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AWA Woman of the Year -- April 24, 2001

First, I would like to thank the Academic Women's Association for selecting me to receive the Woman of the Year Award for 2000. A special thanks to Linda Pilarski and Cynthia Henderson for nominating me, to Cynthia for joining us tonight to introduce me.

My husband, David Cass, is also here tonight. Dave is a botanist in the Department of Biological Sciences, an outstanding teacher and a wonderful friend. Our shared interests in biology, and our commitment to university life, has made my academic journey much more fun than it might have been otherwise.

It's a great privilege to join the remarkable company of women who have been recognized previously by the AWA. Their personal achievements, and their contributions to the University on behalf of academic women, are admirable. Thank you for including me among them.

I was excited to learn that I had been selected for the award. I have enjoyed the attention—the congratulatory messages from friends and colleagues. But, accepting this award presents a special challenge. The award winner traditionally gives a speech that focuses on people or events that have shaped her career. I have given many challenging presentations over the years—to reluctant undergraduates in introductory biochemistry, to critical evaluators of my research proposals at site visits, to hundreds of invisible conference participants in cavernous convention centres. I've often worked long (and late) hours on my presentations but it's been relatively easy, since I've always known the story-line before I started. The preparation of tonight's speech was more difficult—what could I say about myself and my career that would be of interest to you? Are there lessons to be learned from my experience that would be useful to others?

I came to the University of Alberta in 1970, after spending five years in graduate school at the University of California. What a change! From Berkeley in the 60s, with its outstanding faculty and tradition of political activism, to the U of A in the 70s, at the beginning of its transformation from a small mostly undergraduate university to one of Canada's major research-intensive universities. From an academic environment where, in a single week, I once heard public lectures by Arnold Toynbee, Martin Luther King and Max Perutz, who won the Nobel Prize for determining the structure of hemoglobin, to an environment in which lectures from visiting speakers were a rare event, and an open forum during the October Crisis on the War Measures Act drew fewer than 50 people. The development of my academic career, from a postdoctoral fellow in the McEachern Laboratory (a cancer research group in the basement of the old Dentistry-Pharmacy building) to the Chair of the Department of Oncology (the 2nd largest department in the Faculty of Medicine & Dentistry) has paralleled, and benefited from, the incredible

growth of research at the U of A. I came to Edmonton for a few years, with reluctance because of its isolation from main-stream science. Here we are in 2001, and I've stayed in Edmonton for a career.

Tonight, I will share with you some of the highlights of my career development, focusing on special people who have shaped my intellectual and professional life. I've concluded that the most important influence has been guidance, through mentoring and by example, that has been provided to me by family, teachers and colleagues. It helps to have been blessed with good genes and good health, and especially to live in a part of the world that can afford to fund research universities, to live in a society that will pay people like ourselves, not only to teach, but to be creative, to discover new knowledge, and to apply new knowledge to human problems.

Now, let me take you to the beginning. Where and when did my academic career begin? It started when I was a child, growing up in rural Oklahoma, a doctor's daughter, in a home on the only paved street in town, a home with books stacked to the ceiling, two Steinway grand pianos, a 10-inch reflecting telescope in the back yard, 4 younger brothers and sisters, pets of many varieties and, most importantly, a family culture that incorporated the principles of equity. In my family, gender equity was a given—I grew up knowing that I could pursue any profession I wanted, if I had the talent and commitment. Although I have occasionally had professional difficulties because of gender, I credit my parents with providing a childhood "equal opportunity" environment that shaped my personality. I haven't been handicapped, as I believe many talented women have been, by cultural conditioning that produces a lack of confidence in one's ability to achieve.

When I was young, the focus of equity issues in our life was on political beliefs, religion and race. Political witch-hunts, and my father's activism as a medical student in Chicago in the 1930s, led to our eventual move to a small rural Oklahoma community, where my father practiced medicine for over 50 years. I grew up in a part of Oklahoma known as "little Dixie," famous for its illegal mountain brew (Oklahoma was a prohibition state until the early 70s!), and in the heart of tornado alley. We lived next door to an elderly Jewish couple, the only Jewish people in our county, with whom we shared many experiences. When I was 7, we spent a stormy night huddled in a corner of the Levin's Wizard-of-Oz style tornado shelter while my father and his nurse delivered a baby. Fifty years later, Juanita (they would have named her after my father had she been a boy) delivered the speech on behalf of the >2000 babies delivered by my father at his retirement celebration.

But, back to equity issues. Our Jewish neighbors were frequently harassed and threatened by anti-semitic individuals—my parents once allowed the FBI to use our house as their base to watch over the Levins, to protect them and to identify the perpetrators. When I was growing up, Oklahoma was segregated—we had separate public facilities, schools and churches. In the early 60s, when the civil rights activists held their famous sit-in at lunch counters in Oklahoma City, my 8-year old sister, who had watched the demonstrations of TV and had listened to family discussions, organized her friends to

picket the local laundry mat for desegregation. Years later, she created a stir in our little community when she invited the black family who looked after our house to be guests at her wedding. My sister eventually went to law school.

How did I choose biology, and eventually academic cancer research, as my profession? When I was growing up, everyone thought that I would choose literature or music. I was a voracious reader, and took piano, voice and organ lessons until I graduated from high school. I loved books and music. When I was in grade school, my father would go once a week during summer vacation to a near-by, much larger town with a public library. I would tag along to get books, books and more books. Because of my reading skills, I finished high school at 16 and went to University, still thinking that I would choose a subject in the arts.

I enrolled in a full-year course in Zoology, to fulfill the basic science requirement of the Arts & Sciences Faculty at the University of Oklahoma. My life changed forever with that course! By chance, I was assigned to a section taught by the most rigorous, but also one of the best, professors in the Department. He was an imposing man, nearing retirement, with white hair and a stern demeanor, had written a major text on Human Genetics, and had trained and still collaborated with the founders of modern human genetics. The class met daily and, because I was afraid that Dr. David would pick me to answer the question of the day, I always read the assignment before class and thus was remarkably prepared. As the year progressed, and I began to learn about biology, I found it fascinating. The question period in Dr. David's course became a game. It was a hard course (some said the hardest amongst the introductory science courses) and I an A. I was proud and returned home for the summer, thinking that I should add biology to my list of possible major subjects.

Now, let me tell you what tipped the scales in favor of biology, rather than literature or psychology, which were my alternate choices. Dr. David did something for me that few professors, then or today, do for their first-year students. He encouraged and complimented me for my academic skill, in an old-fashioned and formal way by talking to my parents instead of directly to me. He wrote my parents a letter, about my performance in that course and his assessment of me as a student. Here are excerpts from that letter, which my father saved and, years later, when I finished my graduate studies, gave to me.

The letter is dated June 7, 1960, when I was just 17 years old:

"It was my privilege to have your daughter, Carol, in my section of Introductory Zoology.her final examination grade and her overall grade for the semester were the highest made by any of the 252 students enrolled in all sections of the course... What impresses me more than her ... high grade record, however, is ... that Carol's intellectual curiosity has not suffered the attrition that seems to be the fate of intellectual curiosity in most young people of today by the time (or long before the time) they reach college. As you can imagine—or possibly, as you can't imagine if you haven't experienced the interminable frustrations of a teacher's career—to find this curiosity still alive and active,

coupled with a high order of intelligence and critical insight, is one of the extremely rare rewards of a university teacher's life; to find it in a young woman who also very obviously possesses a great measure of personal charm and, I think, a considerable zest for life, makes it all the more heartwarming. I hope that some day I may have the good fortune to meet Carol's parents."

I chose Zoology as my major, graduated with distinction and won a variety of awards, including the Oklahoma equivalent of the U of A Faculty of Science gold medal and a Phi Beta Kappa key. None of those awards were as important as the praise that I received from Dr. David. I remained at Oklahoma to do a Master's degree and asked Dr. David to serve on my thesis committee. His second gift to me, after reading the first draft of my thesis and expressing his disappointment in my writing style, was his personal copy of Strunk and White's "The Elements of Style." I still have that book, which has Dr. David's pencil marks in the margins, as well as a more robust, recently published edition, in the top drawer of my desk at home, and use it frequently. Now, I am a university professor and, like Dr. David, give that important little book to my graduate students, in the hopes that their writing will improve, as mine eventually did.

There have been many other important mentors and role models who have contributed to my professional development. I will mention a few, and only briefly, because time is short. Most, like Dr. David, have been men—they are, after all, in the majority in my profession. My male mentors and colleagues have been enormously helpful, and I have learned a great deal from them. My graduate supervisor, Morgan Harris, from Cal, and my postdoctoral supervisor, Alan Paterson, from the U of A, taught me how to do research, and Alan taught me most of what I know about scientific writing and the art of editing. Peter Scholefield, the Executive Director of the National Cancer Institute of Canada, opened doors to national research committees and was an excellent role model in research administration. In the early 1990s, I was invited to serve on the NCIC's senior research policy committee and became its first female member and, subsequently, the first female to serve as its Chair. Although gender balance may have been involved in NCIC's selection of me to its committee, geographic balance was the more important factor, since, in those days, NCIC was under fire for its "Toronto-centric" approach to governance.

A special female role model in my area of research was Trudi Elion, who left graduate school with an MSc in the 1940s to work for Burroughs-Wellcome in the United States. Trudi eventually became Director of Research at Burroughs-Wellcome, with responsibility for 2000 scientists. Trudi and her colleague developed a number of important drugs that are used in organ transplantation and to treat cancer and viral disease. I first met her in 1972, when she asked an insightful question, after I had presented my first-ever research paper at an international conference. In 1988, Trudi received the Nobel Prize in Medicine. In the years that followed, at conferences and social events, she generously shared her experiences and impressions of the challenges confronting women in science, and was an excellent mentor to young men and women in her field.

Let me finish, by telling you what I do today. April 30 marks the end of a five-year term as Chair of the second largest department in the Faculty of Medicine & Dentistry, and just last week, I was offered a second five-year term. My appointment to the chair position included two firsts in our Faculty: the first female chair and the first basic scientist to serve as chair of a clinical department. The second of these "firsts" is the more remarkable achievement. I am the Associate Director (Research) of the Cross Cancer Institute, with responsibility for administration of >\$6 million of research programs at the Institute. I have a large, multi-agency funded research program in membrane biology and cancer therapeutics with a research team of 15 people. During the current academic year, I chaired a national grants panel, served on an international prize selection committee and am the chair of an international conference in my research field. The latter is a special honor because the first conference in the series was organized by Trudi Elion and the most recent conference was dedicated to her memory. I have just been appointed to the Advisory Board of the new CIHR Institute for Cancer Research, to the editorial board of an important new journal in molecular cancer research, and to the national Board of Directors of the Canadian Cancer Society.

You are probably thinking that I'm over-stretched, and Dave, who has been doing much of the grocery shopping and cooking lately, would be the first to agree. But, it's all still so interesting, like Ado Annie in the stage-play Oklahoma, "...I cain't say no."

Thank you this wonderful award, and the unusual opportunity for introspection. I hope it has been as useful to you as it has been for me.