Dr Dennis Krikler was born in 1928 in South Africa. Most of his lifetime interests—cultural, clinical, scientific, historical, and photographic—seem rooted in the rich world of his childhood in the seaside resort of Muizenberg (Figure 1) outside Cape Town, where he lived for his first 28 years.

His home was close to the beach that the writer, poet, and Nobel Laureate Rudyard Kipling (1865–1936) had pronounced the best he had ever seen, and nearby was the coastal retreat of another great Victorian, the architect of South Africa and Rhodesia, Cecil John Rhodes (1853–1902). Indeed, Rhodes spent his last months there in 1902, dying of heart failure.

Dr Krikler says, “He was so short of breath in the end that he had one wall knocked down so that the sea air could come in to his room. He probably had an atrial septal defect.” Perhaps Dr Krikler’s interests in history began there, on the beach and among the Cape Dutch buildings (Figure 2) that Rhodes, Kipling, and he had all looked on.

One of his earliest historical articles concerned Cecil Rhodes’ appreciation of the importance of the pioneering Jewish settlers in the development of Rhodesia (now Zimbabwe).1 He also wrote an article on Alfred Goodman

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**Spotlight: Dennis Michael Krikler, MD, FESC**

An Internationally Renowned Teacher, Lecturer, and Pioneer in Electrocardiography and Calcium Channel Blockade

In 1972, Dr Dennis Michael Krikler, emeritus reader in cardiology at the Hammersmith Hospital, London, United Kingdom, accurately described the actions of verapamil on the calcium channels of the human heart, stimulating the era of the calcium antagonists. In the same year, he and a coworker published the first British article investigating Wolff–Parkinson–White syndrome by intracardiac recording. He speaks to Robert Short, BSc, about his life and career.

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**Figure 1. The beach at Muizenberg. This photograph was taken by Dr Krikler in 1955, showing Cape fishermen at work. The picture won a first prize from the Cape Photographic Society.**

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**On other pages...**

**Climbing the Career Ladder in Norway**

Dr Reidar Bjørnerheim, MD, PhD, FESC, until recently a member of the Norwegian Cardiology Board Certificate Committee, explains why the age of applicants for a cardiology training post in Norway is usually more than 40 and may be 50.

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**European Meetings Update**

All the dates, locations and contact details of the significant cardiology-related meetings that will be held across Europe in the month of September.

Page f42
Levy, MD, the first doctor in Central Africa. He corrected an oversight in the Western records of history in a biography of and other articles on the Russian physiologist Alexander Filipovich Samojloff, PhD (1867–1930), the second person in the world to have an electrocardiograph, and the first to write a book on electrocardiography.1,2

Dr Krikler’s childhood home, the large house of his general practitioner father, contained a surgery, a laboratory, and a darkroom for x-rays, where Dennis used to develop his own photographs. His father had a special interest in cardiology, and, unusually for a South African family doctor at that time, an electrocardiograph. A final ingredient within this crucible of scientific influences in Muizenberg was the friendly presence of the cardiologist Velva Schrire, MD. Dr Schrire was a patient and friend of Dr Krikler’s father long before he became Dr Krikler’s mentor.

Dr Krikler studied medicine at the University of Cape Town Medical School. There, Dr Schrire, who founded its cardiology department on the principles he had learned as a registrar at the Middlesex Hospital Medical School in London, United Kingdom, inspired Dr Krikler to pursue a career in cardiology. Dr Schrire was famously meticulous and enthusiastic about his work. Dr Krikler says, “He examined his patients very carefully and took electrocardiogram recordings home. And if you were entertained at his home, before dinner he went through a series of electrocardiograms so as to have them ready before the ward round the next day.”

Dr Krikler graduated in 1951, working first in Cape Town, where, at the Groote Schuur Hospital, he met a nurse, Anne Winterstein, who had strong interests in music and politics. They married in 1955. In 1956, a fellowship took him to the United Kingdom, inspired Dr Krikler to pursue a career in cardiology. Dr Schrire was famously meticulous and enthusiastic about his work. Dr Krikler says, “He examined his patients very carefully and took electrocardiogram recordings home. And if you were entertained at his home, before dinner he went through a series of electrocardiograms so as to have them ready before the ward round the next day.”

Dr Krikler graduated in 1951, working first in Cape Town, where, at the Groote Schuur Hospital, he met a nurse, Anne Winterstein, who had strong interests in music and politics. They married in 1955. In 1956, a fellowship took him and his new wife to London, where he sat for his membership of the Royal College of Physicians examinations before returning to the Lahey Clinic in Boston, Massachusetts.

When Dr Krikler returned to Cape Town, he finished his training as a cardiologist, and his uncles in Rhodesia encouraged him to come to their country. In 1958, he went to Salisbury, Rhodesia, sensing a lack of competition there for a young cardiologist, and took on a lectureship in cardiology at a new medical school. The move quickly brought him interesting referrals. He recalls, “I developed a growing collection of patients referred to me with electrocardiographic abnormalities and murmurs, and I started writing articles about these during that period.”

But Dr Krikler and his wife opposed the unilateral declaration of independence from the United Kingdom made by the white-dominated government of Ian Smith in 1965, and the authorities took note. He says, “The threat was that I would be restricted in the areas to which I could travel. This would cut me off from the university. It was a subtle way of making sure that I either shut up or got out.”

So, in 1966, Dr Krikler went to England, where he had established good friendships over the years. Sir Christopher Booth, MD, director of medicine at the Royal Postgraduate Medical School at the Hammersmith Hospital, London, introduced him to a number of people and, after a series of clinical assistantships, Dr Krikler obtained a consultant post at the Prince of Wales Hospital in Tottenham, in north London. He became clinical tutor and set up the first course in electrocardiography for general practitioners in the United Kingdom. Sir John McMichael, MD, director of the British Postgraduate Medical Federation, presided over the first of these courses; he encouraged Dr Krikler to concentrate on electrocardiography. Later, in 1973, Sir John facilitated Dr Krikler’s move to the Royal Postgraduate Medical School in London.

In the 1960s, the French and the Dutch dominated European electrophysiology, and Dr Krikler became well acquainted with the pioneers of the field. In 1967, Dirk Durrer, MD, professor and chair of the department of cardiology, University of Amsterdam, the Netherlands, gave a lecture on electrophysiology in London. Dr Durrer had developed the key tools that could be placed directly in the human heart to study arrhythmias. Dr Krikler visited him in Amsterdam, where he met Hein Wellens, MD, Figure 3 who was then working with Dr Durrer. Dr Wellens is now emeritus professor at the University of Maastricht, the Netherlands, an institution he made internationally famous as a centre for the study of arrhythmias. Both doctors discussed and demonstrated with Dr Krikler the electrophysiological techniques they used. Dr Krikler also visited Philippe Coumel, MD, professor of cardiology at the Hôpital Lariboisière in Paris, France, then the leading pioneer in France in electrophysiology.

In the United Kingdom in 1970, Dr Krikler started to investigate the actions and potential of a new drug, verapamil,
for use in certain arrhythmias. With his results, and after discussion with the late Albrecht Fleckenstein, MD, professor at the Physiology Institute of the University of Freiberg, Germany, who worked on the basic actions of calcium on animal preparations, Dr Krikler offered an accurate description of the actions of verapamil. He says, “I was able to deduce that it worked by blocking the transport of calcium ions. These were absolutely crucial to conduction through the atrioventricular node.” These findings started an avalanche of interest in the calcium channel blockers, a field that Dr Krikler contributed to for many years. In 1986, he and Dr Fleckenstein received a Nobel Prize nomination for this work.

Also in 1972, the year that saw the publication of the verapamil paper, Dr Krikler, with Charles Smithen, MD, an American fellow at the National Heart Hospital, London, published the first British paper using intracardiac recordings to investigate Wolff–Parkinson–White syndrome. Dr Krikler recalls how this work expanded further. “It developed with Dr Smithen at first, and then with our own unit at Hammersmith, where we worked out the mechanisms of the arrhythmias and their control.” By studying the work of Dr Wellens on intracardiac stimulation, they replicated and also advanced his work. Thereafter, Dr Krikler and his team worked in parallel with the Dutch group. From 1972 to 1976, the European Society of Cardiology enabled the pioneering groups to have a club devoted to Wolf–Parkinson–White syndrome that met annually.

In 1973, Dr Krikler set up the first British electrophysiology unit at the Royal Postgraduate Medical School, London, to recruit research fellows on British Heart Foundation grants. Dr Krikler also introduced an annual course in electrocardiography and electrophysiology for both United Kingdom and European cardiologists, until the latter had established courses in their own countries.

As treasurer of the British Cardiac Society (1976–1981), Dr Krikler argued for the abolishment of the society’s limit of membership to 300. This represented a vital step for the present-day society to obtain its own premises; today, its membership stands at more than 1200. As editor of the British Heart Journal from 1981 to 1992, he stimulated increased international contributions of quality and raised the journal’s impact factor so sharply that it became ranked fourth among cardiology primary research journals.

Dr Krikler has won many awards and has held a number of important positions. Some of the most prestigious include the Paul Dudley White Award of the American Heart Association (1984), the European Society of Cardiology medal of honour (1980), the title of corresponding member of the Société Française de Cardiologie (1982 to date), the title of chevalier in the Ordre National de la Légion d’Honneur for services to Franco–British cardiology (1999), and membership on the advisory committee to the Einthoven Foundation (1983 to date).

Dr Dennis and Mrs Anne Krikler both have strong cultural interests. They have collected the work of artists such as Edward Wolfe of the Omega workshop, Duncan Grant of the Bloomsbury Group, and Marie Vorobieff Marevna, the first female cubist. In one cultural project—his wife’s book on music and the movies—Dr Krikler serves as a junior assistant by collecting computerised data. He explains, “Anne is analysing the films and familiarising herself with the different styles of different composers, for a book she is writing for the American market. So far, she has analysed over 100 movies for the composers of the music. She takes a particular interest in continental composers who moved to America in the 1930s.”

Dr Krikler’s daughter works as a cardiac technician at the Hammersmith Hospital; she runs the West London Cardiology Database. His son works in New York, NY, as an investment banker.

Dr Krikler sees his career, apart from his untimely exit from Rhodesia, as a series of obvious steps in pursuit of his interests, rather than one of battles and turning points. When pressed to suggest some maxim on life for the young cardiologists of today, he suggests, “Always maintain a hearty distrust of contemporary politicians.”

Robert Short is a freelance medical writer.

References
Climbing the Career Ladder in Norway

In Norway the Age of the Average Applicant for a Cardiology Training Post Is More Than 40, and Some May Be 50

Although Norwegians have decided to stay out of the European Union, when it comes to cardiology training they obey the regulations more rigorously than do European Union members themselves, according to Reidar Bjørnerheim, MD, PhD, FESC, head of the department of cardiology, Ulleval University Hospital, Oslo, Norway, and until recently a member of the Norwegian Cardiology Board Certificate Committee. He talks to Barry Shurlock, MA, PhD.

Norway (Figure 1), a country of paradoxes, has medical salaries so high across the board that it attracts cardiologists from neighbouring Scandinavian countries, yet it also employs a substantial number of specialists from the developing world, including Pakistan, Iran, and Iraq. It has one of the lowest doctor:population ratios in the world (about 240 inhabitants per doctor), fueled by large numbers of Norwegians training in Eastern Europe instead of in the United Kingdom, Germany, and the Netherlands, where they used to go. Despite this, Norway has a shortage of cardiologists and other specialists because the government does not fund enough training places. In this setting, cardiologists can be well into middle age before they qualify, and much older before they obtain a coveted post as a consultant or overlege.

These are the perceptions of echocardiographer Dr Reidar Bjørnerheim, who has served as a member of the Norwegian Cardiology Board Certificate Committee for more than a decade.

In 1994, the citizens of Norway declined to join the European Union, though the country still belongs to the European Free Trade Area, which it cofounded in 1960 with 5 other countries, now reduced to 4 (the others are Iceland, Liechtenstein, and Switzerland). But this political fact has no relevance to the training of cardiologists, according to Dr Bjørnerheim, who says, “We follow most European Union regulations, and I think we do it more vigorously than some other countries. For example, we follow the regulations about the number of procedures that candidates have to do for such things as echocardiograms and pacemakers. We are very coherent with the European Union, and our regulations are very similar.” Through its membership of the European Free Trade Area, Norway is a member of the European Economic Area, and this involves not only commerce but education and research. In this respect the country participates on the same level as if it were a European Union member, particularly in multilateral programmes. This is one reason why Norway conforms so closely to European Union laws and regulations.

In Norway, cardiology exists as a subspeciality of internal medicine, for which training—after an MD and an 18-month internship—takes 6 years. Trainees rotate through recognised hospital departments to obtain the necessary practical training in all disciplines, including cardiology. Dr Bjørnerheim explains, “You can start your training in a small hospital, but you will later have to spend some time in a larger one, preferably a university hospital. At the end of the 6 years, you need 3 more years to train as a cardiologist.” For those “lucky enough” to obtain the appropriate cardiology training position at the right stage of their course, the Norwegian system allows for 2 of the 3 cardiology training years to be combined with internal medicine, making a total of 7 years’ training. But most cardiologists take 9 years from the end of their post-MD internship before they can apply for board accreditation. The Cardiology Board Certificate Committee requires very extensive documentation of training, with testimonials from heads of department and properly completed logbooks, before it will recommend approval to the Norwegian Medical Association—the body contracted by the government to set and maintain standards.

Norwegian hospitals have 2 kinds of training posts, one designed to provide some training for a doctor seeking a career in general practice and another for the budding overlege. Young doctors seeking training posts in internal medicine—the prerequisite to cardiology—may have to be content, initially, with short-term jobs to cover for sickness or maternity, although any position lasting 3 months or longer may count towards board certification.

Some may take the research route, immediately after obtaining the MD or later. Dr Bjørnerheim, who has an...
interest in heart failure and adrenergic receptors in the myocardium, says, “In a smaller hospital, you might be able to get a long-term job for training in internal medicine—we call it an assistant doctor—but in Oslo they have to take what they can—to prove they are hard working and clever!” He continues, “As regards research, the tradition in Norway was to do a doctorate, or Doctor Medicinae, which required at least 6 original papers, often taking 5 years or more, and then to write a thesis and defend it. People were at least 30 years old before they did this—they needed clinical experience before they could do research. Nowadays, Norway has adopted the European system, with a PhD of 3 years. This may involve basic scientific research after the internship or research in parallel with a clinical position when the person has proven his worth.”

All internal medicine trainees aim to obtain posts as assistant doctors: 4-year appointments that enable them to rotate around the subspecialties, including cardiology. Because internal medicine requires 6 years of training, they need to obtain 2 such posts. Dr Bjørnerheim comments, “During training, we want our doctors to see more than one way of running a department—preferably in different hospitals, since there are significant differences between people from various parts of the country. Unfortunately, many physicians tend to stay close to their origins and their friends. It’s harder to get them to move than before—we have become a nation of city dwellers!”

One unusual feature of cardiology training in Norway is that, for example, an internal medicine specialist with an established post in a hospital may still harbour ambitions to become a cardiology specialist (or subspecialist in Norwegian parlance), and he or she will, therefore, continue to apply to hospitals for a training position in cardiology. Applications are graded according to a system that accounts for the time spent in every job, with additional points for scientific achievements such as a PhD.

Dr Bjørnerheim says, “So many people want to become cardiologists in Norway—it’s such a popular speciality that there are many applicants for training positions. If they are not successful the first time, they try again and again. We have no limit on the number of applications from people, some of whom are 50 years old—though they have no chance of success at Ulleval University Hospital (Figure 2), which is the largest acute-care centre of its kind in Scandinavia, and employs >8000 people full time.

“In our department, the average age for subspeciality training posts—called B posts—is 42 years. We cannot stop them applying as many times as they wish, and some are very persistent and will generally get through eventually.” Applicants often need only 18 months of training to “top up” their cardiology experience and perform the necessary numbers of special procedures. Dr Bjørnerheim points out, “Getting a B position is the key step and involves careful screening—I know of no failures thereafter.”

Most Norwegian cardiologists practice as generalists, and only a few undertake subspeciality (or subspeciality in Norwegian parlance) training in such areas as electrophysiology and interventional cardiology. Dr Bjørnerheim says,
“We have no formal system for training subsubspecialists. We have discussed it, but the government would not allow us to do it, as it makes it harder to have people on call for all areas of internal medicine in smaller hospitals. Norway has only 4.7 million inhabitants, and in the area of cardiology we know who is capable of performing special procedures. I have knowledge of almost all the 260 cardiologists in the country—not personally, but their careers.”

Very few Norwegian cardiologists work abroad, with the exception of those pursuing research careers, for which some experience, particularly in the United States, is held in high regard. However, an overlege may often work abroad for short periods during their careers—perhaps to obtain experience in a new technique—during the 4 months’ sabbatical leave they are entitled to every 5 years.

One reason why so few Norwegian physicians work abroad may be because of their country’s many attractions and its natural beauty, with its winter sports, magnificent mountain ranges, lakes, fjords and fantastic views (Figures 3 and 4).

Dr Bjørnerheim does envisage some changes in cardiology training in Norway. These include the possibility of a final examination for specialists (despite the existing interim examinations for courses on such modules as arrhythmias, echocardiography, and ischaemic heart disease), though doctors have shown considerable resistance to what they see as a time-consuming process. Also, unlike general practitioners, cardiologists and other hospital specialists have no requirement for reaccreditation, though many specialists believe that daily interaction with colleagues serves to keep them sufficiently up to date.

Figure 4. The Hardangervidda National Park: Norway’s natural beauty is one of its great attractions.

Even at home, Dr Bjørnerheim does not find himself entirely free of medicine, because his wife works as a nurse midwife. But, once away from his stethoscope, he likes to relax with his tenor saxophone, playing light music in a local group, the Merry Harmonics, whose members play as much for their own enjoyment as that of the audience. Along with a few doctors, the band includes people from many walks of life, from diplomats to carpenters.

Barry Shurlock is a freelance medical writer.

The opinions expressed in Circulation: European Perspectives in Cardiology are not necessarily those of the editors or of the American Heart Association.
European Perspectives

_Circulation._ 2007;116:f37-f42
doi: 10.1161/CIRCULATIONAHA.107.185755
_Circulation_ is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
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Print ISSN: 0009-7322. Online ISSN: 1524-4539

The online version of this article, along with updated information and services, is located on the World Wide Web at:
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