It is believed that (*= our boss believes*) MR imaging of the ear drums is a highly significant diagnostic area for exploratory studies (*= we all know it is a totally useless topic*). In the following paper we present a pivotal study performed at our institution.

Materials and Methods. We acquired T1-weighted images of 6 ears (*= all three co-authors were examined, each of them having two ears; say no more about what was done*).

Results. Three of the imaging experiments were chosen for detailed study (*= the results of the others were too bad and did not make any sense*). The figures show typical results (*= the results fitting best our ideas are shown*). Statistics were performed with the Sidecar-Tripleburger test (*= we opened a book on statistics randomly and choose the first statistical procedure we came across*). The statistical results are correct within an order of magnitude (*= they are completely wrong but hopefully the journal editor and the reviewers are too lazy or incompetent to check*).

Discussion. The aim of the study was to image the ear drums. It is generally believed that such MR imaging procedures have a great future (*= in the meantime our boss has convinced a friend about the value of his idea, so there are already two who believe in it*). While it was not possible to provide definite answers to our scientific questions (*= the experiment was unsuccessful, but we still hope to get it published*) the results correlated closely to visual findings (*= we looked into the ears and were able to distinguish clean from dirty ones*). The results are of great theoretical and practical importance (*= they are*

interesting to our superior and the public relations agency of a manufacturer of cotton ear-cleaners).

A careful analysis of the obtainable data reveals a definite trend (*= we lost our notes and erased some of the data files. Anyhow these data are practically meaningless*). A statistically oriented projection of the significance of these findings leads us to the conclusions that a task force is needed to cope with the results (*= even a wild guess has not brought any solution and we do not know what else to do with the results*). It is clear that much additional work will be required before a complete understanding of the phenomenon will be possible (*= we do not understand anything we saw even though somebody else tried to explain the results to us*). It is hoped that this study will stimulate further investigation in this field (*= this is a lousy paper, but so are all others in this miserable field; we hope it will be published and we can apply for some research grants*).

We are aware of the far-reaching implications of this study for the practice of ear, nose, and throat medicine (*= our boss will get a lot of money from the public relations agency of cotton ear-cleaners, which now has scientific pictures of dirty ears before and after cleaning*).

Acknowledgments. We are grateful to Elli Pirelli for assistance and Ein Stein for valuable discussion (*= Pirelli is the technician who did the work and Stein explained to us what to do with the results*).

A good scientific paper should be written in an easily readable, self-explanatory style, with short sentences.

Good science writing

A good scientific paper should be written in an easily readable, self-explanatory style with short sentences. If and when you are a well-established scientist, you can start writing prose. The editor of the journal to which you submit your paper will not dare to reject it. Then scientific papers sound like this:

"Water in biological systems is often regarded as the broth of life, solvent for the macromolecules of the cytoplasm, and space-filler for the nucleus. Tissue cells are bathed in extracellular water, through which

small molecules ... shuttle between cells and the grand circulation."

It is far more pleasant to read such a paper because it is easy reading and entertaining. If the contents are up to writing style, then such a paper is perfect because it combines good science with good penmanship. But there are few good scientists and few good writers in this world. The combination of a good scientist and a good writer in one person is even rarer. In many instances papers in the style in the last paragraph decline into prose that is too exuberant and flowery. The reader should not giggle when studying a scientific paper:

"Ours is a dynamic view of water in which water molecules move freely throughout their environment. ... Much work remains to be done, of course."

■ Publishing many papers is good for your curriculum vitae, which hopefully will finally contribute to your personal fame and fortune. Even better for your standing in an academic society, however, is being editor or co-editor of one or more journals.

Theoretically, when you are the editor, you should be able to take responsibility for the contents of your journal. But like authors, editors come in two types: those taking their job seriously and those seriously taken by their job. The first ones spend days and nights checking their authors' manuscripts and arranging solid peer reviews that are the litmus test for the authenticity of research. The latter type of editor also cares, but accepts brief and hurried reviews, which is reflected by the quality of the journal.

Some editors consider their job in the same way politicians see their profession: "I have reached the peak of my glory, now I can relax." This, however, should not be the case. Being an editor involves being a leader. It implies taking responsibility, demonstrating courage, and making decisions based on an independent point of view, not only about the selection of what should be published but also about how it should be published. Being an editor is not a part-time job.

Editors have the last say in what is published. A strong editor can stop the abuse of the system and of the language. Of course, there are many obstacles for editors: Friends want their papers published, the industry wants papers published, the editor does not want to offend certain academic circles by rejecting

their papers – and the publisher wants to make money. Again, being an editor is like being a politician, but from an ethical point of view, editors should be better.

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He who teaches is brave, not incompetent

Peter A. Rinck



There is an old saying: He who can does; he who can't teaches. I have never understood the mentality behind this statement. Surely someone who can communicate the contents and context of a discipline to somebody else must understand the field well and is certainly not incompetent.

Fifteen years ago I was involved in the organization of one of Europe's first workshops on magnetic resonance in medicine. I was fascinated by one of the participants from the United States. I talked to him during a social gathering one evening and found out that he was a professor of radiology from one of the New England states. He was solely involved in teaching radiology at the college or university in which he worked.

This I found amazing because in Europe, as a rule, being a professor of radiology implies that you work at a hospital or that you are the head of a university department where you spend your time with administrative tasks, taking care of patients, and – sometimes – teaching students or residents. However, teaching usually is not the most important part of a radiology professor's job. On the contrary, some considered it a sideline or a kind of hobby, like playing football with the children or collecting stamps.

Occasionally, teaching radiology is even deemed a burden – or made a burden – by the university or hospital administration, instead of a challenging and critical task of a professor.

Of course well-performed teaching at a university level is expensive, and bureaucrats do not see the need to pay for it. For example, Norwegian newspapers have uncovered a long-simmering minor scandal recently: Money paid by the government for medical school teaching all over the country was channeled into other parts of the healthcare system by provincial government and university hospital functionaries. Nobody has been punished for it. In the end, the people who suffer are those who need qualified, well-trained physicians. As it is, Norway has too few radiologists – or physicians in general, for that matter – to take care of the population. In poor countries this would be understandable, but Norway is not poor.

■ Professors are essential. The root of the word professor is *profiteri*, the Latin verb for declaring or teaching publicly. Professors should be pedagogues. However, teaching is rarely properly remunerated, and running the department and examining as many patients as possible in a given time are considered higher priorities because they produce money straightaway.

The rapid development of diagnostic imaging makes it difficult to keep up to date. Radiologists who trained fifteen or twenty years ago, may well have no more knowledge of imaging procedures or clinical management of imaging procedures as a referring physician – in other words, the person who should advise on the best procedure for the benefit of the patient knows as much as the doctor asking for a suggestion. Unless they have attended numerous continuing education courses, both will have rather limited knowledge.

■ Five years ago, nearly half of all board-certified radiologists in the United States were older than 47 years. This means that 50% of the US radiologists were not formally trained in the new technologies such as MR imaging, ultrasound and interventional radiology, perhaps even not x-ray CT. How did they keep up with the developments in the field?

Most of them spent a lot of time and money – their own and that of their employers – in continuing medical education.

The United States are well known for excellent teachers in continuing education. Europe is trying to catch up, and small scale teaching courses have been established in many countries.

Some national congresses such as the French, Spanish, and German increasingly devote program slots to well-prepared continuing education courses. Some of these courses are presented in a manner which was frowned upon in Europe some years ago – not the serious and dull teaching that resembled smelling the dust of previous centuries, but lively, humorous, and pedagogically well conceived presentations where the audience understands the message. These con-

gresses were completely overhauled in the last years, and they compare favorably with continuing education on the other side of the Atlantic.

Still, it is nearly impossible to get an overview on the various radiological, or better imaging, technologies and methods. Decision-makers often have their own ideas and theories about which technology to use. In addition, because radiology is at the crossroads in medicine, physicians from other disciplines have limited, if any, guidelines that dictate which technique to use for a given diagnostic situation. In most cases, they have learned about the techniques from people who have not been trained to give such information. Ultrasound, the most costly diagnostic imaging modality in medicine, is the best example of this expensive deviation in the health system.

The only way doctors can form their opinions and make their decisions is by obtaining good information, and one way of doing so is through continuing education. For this, independent teachers are indispensable. There are numerous dependent teachers – such as company employees who sing the company song or representatives of pressure groups. Doctors need objective, independent opinion. University professors dedicated to teaching radiology or similar teachers in radiology are the best choice.

Challenges of radiology

Teaching radiology is particularly challenging and preparing radiological lessons is extremely time-consuming. There is a lot of truth in a statement by Seneca: "*Homines dum docent discunt* – While they teach humans learn". I learned this at school, but I only started to appreciate the validity of its contents later in life. If you want to (or have to) teach you better know exactly what you are teaching – thus you learn it.

This is best seen in the feedback. Sometimes during or after a lecture teachers may be asked questions for which they don't have a ready answer. I used to think that I would lose face in such a situation. Today I know that it is better for both parts, the teacher and the pupils, if you say: "I cannot answer this at present, but at the next lecture (or whenever it is convenient) I will explain it to you". This is better than giving a wrong answer, beating around the bush, or talking for five minutes without saying anything. These tactics don't fool anyone. The people in the auditorium will grasp anyway that you do not answer

the question – particularly, because some of them usually know the answer. For a politician or a diplomat avoiding straight answers is part of the job, for you as a professor it is not.

Radiology teachers are needed for two main groups: students of medicine and radiological technicians who require an introduction to general radiology as part of their basic training; and residents and board-certified radiologists who need information updates and introductions to new techniques so that they may continue working as competent radiologists.

In order to facilitate this instruction, I would divide radiologists into four subgroups: those who spend the entire day in clinical routine, those who spend part of the day in the clinic and part in research, those who mainly work as administrators, and those who teach.

An article I recommend is: "Careers for a Lifetime: The Role of Continuing Medical Education" [1]. It is a career for a lifetime to go into radiology and, especially, into teaching radiology, because proficiency requires decades. The teacher must first learn the subject which may easily take ten years. Perfecting lectures takes another decade, and another ten years go into upgrading both knowledge and teaching materials – the times of the radiological professor who could teach his students chest x-rays in the same manner he had done it twenty years ago have long passed. If your knowledge is not up-to-date you are out because your students, residents, or radiological colleagues in continuing education may know more than you. They will vote against you with their feet – by walking out of the auditorium.

An additional question concerning the teaching of radiology is: Can we still have the universal and general radiology teacher?

The answer is yes, but also no.

As I have mentioned in previous columns, the arrival of new technologies and subspecialties in radiology means nobody can expertly practice all of them – at least not with their hands – but some theoreticians can practice them mentally.

Some pedagogically adept people should be able to enjoy the luxury of keeping up to date in all radiological subspecialties – at least from a theoretical perspective. Thus, departments of neuroradiology, pediatric radiology, or interventional radiology ought

to accept visiting radiologists to "spy" on what is going on, filter it, and pass it on the theory to their disciples.

Ongoing process

For hands-on continuing education, those radiologists interested in a specific field have to come to the specialist. This approach holds not only for radiologists but for physicians in general.

In 1990, the World Federation for Medical Education distributed a statement on medical education in Europe where you find the following sentences:

"The most important aim of the undergraduate curriculum is to equip the student to be a lifelong self-directed learner, willing and able to make use of post-graduate and continuing medical education. ...

"Undergraduate education is only the first phase in a continuum of lifelong learning ...

"On completion of postgraduate training, all doctors should certainly maintain their professional competence as long as they continue to practice medicine; this will require them to participate in continuing medical education programs ..." [2]

There is nothing to add to this.

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