

Interview with Henry Fischbach

Cristina Márquez Arroyo*



Born in Vienna, Austria, Henry Fischbach attended French Lycée in Belgium and, upon moving to the U.S., earned a degree in Comparative Linguistics and Premed Studies from Columbia University. He has been involved with scientific and technical translation for over 50 years, including several years with the U.S. Government in its overseas news operations

(Foreign Broadcast Control Editor in New York, Assistant Director of News and Feature Service in Italy and Austria under the Department of State).

Co-founder, former President, and honorary member of the American Translators Association, Henry is the only surviving signatory of its Articles of Incorporation. He served on the ATA's Board of Directors for over 25 years, as well as Vice President of the American Foundation for Translation and Interpretation and the Fédération Internationale des Traducteurs (FIT) and Chairman of its Technical and Scientific Translators Committee. He has been certified by the ATA for translation from French, German, Spanish, and Portuguese, and is equally competent with Italian and Dutch.

Member of the American Chemical Society and the American Medical Writers Association (AMWA), Henry has been the recipient of the Alexander Gode Medal (ATA) for service to the profession and the Goldene Ehrennadel for "exceptional merit" from BDÜ (the German Association of Translators and Interpreters).

Henry has written many articles and has been a frequent moderator of and panelist on medical and scientific translation. In 1998, he was Guest Editor of *Translation and Medicine, Volume X* in the *ATA Scholarly Monograph Series*. His articles have been published in the *Bulletin of the Medical Library Association*, *Advances in Chemistry Series*, and other professional journals. In the early days of the United Nations, Henry contributed to the UNESCO compendium on sci-tech translations and later to the official discussions preparatory to adoption of the *Nairobi Recommendation* to promote translator rights and qualifications.

Currently, he lives with his wife Stephi in the village of Garrison, New York, right in the heart of the Mid Hudson Valley, in a cozy cottage where I had the honor and the pleasure to interview him for *Panace@*.

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Cristina Márquez Arroyo: *You came to the United States from Vienna, Austria, right?*

Henry Fischbach: Yes, I came to the United States in 1928 at the age of 7, and was promptly enrolled in grade school... sort of total immersion into English, which I didn't know at the time. But, then, when my parents found it difficult to make ends meet because of the Depression, the family moved to Belgium, where they went into business. In Belgium, I faced my second total immersion into a new language—this time, French—as I attended a French Lycée where I received all of my secondary education. So, by the age of 13 or 14, I had the good fortune of having acquired—more or less, effortlessly—a foundation in three major languages: my native German, English, and now French. My knowledge of these languages was far from perfect, of course, but at least it was perfectible, and with it came some insight into the wealth of three different cultures at an age at which most people usually do not opt for a career in languages—nor did I until later after college.

In 1939, I had prepared for my Jury Central examination—more or less, the Belgian equivalent of the college entrance exams in the U.S.—but, as the war clouds began to gather, my mother decided to send me to the U.S. because we were American citizens. She packed all of the family belongings into a huge crate and sent it all to the U.S., including me, to enroll in college. I applied to several colleges and finally entered Columbia, since I got a semester of credit for passing the Jury Central in Belgium, and some financial aid. I started out as a premedical student because I had been exposed to a considerable amount of Latin and a few years of Greek in high school. As you know, Latin and Greek form the basis of medical terminology and I thought that a pre-med major would be the easiest to complete in less than four years. But, after two years, I switched my curriculum to language studies, with a major in French.

CMA: *Why did you become a translator?*

HF: Probably by way of least resistance, since, as I mentioned, I already had some foundation in German, English, and French and was in a hurry to graduate. So, I continued as a language student and branched out into Comparative Linguistics, which I continued for a while as a postgraduate student, with the idea of ultimately earning a Masters degree. Teaching was another possibility for students majoring in languages, but I felt happiest if I could somehow combine my interest in medicine with my knowledge of languages. Translation seemed the best way to do that. Comparative Linguistics teaches how languages are related and evolve

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from each other—how, for example, *Castellano* evolved from Latin, etc. To cite one of many examples of what one might call linguistic “lend-lease,” take the English expression “he’s the big cheese in the company.” This comes from Urdu meaning “thing,” originally from Persian. English is extraordinary in its open-mindedness in borrowing from other languages, sometimes blindly. Take the medical expression “EKG,” which, to this day, most American physicians use as the acronym for electrocardiogram, although “ECG” would be more correct. Why “EKG”? Because in 1903, after developing the string galvanometer and realizing its potential benefits to measure the electrical activity of the heart, the Dutch physician Willem Einthoven published his conclusions in an article titled “Die galvanometrische Registrierung des menschlichen Elektrokardiogramms”, which appeared at the Pflüger’s Archiv für die gesamte Physiologie des Menschen und der Tiere. That is how the abbreviation “EKG” for Elektrokardiogramm entered English usage. English has been greatly enriched by its dual sources, to the point of having more words than any other major language. It consists of two elements: Anglo-Saxon, the Germanic element, and after 1066, the Norman, i.e. Romance element French, derived from Latin. This makes for subtle differentiation and shadings. A “thoughtful” person (the Germanic root), for instance, is not necessarily a “pensive” one (Romance root), etc.

And, when some ideas don’t have a good equivalence in English, a foreign language is raided to provide the term, like *Schadenfreude* (satisfaction felt at someone else’s misfortune). The converse is also true. Did you know that the English word “privacy” has no exact equivalent in the Romance or even the Germanic languages? Because all words have tones and overtones, the tone may be the same, but the overtone may well be subtly different. All these differences give a language flavor and variety. In this sense, the wealth of English choices makes it much easier to translate into, as the target language. Another factor is that English, where nouns usually lack a specific gender, is much less of a straight jacket than, say, the Romance or Germanic languages, which have at least two or three genders. Unlike the latter, English is also not restrained by an academy of the language, which regulates usage, as does French and Spanish, for example. In other words, English absorbs foreign words readily, like a sponge, and is less constrained in its use. Sometimes, Spanish does the same when transplanted, as in the case of Spanglish.

CMA: *Do you think that Spanglish used in New York, Florida, and California is here to stay?*

HF: Probably, yes, because it fulfils a specific purpose for a constant stream of Spanish-speaking immigrants, whose command of their native Spanish is perhaps not so thoroughly rooted as to resist the inroads of English, which, with time and in later generations, becomes the speaker’s dominant language.

CMA: *How many languages do you read?*

HF: This is a difficult question to answer. A reading knowledge is quite different from a writing knowledge, as you well know. My reading knowledge encompasses English, of course, German, and the Germanic offshoots, Dutch and Flemish. (The difference between the latter two languages is much the same as those between British and American English.)

Now, because of my American citizenship and with a solid knowledge of French, I was sent overseas to North Africa by the State Department as a field press officer during World War II. As war progressed, our unit was transferred to Italy, where I helped set up a news service. As you can surmise, with a knowledge of Latin and a mastery of French, learning to read Italian was *poca cosa*. So, I also added Italian to my other languages. Later, I learned enough Spanish and Portuguese, both Romance languages, to read them fluently enough to translate scientific material in my subjects of competence.

CMA: *How did you start your translation career?*

HF: When I returned to the United States after my marriage overseas, I thought that it would be a good idea to “merchandise” my language knowledge. I got jobs as a freelance translator by making the rounds of translation bureaus, picking up short translation assignments in the morning, doing them during the day, and bringing them back in the evening before closing time. In those days, there were not that many translation companies doing scientific work. By offering this kind of same-day service, they acquired a good standing with their clients. I began to be offered an increasing amount of work. Then, the owner of a translation bureau, which no longer exists today, asked me whether I would manage his bureau because he wanted to travel. I accepted, first on a salary basis, and later, as I brought in new clients, on a commission arrangement. As time went on, I was able to enlist new clients and translators, operating on the basis of strict quality control. Quality is a very important element of successful translation, especially in the field of medicine. There are thousands of translators all over the world, but not all of them have the temperament or inclination to exercise strict quality control, review their work, and have it edited by other more experienced and better-schooled colleagues. It is quite normal, as you know, to overlook imprecisions in one’s own work and miss errors someone else will spot. The same applies to improvements in style; an editor can usually turn things around and fashion a more elegant rendition.

CMA: *I gather that the translation business in those days was already a respectable source of income on a steady basis to provide a living.*

HF: Yes, the translation climate changed when Sputnik, the first artificial satellite, exploded on the scene in October 1957 and launched the space age. Its launch ushered in a new political, military, and, above all, scientific and technological age of which American industry had been insufficiently aware until then. Until that time, translation in the United States did

not have the same status as in Europe. It consisted of literary translations, which were largely confined to the publishing industry and the academic world, or mostly import-export correspondence and legal contracts. There was relatively little scientific work. At that time, translation in the U.S. did not have the same status it had in Europe. The *Fédération Internationale des Traducteurs (FIT)* already existed in Europe. It had been established in Paris by Pierre-François Caillé in 1953. France already had its *Société Française des Traducteurs* and so did Italy, Spain, the Netherlands, Yugoslavia, and other countries. But, at that time, there was no ATA. What did exist in the United States were regional and local groups—notably, the *Society of Federal Translators* grouping translators in the U.S. Government—and a highly-competent, Spanish local group of professional copywriters and translators in New York, with some members in Florida and California, called the *Publicistas y Traductores Hispanoamericanos*, which was headed for many years by Dr. Eduardo Juliet, MD. This group later merged its membership with that of ATA when the latter was formally established.

CMA: *Why did Sputnik change the translation scenario in such a dramatic way?*

HF: Before the advent of Sputnik, U.S. industry and science was selectively unaware of scientific developments abroad, but with the launching of the space satellite, the outlook changed radically. Translation demands for technology became paramount. Suddenly, U.S. companies requested cover-to-cover translations of complete scientific journals—at first, Russian publications, and later German, French, and other European journals. This resulted in a broadening of the demand for scientific translations. This information would avoid duplication of research by American industry of developments already published abroad, thus saving considerable expense, as well as add new discoveries and innovative products. The mentality underlying this picture was that if the Russians were able to develop and send a satellite into space, they obviously had some scientific and technological knowledge that Americans did not have. At this point, U.S. industry started to look into the translation of scientific books and journal articles from Russian, cover to cover. And, that is when more and more American translators with a scientific background entered the translation field, some even on a full-time basis.

CMA: *I am guessing that Sputnik had a domino effect in many scientific fields...*

HF: Yes, indeed, including medicine. American industries started looking at their European counterparts with the suspicion that they might have some knowledge not yet known in the U.S. Let me give you some examples of this. In the 1920s, German researchers had ushered in the field of vitamins and, as I mentioned, X-rays. There was considerable literature in German about vitamins. What is more, their chemical industry had developed innovative processes and compounds, well

documented in chemical journals. I am thinking of *Liebig's Annalen* and *Chemische Berichte*, which first described many chemical and pharmaceutical products. The American pharmaceutical industry was keenly interested. Another product field pioneered in Europe that became a major source of income to the American pharmaceutical industry was that of tranquilizers, first discovered in France by the French surgeon H. Laborit, who stumbled on the sedative actions of chlorpromazine while testing a pre-anesthetic for his patients about to undergo dreaded open-heart surgery. He was stunned by this compound's effects on the central nervous system, reporting that his patients became completely indifferent to their surroundings, experiencing what he called "euphoric quietude." Thus was born the field of psychopharmacology, which the French pharmaceutical company Rhone-Poulenc pursued. Another post-Sputnik "import" of a European technological development came from Italy at about the same time. The chemist Giulio Natta, who later received the Nobel Prize for his research on the production of synthetic rubber, was the first to discover the polymerization of olefins. Professor Natta's discoveries ushered in the area of plastics and the whole field of copolymers and synthetic fibers. Here, again, American industry benefited from the pioneering work done in Europe, and so did technical translators.

The reality was that the translation industry after Sputnik needed many additional translators, not so much in the literary and commercial fields as before, but in science and technology. It began to attract practitioners who not only knew languages, but also had advanced degrees in science. With the English technical background acquired through education and the linguistic background handed down by family, it was relatively easy to become a scientific translator. For example, the American Translators Association, founded at about that time, went from a limited membership of perhaps hundreds to almost 10,000 today, some 50 years later. And, these were very good translators, indeed. Sputnik, thus, gave a major impulse to scientific translation. The translation scene thus blossomed into a vast and, in many cases, prosperous business that attracted an increasing number of companies specializing in technical translation.

CMA: *That must have been a very interesting juncture to be part of the profession. What did you do then?*

HF: As I mentioned, I was managing another translation company. In the meantime, I was developing my own clients from the time before I took the managing position. One of these was the Austrian Government, where I had established contacts during the war when I was stationed in Austria. After the war, Austria was trying very hard to build up its tourist industry and especially the music attractions of the Salzburg Festival. When the Brahms Society of Vienna came to the United States, it attracted music lovers to come to the festival and to Vienna. Don't forget that Austria had been reduced in size from a vast empire of 50 million, the Austro-Hungarian Monarchy, to a small republic of about 8 million. To overcome the economic hardships this imposed, the country sought to

attract American tourists who had dollars to spend on vacations abroad. As I knew German and had these contacts in Austria, the Austrian Tourist Agency asked me to write and edit a monthly journal in English featuring musical events and other tourist attractions. It was under these circumstances that I founded The Language Service, from which I am now retired after 55 years of translation. I had several years' experience in translation, a fair knowledge of Latin and Greek, and was still passionately interested in medicine from my college days as a premedical student, which had exposed me to at least basic chemistry and physics. My wife and I rented space in midtown New York, and I typed or dictated my translations to her. In those days the only tool we had was the IBM Selectric with a correction ribbon.

CMA: *Oh, yes! We also worked with those typewriters, the correcting ribbon being a blessing. I even remember the earlier manual typewriters that forced you to redo pages and pages of translation because of a single repeated mistake fouling the whole text.*

HF: Yes, we all started with manual typewriters, but when IBM came out with the Selectric, it was a true advancement because it only required erasing the error and overtyping the corrected word, making the translation process much more efficient. At that point, no corporate client wanted handwritten translations anymore. Old timers who wrote by hand gave their manuscripts to a typist to transcribe, but then had to recheck the final text to make sure the typist did not misread the handwritten manuscript. When computers were widely introduced, I discovered that when you were translating a patent involving, to cite a telling example, a zoological subject regarding, say, a black-and-white striped horse and discovered at the end, to your consternation, that the patent in fact dealt with a zebra, you no longer had to rekeyboard the entire translation, but merely replace the incorrect term with a few key strokes on the computer. That was the big event that changed translation practices. One of the first computers from IBM was a huge machine that almost needed a room of its own. My friend Gabe Bokor at Accurapid in Poughkeepsie had two of these monsters, whose monthly lease and maintenance costs would buy a new, infinitely more powerful computer today. Of course, that was well before the personal computer and, of course, before the laptops. This was the next big change, together with access to the Internet.

CMA: *How did you get started with medical translation?*

HF: We started out with my own translation bureau, The Language Service, housed in sublet space in the Lincoln Building in New York City. Years later, we moved to larger premises outside the city, closer to my home. Being a new company, although the first ATA corporate member, we could not accept only medical work and only texts in languages I could personally handle. I thus accepted assignments in other subject areas and other languages. These were subcontracted to other, more knowledgeable, translators before we specialized in medical work.

CMA: *Why did you decide on medical translations?*

HF: First of all, I had a modicum of background in the field as a result of my pre-med studies at Columbia. Besides, my years of Greek and Latin in high school came in very handy. My Greek had faded quickly for lack of use, but was still good enough to understand some prefixes and suffixes, such as “μιος” (Greek for muscle, as in “myo”) and “ἀγγειον” (Greek for vessel, as in “angio”). But, the main reason was my love of medicine. Like millions of kids, I grew up dreaming of finding a cure for cancer. If one is interested in a given subject, even if you don't have a chance to study it formally, say in medical school, you read as many books and journal articles as you can get your hands on. My particular interest was the history of medicine.

Why does the field of medicine offer so many sources of information? For example, if you are confronted with a translation on oil deposits, how many friends or acquaintances do you have who are petroleum engineers? As to medicine, almost everyone knows a physician, right? When he is not a physician himself, the translator must constantly compensate with research and checking. You cannot assume that the prefix “cardio” always relates to the heart. Opening up a textbook of anatomy, you find that this term may also refer to the cardiac orifice of the stomach, or, according to some anatomy books, to the prestomach. Those are the questions a doctor can help you resolve. Another reason why medical problems are more readily solvable than other terminological conundra is that libraries are well stocked with medical references. The medical field has always been well documented, even before there was easy Internet access to the Academy of Medicine. So, either you knew a physician or librarian who didn't mind helping you out to solve your questions or guide you in the right direction.

There also exists a plethora of medical dictionaries and specialized texts in most languages. The reason is that medicine has always been of universal interest. The human body is the same in Venice, Italy, as it is in Valparaiso, Chile. And, it is probably a subject of paramount interest and concern to man. In addition, unlike oil drilling, which may use a different terminology in Venezuela than in Saudi Arabia, man's anatomy and physiological functions are universally the same. This is another big advantage to the medical translator. An interest in the subject and the availability of multiple sources—and remember that I did not have a formal medical education—compelled me to constantly do a great deal of research and checking, an absolute necessity if mistranslation is to be avoided. After a while, a nugget of knowledge led to further research and a broadening of knowledge. You soon learn, for example, that the “cardia” may have nothing to do with the heart.

Another factor that helps is the fact that medicine is one of the earliest and best documented of the sciences. The Arabs had extensive medical knowledge in Antiquity and, of course, so did the Greeks. Some of their early concepts are no longer accepted, like what Hippocrates of Cos called the humors. When the Romans occupied Greece, medical knowledge was translated from Greek into Latin. Other civilizations also had

medical schools, like the one in Baghdad, which was years ahead of its time. Not all their ideas have held up, but there is no doubt that the advancement of medicine was in part due to the early translation efforts that took place at the Italian and Iberian Peninsulas. Among the activities in the last one, the most important are the works accomplished in Toledo, Spain. There, the scholars took up the massive translation of earlier medical treatises mostly from Arabic into Latin, in many cases through the use of Castilian, producing a body of work which was later rendered in other vulgar languages. It is of interest to note that besides its *Escuela de Traductores*, Toledo also had a great medical school where Arab physicians worked side by side with Jewish physicians under the guidance of Catholic bishops. When you think of those scientists from these three religions working together, it makes you wonder about the lack of collaboration today.

CMA: *I understand that neither the Arab nor Jewish doctors wanted to publish their work in Latin because that was the language of the Catholic Church. In a way, this may have led to the surge of Castilian.*

HF: That's probably right. Latin spread with the Roman conquests and was associated with the Roman legions. Even Romanian in the far reaches of the Roman Empire, in a region then known as Dacia, is a Latin or Romance language.

I will tell you an interesting sidelight about translation and communication related by my father. Right before the First World War, my father received his law degree from the University of Vienna. Part of his curriculum included the intensive study of Latin, on which many legal systems are terminologically based. As a result, he spoke Latin tolerably, but understandably well. During that war, Austria was allied with Germany and Austrian troops occupied certain areas in northern Italy. After being drafted into the Austro-Hungarian Army as a second lieutenant, he was sent to a small Italian village where nobody spoke German. But, the local Catholic *sacerdote* spoke Latin, of course. The Austrian commanding officer in charge of military government of the town spoke no Italian and, therefore, asked my father to interpret his instructions in Latin to the village priest, who, in turn, passed them on to the Italian-speaking civil authorities. So, you had the Austrian military government of this small Italian town being run on Latin, which I think is remarkable.

Something else that people tend to overlook is the fact that English, as I have said, was enriched when the Normans landed in Britain in 1066 and imposed Norman French—that is to say, a Romance language—on the existing Saxon with its Germanic roots. This is why English has more words, side by side, than any other Western language, some of them of Romance origin and some of Germanic origin. It draws from two major language sources, with a smattering of words from Scandinavian.

CMA: *What type of companies did you work for in those days?*

HF: Among our clients were a few drug companies. When Sputnik burst upon the translation scene, the American pharmaceutical industry realized that new products and processes had been developed abroad and, as I mentioned earlier, this led to the request for the wholesale translation of foreign journals and key scientific articles. The translation industry grew by leaps and bounds, with new translation bureaus or companies entering the field. If you will permit, I should like to digress at this point and inveigh against the misuse of the term “agency,” so widely used in our industry. To my way of thinking, an “agent” or “agency” is one which represents a manufacturer, without contributing anything to the product or process itself. For example, a film agent may represent a scriptwriter or author, an automobile agency represents a carmaker or automotive-parts dealer, but does very little, if anything, to improve or change the product so as to promote the product to the consumer. A literary agent may do so on occasion by suggesting minor changes involving the main protagonist, his profession or approach to the subject. He is someone who knows what the publisher is looking for and can influence the author to tailor his book to the demands of the market. In essence, agents contribute to the sale of a product, but do not create it. Calling translation companies who prepare translations “agencies” implies that they merely represent the companies, without being involved in the creative process, as a salesman would, which is not the case and gives an entirely wrong impression.

CMA: *Are you saying that the designation “agency” is incorrectly used in the United States where the translation company is not a mere intermediary—although, in some cases, a “translation agency” might only be a middleman?*

HF: In the United States, most translation companies have experienced individuals who manage and supervise the translation process, not business people without any or very little language knowledge who suddenly decide to operate a translation business to make money. As I see it, there is no translation company that can be reliable or successful, unless it is staffed by linguists overseeing the translation process.

CMA: *You have mentioned the ATA and I would like your opinion about the influence of the Association on the professional development of scientific translators and the quality of scientific translation in the United States.*

HF: As a cofounder of the ATA and the only living member who signed the original articles of incorporation, I have been able to follow the development of the organization since its earliest days and can attest to the influence it has had on the professional development of its members. The ATA's certification program and test procedures have made active membership accessible to qualified linguists. Moreover, ATA has been one of the earliest members of the *Fédération Internationale des Traducteurs* (FIT) where I represented it as Vice President for many years.

CMA: *Do you think that ATA can play any role in training competent scientific or medical translators?*

HF: To a degree. The ATA does not train medical or other translators, as such. At the present time, the ATA has almost 10 000 members grouped in language and subject matter divisions, whose members help solve each other's translation problems through e-mail access. It also has a mentoring program. A medical division was recently established and will hold its first conference this year from May 31 to June 3. But, ATA has no formal training or teaching program. Is *Panace@* or your organization involved in teaching?

CMA: *No, neither Panace@ nor TREMEDICA are involved in teaching. We are committed to improving the translation quality of medical and related sciences. I would further stretch the concept and say that we would like to contribute to the improvement of scientific language, both in English and Spanish. The magazine publishes articles dealing with translation and terminology, as well as style, specialized glossaries, etc.*

HF: The ATA has published a comprehensive resource guide for translating and interpreting in the medical field entitled *Medical Translating and Interpreting*, which can be purchased from the ATA for \$25.00. It has also published a compilation of handouts and session information presented at ATA's Professional Development Seminars. These one- and two-day seminars offer advanced education and training in translation specialties, including medical translation. Volume X in ATA's hardcover *Scholarly Monograph Series* entitled "Translation and Medicine," which I edited, is available by direct order from the John Benjamins Publishing Company (1-800-562-5666) in the Netherlands, to non-members for \$125 and to members for \$30. More information about content can be obtained at www.benjamins.com. For questions, e-mail benjamins@presswarehouse.com. One of the articles in this volume, by Joaquín Segura—who also publishes *Glosas* in the U.S.—discusses the role of Spanish in medical writing. The name that comes to mind in this connection is that of Gregorio Marañón, considered to be one of the great Spanish medical writers of his day. I would say that in terms of formal training, you are probably doing much more in Spain, especially in Barcelona, than we are doing here.

CMA: *Let's go back to something very important you mentioned earlier, which is quality.*

HF: When you say quality in medical translation, perhaps you mean accuracy, style, and register. Medical translators have been known to get nervous about the accuracy of a translation that could result in a life-and-death issue. Medical translation, perhaps more than any other, requires controlled editing by someone with the knowledge to spot dangerous misinterpretations. An important attribute that will ensure accuracy is a critical outlook. It has been repeatedly said that the main attribute of a good translator is to know when he or she

doesn't know. This is especially true of medical translation. An experienced, knowledgeable translator must be highly critical when confronted with any statement that is puzzling or contradictory. If a statement does not seem correct, related evidence must be sought in the text itself. I once translated a clinical study said to encompass 318 patients enrolled in a trial, half of whom were being treated with an active drug and the other half with a placebo. At the end of the study, the researchers inadvertently mentioned a total of 381 patients. Translators do not have the luxury of being able to consult the author, unless the translation is being ordered by him. The translator has to weigh all available data critically. If contradictions remain upon critically checking the translation and there is no internal evidence in the text to resolve them, the translator must say so. This is what I consider to be a quality approach because, in most cases, the translator will be held responsible. And, that is what makes a quality medical translation time-consuming and, hence, costly. The hallmark of a good scientific translator is intellectual honesty and a sixth sense to realize that something is amiss.

CMA: *Another question occurs to me: Who makes a better translator, the physician with some knowledge of language or the linguist with some knowledge of medicine?*

HF: Something is to be said for both, depending on what "some knowledge" encompasses.

CMA: *That was one of the main questions that I had for you, based on your experience of more than 60 years in the field of medical translation. Whom do you think would more successfully tackle the challenge of a medical translation—a linguist or a physician?*

HF: That depends entirely on the approach and purpose of the translation. Will the physician who translates a medical article tend to gloss over basic statements that are second nature to him, editing as he proceeds and skipping the portions of the text that he feels are not essential to the discussion? Working with physician translators, I have sometimes noticed the omission of statements by the author of the article, which the physician translator felt were platitudes not worth translating. But, this approach is really not applicable to a translation, which has to be complete, but qualifies as editing. I have found that this attitude is sometimes adopted by physicians who accept translations as a means of supplementing their income—say, while completing their internships or when retiring from private practice. The linguist with some knowledge of medicine, on the other hand, may succumb to errors of terminology or understanding, and produces a translated text that does not reflect the appropriate style. This has been one of the oldest discussions in the field: "*Traductores médicos*" versus "*médicos traductores*." In the monograph *Translation and Medicine* mentioned above, Marla O'Neill, M.D., a physician turned translator with strong linguistic background, provides valuable insights on this question. Also, one needs to remember that there are not many physicians working as

translators because the financial rewards are greater in the practice of medicine. Especially in the early days of the profession, scientific translations were not well paid; however, rates have improved considerably since then. Clients did not understand why scientific translations were more expensive than, for example, the translation of a birth certificate. One patient had to explain that, in addition to knowing two languages, technical translators had special education in the subject of the technical translation. Clients could not understand why translators who knew two languages and, like all humans, were born with two legs, did not all have the ability to perform as ballet dancers.

CMA: *Summarizing this discussion, when you had to prepare a medical translation and entrusted it to a team of physicians and linguists, who would do what?*

HF: My inclination would be to have the linguist prepare the first draft of the translation since the communication primarily involves language and secondarily medicine. Physicians, especially if they are not native to English, may be lacking in English writing skills. Even if they have acquired some familiarity with English, their native language has little to do with the technical terminology they later learned in medical school. Subtleties may escape them. The Italian disparaging alliteration “*Traduttore, traditore*”—meaning “To Translate is to Betray” or, to retain the alliteration, “To Translate is to Traduce,”—has been haunting translators for years. There are a number of expressions, although pleonastic, that have come to be accepted in everyday, if sloppy, writing. These are unacceptably redundant in a translation. Take “period of time,” other than in a gynecological context, “hollow cavity,” “annular ring,” or, quite common, “spaced apart.” I’ve even seen “nosocomial infections in the hospital.” I am not maintaining that linguists make better medical translators than physicians, only that the linguist may avoid language pitfalls such as the above. The position of prepositions and adverbs is another problem. For example, insert the adverb “only” instead of the numbers in the following sentence, and see how the meaning changes:

- [1] The first patient [2] took [3] this medication [4] the next day [5]
- [1] None of the other patients took this medication the next day.
- [2] The first patient did not do anything else but take this medication the next day.
- [3] The first patient took this and no other medication the next day.
- [4] The first patient took this medication as late as the next day.
- [5] The first patient did not take this medication at any time except the next day.

On the other hand, some noted physicians of the past have been great writers. Earlier, I mentioned Gregorio Marañón writing in Spanish. In English, for example, great physician

writers have included Thomas Henry Huxley—the biologist known for his defense of Darwin’s theory of evolution—and, in the United States, Oliver Wendell Holmes.

CMA: *In your own company, what type of quality controls did you apply?*

HF: Mainly checking and rechecking by knowledgeable editors and consultants, including MDs when the text is medical. And, of course, the Internet and special sites like the U.S. Academies of Medicine, *Medscape*, the websites of the major pharmaceutical companies, the *Physicians’ Desk Reference*, the *Merck Manual* in several language editions, the *Merck Index*, the *Roche Lexikon*, *Geigy Scientific Tables*, and the *Medical Phrase Index*, as well as German, French, Spanish, Italian, and other pharmacopoeias, and many other manuals. Over the years, I built up a sizeable library of such specialized dictionaries and medical references. This was costly because medical references tend to become outdated. For new procedures, we relied on the Internet and Web access to foreign academies of medicine and the U.S. Patent Office listings. My library of medical references soon included hundreds and, in later years, thousands of books. Difficult translations require the collaboration of translators and physicians interfacing as a team. Abbreviations are a particular problem; they are the bane of translators and often hard to pin down and differentiate. Not only are there many books of medical abbreviations, but also many of the same abbreviations and acronyms may have different meanings, depending on the disease, anatomy, or procedure being discussed. Here is where bibliographies are important. And, your clients fully expect you to solve all the questions that may arise. At the present time, Google, Yahoo, and other Internet sources have become invaluable.

I might mention here that it is perfectly all right to ask clients for clarification, especially the manufacturers of new medical instruments. If you are asked to translate a brochure describing a novel piece of equipment, there is nothing wrong in asking for illustrations or references to it in other languages that the client may have on hand. This will enable you to decide whether a rod, bar, handle, or lever is involved in a particular description. You are rendering a far better service to your client if you refrain from guessing and ask him for details when you have reason to believe that he may have the answer.

CMA: *You have stated and written that translation has been the great pollinator of science.*

HF: This is a favorite subject that I discussed at length in Volume VI of the ATA’s *Scholarly Monograph Series*, entitled “Scientific and Technical Translation.” Since the earliest days of the history of science, scientists have published their discoveries and inventions in their own languages. Until translated, such knowledge would be slow to reach the scientific world. In 1993, I mentioned that “although translation has been the handmaiden of science since earliest times, it was not until the invention of movable type, around 1500, that it as-

sumed a major role in the dissemination of scientific information. Except in medicine—and perhaps religion, philosophy, and astronomy—not until the last century has the full force of translation been brought to bear on the transfer of scientific knowledge.” This is especially true of medicine. If one considers the following fields and scientists, could their work have had the worldwide impact it did if their writings had not been translated from their native language? In physics, Planck, Roentgen, and Einstein writing in German; de Broglie in French; van der Waals and Lorentz in Dutch; Bohr in Danish; Fermi in Italian; Yukawa in Japanese; Jánossy in Hungarian. In chemistry, Semenov and Mendeleyev writing in Russian; Arrhenius and Svedberg in Swedish; Fischer in German; Heyrovsky in Czech. In physiology, Pavlov and Metchnikoff in Russian; Camillo Golgi in Italian; Bernard Houssay in Spanish; Alexis Carrel in French; Otto Warburg in German; Henrik Dam in Danish. In radiology, the Curies wrote in French; Tadeusz Reichstein in Polish. In bacteriology, Pasteur and Calmette wrote in French; Koch and Ehrlich in German; Kitawato and Shiga in Japanese. In pharmacology, Behring writing in German; Christiaan Eijkman in Dutch. In psychiatry, Charcot writing in French and Freud in German. The list is endless and the debt to translation infinite. I did not even mention the authors who wrote in English. Would the world’s scientific knowledge have been as effectively enriched or the ideas of these great scientists been as rapidly brought to the attention of the rest of the scientific world had they been left un-translated?

Now, tell me, whether in Spain, the teaching of medical translation is undertaken by linguists or physicians?

CMA: *As far as I know, a combination of both. The University Jaume I offers a graduate program in Medical Translation, which comprises courses in medicine and language; however, this is a Masters program, so students are presumed*

to have an excellent knowledge of English and Spanish when they enroll.

HF: Where is the University located?

CMA: *In Castellón.*

HF: As far as I know, there is nothing like it in the United States. In general, the future physician studying medicine does not have the time to study language or medical translation, for that matter. There was a time, years back, when some basic study in German or French was required because many medical textbooks were written in French or German. That has changed completely. Nowadays, there are not many physicians I know of who have established medical translation companies, although some doctors do translations, either on a freelance basis or as consultants as part of a team. In those rare cases, these teams combine linguistic expertise and professional medical knowledge.

CMA: *My last question, or wish, is: What are your recommendations for aspiring medical translators?*

HF: Unless they are prepared to go to medical school and pass the Board examinations to practice medicine, it is for them to major in one or several major languages and take as many courses in anatomy, physiology, and biology as they can in college. Then, to seek a job as trainees or apprentices in a translation company that specializes in medical translations, where their work will be subjected to rigorous editing by a senior translator or a physician. This will create the nucleus of a team, which, in time, will produce reliable medical translations. I hope that I have answered at least some of your questions. Please thank the editors of *Panace@* for this opportunity to express some ideas on the subject of medical translation.

