

Winners of the Geoff Hall Scholarship Essay Competition

The Geoff Hall Scholarships (GHSs) are given in honour of a former President of EMWA. Geoff was a very special person, an extremely valued member of EMWA, and a very good friend to many EMWA members. He firmly believed that the future of EMWA lies in our new and potential members, and so it's a very fitting legacy that we have the Scholarship Awards in his memory.

The Scholarships are awarded annually on the basis of an essay competition, and the title of this year's essay was 'Are medical writers scientists?'. This resulted in quite a variety of approaches and answers, and each year we receive more and more entries, which is great news! This year's winners were Nathan D. Susnik and Trudy L. Knight.

Nathan is currently a postdoctoral research fellow, looking to become a medical writer. He has no previous medical writing experience, and his talent is obvious.

For the last 5 years, Trudy has been the Project Manager of an exciting interdisciplinary and multi-sited research project, based at the University of Birmingham. She does not have any previous medical writing experience, and she shares Nathan's talent and flair for the craft.

Nathan's and Trudy's winning essays are presented below, and we wish them the very best at the start of their very promising medical writing careers.

The scientist's hand

Scientist. Word, title, identity, prestige. Since its inception, researchers and theoreticians alike have vied over the right to be called scientist. Medical writers are no exception. Vested in the world of scientific thought, though not involved in bench work, medical writers hold in a unique position in the research community. But do medical writers have the right to call themselves scientists? The answer lies in the etymology of *scientist*, the development of the research specialist and the value of clear communication in science.

Less than 200 years ago,¹ when the word scientist was coined, scientists were men like Alexander von Humboldt, gentlemanly scholars who studied chemistry, biology, geography and physics as well as linguistics, philosophy and theology. These early scientists made their own observations, drew their own illustrations and wrote their own manuscripts, sometimes turning research into entire volumes of literature, establishing general scientific theory. With time, knowledge has expanded. Advancements in technology have given researchers new tools, increasing the rate of discovery and creating new avenues of study. Large scientific disciplines such as biology have fractioned into small disciplines, such as botany, genetics and biomedicine. Small disciplines, in turn, have further fractioned into

FOR CORRESPONDENCE



Lisa Chamberlain James

Lisa@trilogywriting.com

specialties, and today's biomedical researchers build entire careers on a single molecular pathway or one cell type. The modern scientist, in other words, is a specialist. In order to achieve the same interdisciplinary discoveries as the bygone generalist, the modern scientist must work together with other specialists.

Although the way we do research has greatly changed, the definition of scientist has changed little in the past 200 years. Nevertheless, both science and language are ephemeral. New coinages enter the English language, are judged by the speaking community and either exit the vocabulary or are integrated into daily use. As time passes, words need to acquire new connotations and definitions. The term scientist still generally refers to the individual experimenter, who works alone in the laboratory gathering data. This definition fails to recognize the modern team of specialists, working together to solve scientific problems. If we view the team of specialists as a single entity, as a single scientist, then the pharmacologists, immunologists and geneticists making observations and gathering

Are medical writers scientists?

My immediate response to this question is 'yes – of course medical writers are scientists!' But are they really? I am possibly biased; like most medical writers I have been a scientist since graduating, and now embarking on medical writing, I wish to keep my scientist status. So is this desire clouding my perspective?

Let's investigate the question from different viewpoints, and start by briefly introducing medical writing. The pharmaceutical industry, clinical research organisations, government, health services and academia all depend upon medical writing as a key communication link. The range of documents is immense, and their target audiences are diverse, ranging from scientists and regulators, to medical professionals and the public. In

summary, medical writing is essential and is diverse with regards to both document type and readership. Let us dissect the term 'medical writing', and consider, what is 'writing'?

Writing is a form of communication; it requires an abundance of skills, as well as a degree of flair, to deliver a clear message. Clarity in communication is achieved by organisation of the content and careful construction of the text. The skilled writer (or 'wordsmith') considers the reader's perspective, and success lies in the wise choice of words to unobtrusively convey the message. Simplicity is the key to clarity, but it is not easy to achieve. The wordsmith is well versed in the relentless editing, culling, reviewing, rearranging, recommencing, vocalising, and checking, until

finally, the desired concise message emerges. Such honed text has an easy spontaneity, which is a joy to read, and its message is undisputable. Perfection is the result of great endeavour, as is common to all forms of art, for the work of a skilled writer is indeed an art. If writing is an art, then is medical writing also an art?

Clarity in communication is important in all writing, but is unquestionably paramount in medical writing. Both the audiences and the nature of medical documents are diverse. Consequently, the fine skills of the wordsmith are crucial, to effectively engage and clearly communicate with different readers. Thus the constructive aspect of medical writing is an art, in similarity with other types of writing. However, clarity in

data would be the scientist's eyes and ears. By extension, medical writers would embody the scientist's hand, organizing the data into clear, understandable text.

The scientist's hand practices the art of writing, but is no less important to scientific progress than any other part of the scientist's body. For instance, to accurately describe symptoms of a disease, what they saw under a microscope or a new species of bird, scientists formerly had to sketch. Today, cameras have replaced the scientist's sketchbook. A scientist, working on a complicated microscope, uses the same principles of framing and light exposure to take a pictomicrograph as a photographer in a studio would use to take a picture. We call the studio photographer an artist, but we call the pictomicrographer a scientist. This is because the pictomicrographer is a specialist, taking a picture to convey a scientific message. The same logic holds true for medical writers. While they may apply the same mechanics as fiction and other non-fiction authors, a medical writer uses scientific knowledge to accurately convey a scientific message. They are specialists in a team of researchers, solving problems through communication.

Clear communication is essential to scientific progress. Medical writers are scientific mediators, communicating between researchers and governments, the public and other researchers. Miscommunications of research to any of these audiences may have a devastating impact on the future of that research. Unclear wording may cause a government to deem an experiment unethical; an ambiguous protocol may cause disbelief of a result; an improperly explained theory may cause public fear. Good writing can speed the rate of discovery and acceptance of

scientific theory whereas poor writing can cause the rejection of a new hypothesis. Put simply: good experiments poorly explained are worthless. Had Charles Darwin written *On the Origin of Species* as a jumbled set of facts instead of an elegant manuscript with convincing arguments, the theory of evolution may have been delayed by decades. Thus, communication lies at the heart of all research.

Medical writers are the scientists' hand. They are not involved in bench work or experimental planning. Medical writers are communications specialists, not simply taking dictation, but using scientific knowledge and writing skills to solve problems. Good writing has the power to turn confusion into clarity, intelligence into brilliance and good science into great science. If the

modern definition of *scientist* is: "A person who is trained in a science and whose job involves doing scientific research or solving scientific problems,"² then medical writers have the right to claim the identity, the prestige and the title of scientist.

References

1. Ross S. Scientist: The Story of a Word. *Ann Science*. 1962;18(2):65-85.
2. Merriam-Webster. Dictionary & Thesaurus HD (Version 3.3.2) [Mobile Application Software]. 2015. Available from: <http://apple.com/appstore>.

Nathan D. Susnik
NDS@posteo.de



writing also depends upon organisation and delivery of the content. The content of medical writing is based on complex science, and scientists and medical professionals are among its target audience. These aspects prevent classifying medical writing, in its entirety, as an art. So, is medical writing a science?

The fruition of science depends upon communication by writing. Science and writing are entwined and cannot be separated without impeding scientific progress. Medical writing enables scientific progress by providing vital communications, both within and between teams of scientific researchers, assessors, clinical professionals and the public. The nature and form of the information communicated depends upon its purpose and target audience, but it is always based on complex science. Effective medical writing

therefore requires application of the science, in a manner appropriate for each communication. This is not a wordsmith's task. This work is fundamentally a science, and is the task of the medical writer. So are medical writers scientists?

Medical writers carry significant scientific and ethical responsibilities, for their communications are key in the advancement of global human health. They not only have biological scientific knowledge and expertise, but also understanding of its application to medicine and the relevant specialities (for example, pharmacology and pharmacokinetics). They are also adept in scientific methodologies, such as statistical analyses and epidemiological methods. Thus medical writers extrapolate and interpret data, to communicate effectively and maximise the reader's understanding. Enthusiasm is a universal

feature of medical writers, and they interact easily across the two multidisciplinary spheres of science and medicine. Clearly, the knowledge and roles of the medical writer are indicative of scientist status, and they exceed the definition of a scientist as 'a person who is studying or has expert knowledge of one or more of the natural or physical sciences' (Oxford Dictionary, 2015).

In conclusion, medical writers possess the fine skills of the wordsmith. However, it is their expert scientific knowledge, their active role in progressing science to medical advancement, the significant responsibilities they hold, and their passion for medical science which sets them apart from other writers. Medical writers are most definitely scientists!

Trudy L. Knight
t.l.knight@bham.ac.uk