

'The Most Important Duty of a Mentor Remains His Availability'

An Interview with Dr. Jean Morisset

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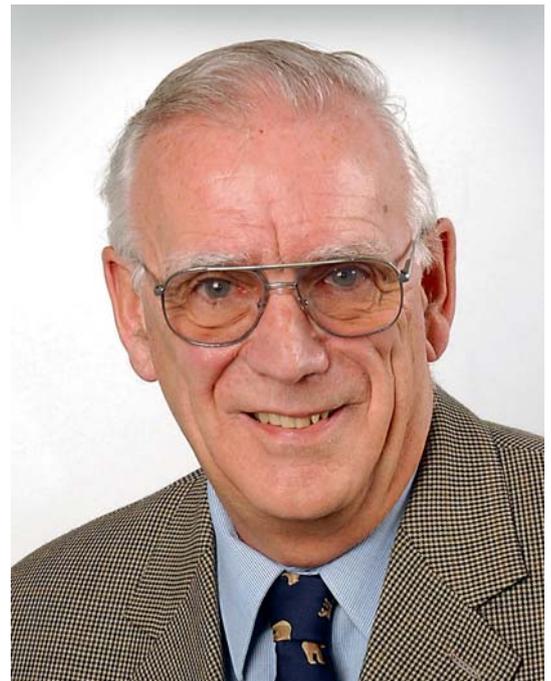
Abstract

We interview Dr. Jean Morisset, an internationally recognized leader in the field of pancreatic physiology. His work on the regulation of pancreatic secretion by hormones and the parasympathetic nervous system has been fundamental to the understanding of pancreatic adaptation to diet in normal as well as pathological conditions. Here he provides advice for young investigators starting in the field of pancreatic research and emphasizes the key role of the relationship mentor-mentee during the career development.

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M.F.-Z.: What initiated you to work in pancreas research in the first place?

J.M.: Destiny, I guess. When I graduated in Biology from the Université de Sherbrooke in 1965, the Sciences Faculty opened its graduate school that year and I was among the first four graduate students to enroll in their new program. At that time, there was only one possible opening in physiology with Dr. Jacques Dunnigan, who was working on the exocrine pancreas. This is how I ended up working on this exciting gland, studying the role of hormones and the parasympathetic nervous system in pancreatic enzyme adaptation to diets in rats. In 1968, I became the first Ph.D. graduate of our university. I then had the good fortune to win a postdoctoral fellowship from the Research Council of Canada and I was accepted



Dr. Jean Morisset

by Dr. Paul Webster III to go to the Medical College of Georgia to investigate the effects of fasting, feeding and CCK on pancreatic protein synthesis and on specific pancreatic enzymes in pigeons and then in rats. Dr. Webster was a real mentor for me, giving me all the opportunities

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to learn how to manage and supervise a good size laboratory both technically and scientifically. In 1970, I came back to the Department of Biology in Sherbrooke as an independent investigator, where I stayed for 25 years before moving to the Medical School for the last 11 years. All these years and still today, the pancreas has always intrigued me and to most of us in the field, it still keeps its secrets fiercely.

M.F.-Z.: You have pioneered pancreas research in so many directions. At the end of the day, what has given you most personal satisfaction?

J.M.: Indeed, I studied the whole pancreas in all its aspects over the years and I can say that this organ gave me joy, headaches and major satisfaction when we succeeded in revealing some of its secrets. However I think that, as a scientist, the greatest personal satisfaction is and will be the formulation of a working hypothesis and to demonstrate one day that it was right. By doing so, we participate in the discovery of new knowledge that can be beneficial to society. Another personal satisfaction is the fact that I had the opportunity all my working life to do what I like the most, namely doing research. Every morning I am waking up happy to go to work. How many people have this good fortune in life?

M.F.-Z.: Based on your experience as mentee and mentor, can you comment on the value of mentorship for the development of a new investigator?

J.M.: These days, being an independent investigator in all fields of research is much more demanding than 25 years ago. Indeed, with less money available, we are much more obliged than before to do all kind of work still related to research but away from the daily preoccupations of doing experiments, getting results and writing articles so that we can succeed in our next grant application. Graduate students are much more difficult to attract these days, especially when they see how much work we have to put out, quite often sacrificing vacation time to meet our deadlines. To convince these new graduate students arriving in your lab that research is still a rewarding way of life, you have to accompany them on their scientific journey. As a mentor, you have first to give them a challenging research topic that will capture and excite their imagination. The most important duty of a mentor remains his availability because students often need moral and technical support: positive and stimulating results are not always present at the end of each day. A good mentor must also teach his students the importance of putting forward clear hypotheses, designing accurate protocols and ensuring technical reproducibility; furthermore, scientific honesty must remain an essential priority.

M.F.-Z.: What is the best advice you have received during your career? What is your advice to the young investigators that are beginning in the field of pancreas research today?

J.M.: The best advice I received early in my career was given to me by my father, a devoted family doctor and pediatrician, who told me to be passionate and stubborn. Passionate: if you don't like what you are doing and don't accept the sacrifices associated with the job, research is not your place. Stubborn: when you are convinced that your hypothesis is right, take all means available to prove it. I experienced this early in my career when it took me a year of almost daily experimentation to prove that the pancreas cannot sustain high rates of enzyme secretion and high rates of enzyme synthesis at the same time. We indeed demonstrated that while enzyme secretion was strongly stimulated, their synthesis was significantly reduced and resumed only when secretion returned towards basal levels. This study was published in the *Canadian Journal of Physiology and Pharmacology* [1974;52: 198–205].

M.F.-Z.: What do you think are the big questions to be answered in pancreatology?

J.M.: As a pancreatic physiologist, my major concern these days is that we have almost completely moved away from the basic physiological problems of the pancreatic gland. I am not saying that efforts and money have to move away from cell biology and molecular biology but basic pancreatic physiology has to regain its place to put into perspective the new findings in the other subspecialties. More important, pancreatic physiologists are an endangered species these days and I am wondering who will be verifying the findings of the molecular biologists in the living animal? The following major questions remain to be answered in pancreatic physiology; we need: (1) to develop better antibodies against the major hormonal receptors responsible for the control of pancreatic secretion and growth in order to identify the cells involved in these processes and establish the direct or indirect action of the hormones involved; (2) a better knowledge of the relationship that might exist between the exocrine and endocrine pancreas for a better understanding of pathologies such as diabetes and cancer; (3) to establish and find pancreatic stem cells to clarify the interrelationship that might exist between acinar, ductal and islet cells in the process of pancreatic regeneration and cancer development, and (4) try to find ways to have better access to the human pancreas so that we can get new knowledge of its normal physiology and control mechanisms. In order to answer some of these questions, we believe that the pig

could be one of the most accurate animal models, at least to study pancreatic enzyme secretion, growth and regeneration. Indeed, we recently demonstrated that the CCK_A and CCK_B receptor distribution is similar in the pig and human pancreas [J Histochem Cytochem 2003;51:1501–1513] and that the pig pancreas can regenerate after partial pancreatectomy [Pancreas 2000;21:321–325].

M.F.-Z.: What do you think is the major need that a journal like *Pancreatology* should meet?

J.M.: Graduate students and fellows are the future of pancreatic research. These days, it becomes more and more difficult to get our results published because our subject does not necessarily fit within the scope of many journals. *Pancreatology* is directly associated with all the

major European pancreatic clubs or societies and is the sponsor of the European Pancreatic Club. We all know that one of the most gratifying rewards for a graduate student is to have his first article published; it is motivating and exciting. Each year at its annual meeting, the European Pancreatic Club recognizes the best oral and poster presentations from graduate students and fellows in training by awarding special prizes. I sincerely believe that *Pancreatology* should join the rewards process by inviting these students and fellows to publish their data in the journal. This would be a direct commitment of the Editorial Board to encourage the new generation of scientists in the pursuit of their goal.