BOOK REVIEW


Are you going to prepare a paper? A written research report? An editorial? A book or a chapter in a book? What is writing all about? Some uninitiated think of it as an almost occultly clever activity which produces the marvels of science and great advances in medicine almost by definition. Such glorified sagacity, these people feel sure, must be far beyond the powers of an ordinary physician. Others consider research and publishing a dull round of obvious observations, literary notes on the records of other observers, all written in an abominable style, with a flare of superficial statistics, and perhaps a few doubtful, trivial conclusions. Each of these opinions gives a true picture of some medical publications. But between the two extremes there is a lot of valuable publishing that any physician and even medical student can learn to do acceptably well, with a lot of enjoyment and intellectual profit. Much has been done to improve medical writing. Editors reject ill-prepared manuscripts and attempt to improve those accepted. Referees provide detailed criticism of the submitted papers’ content so that the printed information may retain its high standards in the face of the volume of work presented. Yet many authors find difficulty in placing a piece of writing which has taken much time and trouble to prepare and may contain important results. Writing, like any other practical art, cannot be learned wholly from books or in the class-room. Books can survey the field, point to what the prospective author should follow, even smooth over some of the difficulties. But the art and the craft can be learned only "on the job". The best teachers have always been, and always will be, the writer's own more experienced colleagues. Edward Janavel Huth, MD, MACP, FRCP, born in 1923, "the dean of US medical editors", is one of the most experienced in the field. For well twenty years, from 1971 to 1990, he served as the editor-in-chief of the Annals of Internal Medicine. To illustrate his extraordinary engagement in the art of medical writing, let me just mention that, among other activities, he chaired the Council of Biology Editors and the American Medical Writers Association; he was a UNESCO consultant and a founding member of the International Committee of Medical Journal Editors (the "Vancouver system" was first prepared and accepted by this body in 1978). In addition to many papers and books, editorial decisions, meeting interventions, and advises to younger fellows, he wrote a book in 1982, entitled "How to Write and Publish in the Medical Sciences", a predecessor of the actual monograph. Parenthetically, I had the opportunity and pleasure to present that volume to the Croatian medical community in 1984 (1). Its second edition appeared in 1990, and the current one is the third edition, revised and amplified, and with a modified title. Since there are already so many books on the subject of medical publication (let me remind the reader that in Croatian language alone there are two recent and relevant publications, refs. 2,3), this book stands out from the others because of the immense experience of its author, the popularity of the former two editions, and a lot of practical suggestions, useful to the novice and to the experienced as well. Indeed, the amount of wisdom which this senior author has distilled into 24 chapters and 5 appendices of this invaluable book is out of proportion to its size. I could not help noticing, and with pride, that in his acknowledgments Dr Huth thanked Ana Marušić, editor-in-chief of the Croatian Medical Journal, "for specific and useful suggestions and information". His style is lucid, attractive, and yet artlessly unadorned, poking fun at all pretentiousness and circumlocution (see also a review of another book from his desk, ref. 4). The first part (4 chapters) deals with the preparation for medical writing, including weighing whether the prospective paper is worth presentation, and the process of audience/publisher selection. The second part (7 chapters) analyzes the structure, i.e., the content and the format of a manuscript prepared for a medical journal. It discusses research papers, review articles, metanalyses, case reports, editorials, letters to the editor, and book reviews (this last section...
was particularly welcomed by your reviewer!). The third part (9 chapters) presents the hard work of writing, including technical problems with drafts, tables, illustrations, references, and many revisions of the manuscript. The fourth part (4 chapters) deals with the author-journal relationships, such as submission of a paper, peer reviewing, correction of the proofs, withdrawal from the editorial process or purchasing reprints. The fifth part (1 chapter) analyzes the problems of writing or editing a book, particularly those related to the selection of and cooperation with the publishers. Before an informative index at the end of the book, there are five appendices devoted to 1) guidelines on authorship, 2) "Uniform requirements for manuscripts submitted to biomedical journals", 3) specialized databases of the National Library of Medicine, 4) searching Index Medicus if MEDLINE is out of reach, and 5) annotated bibliography of main references, such as dictionaries, grammar and style manuals, scientific data indexes, or illustration guides. What is new in this edition? In Chapters 6-11, the content of the various reports, from clinical trials to laboratory research or case presentation has been outlined and Chapter 9 describes the peculiarities of metaanalysis. Chapter 25 on book preparation is also new. Non-English speaking writers will particularly like the chapter entitled "Writing English as a Foreign Language". The Chapter offers many tips on grammar, spelling, word usage, and style. I suggest that the next edition includes a reference to thesaurus dictionaries because a non-English speaking writer often lacks the right word or an acceptable synonym. What will you not find in "Writing and publishing in medicine"? Faithfully to the title there is no advice about oral presentations, conference reports or lectures; you will not find counsels on how to write grant proposals or how to prepare a thesis, although a lot of necessary steps are discussed in the book; these items are simply out of its scope. Practical instructions on the literature search using computerized databases are lacking as well, but the reader is directed to specialized manuals (Appendix C). Summing up, let me repeat the ten commandments of successful medical writing which I suggest to younger colleagues (borrowed from Calnan's and Barabas's "Writing medical papers"; London: Heinemann; 1973): 1) have a clear intention; 2) think before you write; 3) arrange the material; 4) write with purpose and accuracy; 5) revise, revise, and revise again; 6) improve the order; 7) improve the English; 8) don't imitate; 9) publish when satisfied; and 10) do better next time! These commandments are beautifully and applicatively elaborated in Dr Huth's book. If it is true that a good physician must "publish or perish", then the salvation was never so comprehensively and neatly offered. With the experience of over 500 published titles I warmly commend this book to all aspiring medical authors.

Zvonko Rumboldt

1 Rumbold Z. Kako se pišu i objavljaju znanstveni radovi u medicini. Lijeć Vjesn 1984;106:112.


Did you know that medicine has the same origin as modesty and moderate? This I learned from Lewis Thomas' book "The youngest science: Notes of a medicine watcher" (1). He also wrote that medicine is not a profession that brings only money, but a life choice. Haubrich's book "Medical Meanings" is a book that should be read by all who are in any way connected to medicine. It collects more than 3000 medical and related terms in a form of dictionary. It is not a book that you will read from back to back, but each time you open it you will find something interesting and amusing. The dictionary was compiled by William S. Haubrich, MD, Clinical Professor of Medicine at the University of California, San Diego. He wrote many scientific and review articles in journals and chapters in textbooks, and served as consultant in the life sciences for The American Heritage Dictionary of the English Language, 3rd Edition. To show you the beauty of this book, I will offer an example for each letter of the alphabet.

ARTERY is a derivation of a Greek word for an air duct (-, "air" + , "to contain"). The ancient anatomist applied this term to the windpipe but also to the efferent vessels of the hearth because they did not
usually contain blood, as did the veins on autopsy. They soon realized that this was wrong and called the efferent blood vessels leiai, smooth artery, as opposed to tracheia, rough artery, which later became the trachea.

BARBITURATE is a derivative of barbituric acid, Barbitursäure in German. The name was given by Adolf von Bayer, a German chemist, who synthesized the substance from a combination of malonic acid and urea donated by a Munich waitress named Barbara.

CYSTINE is an amino-acid named so because it was first discovered as a hydrolytic product of protein in urine, where it crystallized as a concrement in the bladder (cyst, from the Greek kystis – a bladder, bag or pouch, with "cystic" referring to any sort of the bladder or cavity in anatomy).

DIABETES is an original Greek word (dia, "through", and beta, "sift") meaning both a siphon and a compass, the device used to draw circles. Areus the Cappadocian, a Greek physician from the 2nd century AD, said that diabetes was so called because the patients exhibit polypuria, i.e., "passed water like a siphon".

ECZEMA comes from the Greek word for "anything thrown off or out by heat" (ek, "out", + zeein, "to boil") because to the ancient physicians a skin eruption was a boiling over of the body humors. It was used for almost any vesicular or scaly rash, but today it is restricted to immunopathic eruptions.

FILTER comes from the German Filz, "felt", nonwoven fabric made from the hair or fur of animals by the application of heat, moisture, and pressure. Thin layer of such fabric was the first efficient fine strainer. It became latinized in the medieval times as filtrum, and used for any porous material through which a fluid mixture could be passed to remove the particulate matter.

GAS is NOT an ancient word as one might think of this short, simple word. It was invented by Johannes Baptista von Helmont (1577-1644), a Flemish physician and naturalist, who wanted to distinguish between carbon dioxide in its usual state and the ultrafine disposition of water that becomes vapor when exposed to cold. He said that he was prompted to make this word by the Greek chaos, meaning space, particularly in the sense of a rude, unformed mass.

HECTIC, with the present meaning of "feverish, reckless activity", actually meant "habitual or repetitive". In the 2nd century, Galen described recurring flushing and fever as hektikos, habitual. In the 15th century, this hectic fever was associated with tuberculosis that was marked by flushed cheeks, nervous excitability, and confused agitation, giving it the today's meaning.

INFANT comes from the Latin infans, "speechless" (in-, not + fari, to speak) because the ability to speak usually becomes evident at the age of two and those younger are generally considered to be infants. Interestingly, the Italian word for baby, bambino, is related to the Greek, "I stammer".

JEJUNUM comes from the Latin adjective jej anus meaning "fasting or hungry" in the sense of being empty, devoid of food. The Greeks were impressed to find the lumen of the proximal small intestine always empty and used a descriptive term nestis, "fasting", translated as jejunus in Latin.

KELOID may be related to three Greek words: , "a rupture, as a hernia"; , "a blemish"; and perhaps , "a hoof, claw, or talon". Any or all of these terms describe the tough, tumor-like scar that occurs in certain persons.

LUNGS have probably originated from the Sanskrit laghu, meaning "light" in the sense of "without weight". This came from the fascination of the ancient people with the lightness of the lungs in contrast to the other tissues. As Dr. Haubrich points out, in almost all languages the term "lungs" is related to the word for lightness: the same is true for Croatian where pluæa come from the word for floating.

MATRIX is the Latin term for any female animal kept specifically for breeding and is related to the Latin mater and the Greek , both meaning mother and used in reference to the uterus as the "mother of the fetus". From this evolved a sense of matrix as a mold or enclosing mass in which something is formed or shaped.

NUTRITION comes from the Indo-European root (s)nau meaning "drips", which conveyed a sense of flowing or wetness. From this came the Greek nektar, a wine used at sacrifices, and the Latin nutritre, "to suckle" – later giving nourish, nurse, nursery, and nurture.

OCULAR, of course, comes from the Latin word for eye, oculus. It seems that in Old English there were few adjectives, so for something related to the eye we use the Latin derivative "ocular"; the same is for the mouth (oral), nose (nasal), mind (mental), moon (lunar), and star (stellar).

PHRENIC is an adjective derived from the Greek word that in the singular means "the mind or the seat of reason and of passion", and in the plural, "the muscular diaphragm". Some ancient writers attributed to the diaphragm the powers of the mind. The phrenic nerve that supplies the diaphragm sits on top of the spleen and kidneys, organs once thought to be the seat of emotions.

QUARANTINE comes from the Latin quadraginta, "forty", probably because it was known empirically that the incubation period of the most infectious disease would fall within the 40-day range.

REGIMEN, a regulated course of diet, exercise, or therapy designed to attain a favorable result, is
often confused with regime, a mode or system of government. Both words originate from the Indo-European reg, meaning “to move in a straight line” and “to rule”.
STARVE has descended from the Old English steorfa, "death", related to the Old Norse deya, "to die". It is an example of how a word can acquire a special and restricted meaning because today people can die from many different cases but can starve only when they are deprived of nourishment.
TALUS, the second largest of the tarsal bones, is also called astragalus. Both terms referred in the old times to dice. The Greek astragalos originally meant the upper cervical vertebrae because Greek soldiers used sheep vertebrae for their game of dice. The word later came to be applied mainly to the dice. Roman soldiers used the anklebone of the horse and called their dice taxillus, later shortened to talus.
UVEA and uvula have the same origin in the Latin uva, “a grape”. The former term came because the hole left in the grape after plucking the stem looks like an eye with a pupil. The latter term was used to describe the appearance of the appendage on the back of the soft palate in an abnormally swollen state, and was later used as a name for the appendage in health and disease. VENEREAL can be traced to the Sanskrit wαs, wαn, “to love, to honor, to desire”, which gave rise to several Latin words, including venus, Veneris – “beauty, pleasure of love, sexual indulgence”; venari, “to hunt”; and venenum, “a love potion, sorcery, or poison”.
ZYGOMATIC was taken from the Greek zygon, “a yoke or crossbar by which two draft animals can be hitched to a plow or wagon”.
This book was written without pretense to be a scientific book, but I challenge all of you not to enjoy reading it. It will help patients and laymen to understand the doctor’s talk, physicians will also finally understand the medical jargon, and medical students will get a glimpse of what the medicine is about – not only a collection of powerful interventions to diagnose and treat diseases but a long history of human endeavors.

Ana Marušiæe


There are not many books or textbooks about writing a research paper and each new book is more than welcome. Daniel Byrne's book is special in several ways, but what I would like to emphasize is the description of statistical terms and tests related to medical research. This makes it not only a book about how to write a paper – other books cover it perhaps better and in more detail – but a very useful aid to physicians who are generally not familiar with statistics. The book is thus useful at the very first stages of research, before one even starts to think about writing. Physicians not very familiar with mathematics in medicine will not only benefit from but enjoy reading the chapters dedicated to statistics. Predominance of statistics and its superb exposition throughout the book is not surprising: Daniel Byrne holds a master's degree in biostatistics and has been working as a research consultant to several Departments at the New York Medical College.
The book is divided into 31 chapters grouped in five sets following five sequential phases of the scientific research: planning, observing, writing, editing, and revising. This POWER approach presents 245 principles of the research and publishing processes.
The first chapter presents ten key principles in publishing a research paper. It emphasizes the importance of planning and formulation of the study protocols, which may save time and money, and improve the likelihood of publishing the results in a good journal.
The following chapters are organized in five POWER principles. As a preparation for the book, Byrne made a survey of editors in chief of major journals, peer reviewers from JAMA, and recent Nobel prize winners, asking them about common flaws of rejected manuscripts. He also analyzed a large number of actual reviewers' forms and presented the findings in 245 guiding principles throughout the book. As most of the flaws of rejected manuscripts are related to the study design, it is not surprising that almost half of the book is dedicated to planning and methodology of research. This is the best part of the book, helpful both to a beginner and a mature researcher or journal editor.
Eleven chapters dedicated to Planning explain the preparation for conducting a research project: basics of the methodology for clinical studies; principles of minimizing bias; data collection; eligibility
of study participants; explanation of randomization, blinding, and confidentiality; end points and outcome; sample size; and preparation for statistical analysis. I must say that this is one of the best statistical texts for physicians—Byrne uses simple language and many examples to illustrate basic principles of statistics in clinical studies. These chapters should be read not only by those who want to do clinical research but also by those who want to understand clinical reports in journals—students, practicing physicians, and other health professionals. For example, a flowchart of study designs helps you decide which kind of design was used in a clinical study. Another figure puts major types of designs in a time perspective, teaching you that cohort studies start in the present and continue into the future, whereas case-control studies start from the present and go back into the past. I would also recommend reading the chapter on data collection forms, which offers many excellent but simple instructions on how to prepare an efficient data form. One can also learn how to choose the optimal unit of analysis before data collection, how to anticipate confounding factors, and how to classify the variables and record outcomes with several variables. The chapter on the sample size underlines the importance of this issue in planning a study. Table showing sample size requirements for two groups illustrates this point very clearly: if you, for example, want to estimate the sample size necessary to determine whether a new drug can improve the cure rate from 75% to 85%, and assuming the power of 80% (you will find the definition of this term in the chapter) and $P$ value less than 0.05, you would need 270 patients in each group! The last two chapters of this section describe common criticisms of manuscripts reported by reviewers and journal editors and suggest that it is best to develop a clear plan for organizing a paper before even collecting any data. They present ranking of a number of clinical journals according to their impact factor, circulation, and acceptance rates. The tables should be helpful to those choosing a journal for their manuscript. Only major European journals are included, but US bias makes the tables clear and it is easy to compare journals.

The seven chapters dedicated to the Observing phase of research are excellent short recapitulation of statistical interpretation of data. I especially recommend the flowchart of common inferential statistics, in which your answers to seven question bring you to the statistical test appropriate for your data: if it came as a small poster with the book I am sure that it would have found a place by many computers! As in previous set of chapters, this one also ends with simple and direct instructions related to writing a manuscript. The most important message is that statistical results, especially those of multivariate analysis should be translated into simple language. I would also recommend studying Table 19-1, which presents statistical tools of the future, predicted by reviewers and journal editors. Some of the tools are common even today, such as multivariate analysis, including analysis of variance, meta-analysis, and logistic regression, but it is a pity that the author did not provide any guidance as to where to find more about "bootstrap" or "jackknife" techniques!
The eight chapters on Writing have a lot of common with other books on scientific writing. I recommend reading Chapter 24 on the Results section because Byrne’s statistical background shows here again as an excellent collection of guidelines on a skillful use of statistical terms and creation of good tables and figures.

The last two sets of chapters, four on Editing and three on Revising, round up writing of a manuscript with a number of excellent suggestions on how to improve the likelihood of manuscript acceptance in a good journal. The suggestions are clearly organized in a number of tables and checklists that are easy to follow. I especially liked the idea of making your own internal peer review form and asking your colleagues to critically fill it out after reading the manuscript. All books on scientific writing suggest that an author should give the manuscript to several of his/her colleagues or friends before sending it out, but this book is the first to offer a very sensible and effective way of doing it— if you keep such forms for some years, you could even measure your own growing up as a writer!

The book has five appendixes that are necessary for everyone thinking of doing medical research: 1) Uniform requirements for manuscripts submitted to biomedical journals, published by the International Committee of Medical Journal Editors; 2) questionnaires sent to peer reviews and journal editors; 3) a sample of data collection form—Trauma Systems Study from the Institute for Trauma and Emergency Care of the New York Medical College; 4) Declaration of Helsinki of the World Medical Association, providing ethical guidance for biomedical research involving human subjects; and 5) a directory of useful information, including journal addresses, pharmaceutical companies, top-ranking US hospitals, biostatistics programs, relevant web sites, etc. As printed version of such a directory become obsolete rather quickly, especially in regard to the Internet addresses, the reader is directed to the publisher's home page for an updated version. The Appendixes are an important and often consulted part of the book; as the book is intended for clinical research mostly, I recommend the author to include in future editions the CONSORT statement on reporting randomized clinical trials (1).

I recommend this book to all involved in medical research. Medical students will be prepared for the hard but rewarding life of clinical research. Young clinicians will have a true friend at their side during
long and frustrating research hours. Medical school teachers will be able to improve their work or at least provide criticism and comments. To journal editors and peer reviewers not included in the Byrne's survey, the book will be a consolation that their problems and frustrations are the same all over the world.

Ana Marušić