ESC European Society of Cardiology
European Heart Journal (2018) **39**, 1121–1130
doi:10.1093/eurheartj/ehy137
CARDIOPULSE

Pioneers in cardiology

Paul Hugenholtz MD at 90

Polyphenols on the Endothelium Superhighway. Now in his 90th year, Dutch cardiologist Paul Hugenholtz retains a remarkable ability to see the bigger picture. Over the years, this perspective has helped him create a future vision for the European Society of Cardiology and to perceive the potential in new developments such as ultrasound in the 1970s

As a newly qualified doctor from Leiden University, in the Netherlands, Dr Hugenholtz left a drab, post-war Europe, and headed west to the USA where he found a trainee role at a university-affiliated hospital in Michigan. He enjoyed 1950s middle-American lifestyle and eventually applied for citizenship only to be told that this was subject to a spell of military service as a reservist. He says: 'A Green card came with strings and I had to choose between the army or air force'. He opted for the air force hoping to be sent to the US base in West Germany, closer to home, but he was posted to the Arizona desert and put in sole charge of a 35-bed internal medicine ward. His role was to care for trainee fighter pilots, air force personnel, and their families. He describes it as 'a unique way to practice medicine' and a seminal learning experience, characteristic of the American way.

As a newcomer from Europe, he had heard that Boston and Harvard University were the places where important things were happening in medicine and consequently sought out opportunities on the east coast. He started with a role at Boston City Hospital with a nascent research interest in electrocardiography having worked with fighter pilots experiencing stress-related cardiac problems. He later moved to the Brigham and Women's Hospital to work in the cath lab before rising through the ranks at Harvard University to the role of associate professor specializing in paediatric cardiology. He became immersed in his role and 1960s America, vividly recalling being caught up in one of the biggest dramas of the day involving the Kennedy family. He participated first -hand in the desperate, but ultimately futile attempts to save the prematurely delivered son of President John F Kennedy who had been rushed to Boston's Children's Hospital.

Despite Hugenholtz's 20-year attachment to the USA, the pull of the old country remained, and when he was invited to establish a new medical centre in Rotterdam with generous funding, it was too tempting to refuse. The faculty he initially participated in went on to become the Erasmus Medical Centre in Rotterdam.

At the beginning of the 1970s he became involved in the ESC—at that time a relatively new body which although a worthy collection of eminent academic individuals, appeared rather nebulous. Then, it was down to individual national societies to organize international meetings and congress. Having seen how things were done with the American College of Cardiology and the American Heart Association, Hugenholtz could see the potential and scope for development. He says: 'Although it was very clear that there was a lot of knowledge in Europe, the ESC was a rather loose collection of national cardiologists which was very much the preserve of the old guard'.

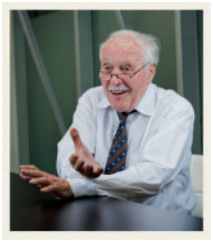
Together with Henri Denolin MD, who held the presidency of the ESC between 1976 and 1980, Hugenholtz pushed though some major organizational changes which became key features of the ESC as it exists today such as communication of scientific investigations via the Journal and Congress and better exchange of knowledge and research via the establishment of working groups (WGs). Hugenholtz engineered an international organization with distinct annual congresses in various countries operated from its own headquarters in France.

The introduction of WGs was something of a revolution in terms of challenging the supremacy of the old guard. He says: 'The normal procedure in a national society would be to complete a PhD, be selected for a professorship, work on various functions and by the time you were in your 40s or 50s, within your own country, you would have achieved something, and others would be ready to listen to you. But my training in America had taught me that knowledge grew from around topics and the people who had that knowledge were in their 30s and were working on investigations in those areas'.

The initial set of 12 WGs which in 1972 were formed around the important topics of the day soon expanded to 16 and provided a platform where the experienced, establishment view could be cross-fertilized by younger fellows and researchers working at the sharp end of science and medicine. It was a better and more dynamic style of international collaboration and Hugenholtz points to the way that echocardiography was introduced to Europe much earlier than it might have been adopted thanks to this style of collaboration.

The ESC Congress—which was emerging as a major learning and knowledge exchange platform—came under the spotlight next. The event had a hit-and-miss history and was passed around the national societies on a 4-yearly basis with some groups unwilling or unable to host the event. Hugenholtz put in a lot of travelling across Europe to speak to the various national societies about the event and concluded that it was too important to be left to chance. Organization of Congress was taken 'in house' to be organized by the ESC, which led to the foundation of the European Heart House (EHH) in 1993. Headquartered in France, the EHH provides not only a physical base for the organization but also an administration and training centre.

Hugenholtz's own presidency of the ESC lasted from 1984 to 1988 and was characterized by a period of growth and co-operation including the creation of the Fellowship of the ESC—a role to which Hugenholtz was the first elected member after being nominated by secretary of the day, Henri Kulbertus. In addition to the WGs and the Journal, Congress went annual. He believes Congress and the ESC family of publications now act as an indicator of where the field is going and what issues are arising, such as the future struggles over the 'ownership' of the cardiovascular system, which he suggests lie in wait.

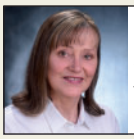


'Right from the time I was President, I said the heart and vessels with their prime logistics role are one, then I changed my story, and said the vessels are more important than the heart. Although nobody really wanted to believe what I was saying back then, it's clear from the prominence given to coronary artery disease during at the 2017 Congress that it has finally been recognized to be an inflammatory disease of the cardiovascular system and the arterial endothelial layer'. A major issue that is hiding in plain sight, worldwide, is the epidemic of atherosclerosis and the imperative to deal with it by taking nutritional factors into account.

He says: 'These factors are being ignored by nearly every cardiologist who says it's a dietician's job, but it's not! Shared perhaps, but nutritherapy belongs to the cardiologist once he or she accepts that nutritional deficiency plays a major causative role in atherosclerosis We have had three major trials published in Europe, but nobody wants to talk about the so-called Mediterranean diet and its components amongst which the polyphenols constitute a crucial role. The trials proved over many years that if you have at least 400–600 g of vegetables and fruits and at least two, preferably four tablespoons of olive oil and 2–4 glasses of the right red wine, you could get enough of these polyphenols from your daily diet. We know about these things because it's been amply demonstrated, but when you look at the reality, it turns out for example, that the average Dutchman only eats around 50 g of fruit and vegetables a day in a country which prides itself on the excellence of its agricultural exports'. Hugenholtz underlines the irony in the reaction of the health authorities to rising rates of cardiovascular disease. 'They know the facts and figures and it really can only be put down to unwillingness that this is not being put across to the public with reference to heart disease'.

As an active nonagenarian Hugenholtz is walking–talking proof of the veracity of research into polyphenols and dietary recommendations. He cautions that cardiologists cannot continue to live off drug treatments and interventional therapies such as statins, angioplasty, and bypass surgery for ever, as this amounts to treating the after-effects while ignoring the preventative nature of good nutrition. He likens the many miles of endothelium found in the blood vessels to a superhighway and says it is the job of the cardiologist to keep it running smoothly and free from obstruction, rather than only concentrating on repairing it when already obstructed, often with serious complications and negative sequelae.

'The entire cardiovascular system is our responsibility as cardiologists,' he says, 'from cradle to grave—a concept for which our ESC was formed'.



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Conflict of interest: none declared.