PREFACE

Oral history has its roots in the sharing of stories which has occurred throughout the centuries. It is a primary source of historical data, gathering information from living individuals via recorded interviews. Outstanding pediatricians and other leaders in child health care are being interviewed as part of the Oral History Project at the Pediatric History Center of the American Academy of Pediatrics. Under the direction of the Historical Archives Advisory Committee, its purpose is to record and preserve the recollections of those who have made important contributions to the advancement of the health care of children through the collection of spoken memories and personal narrations.

This volume is the written record of one oral history interview. The reader is reminded that this is a verbatim transcript of spoken rather than written prose. It is intended to supplement other available sources of information about the individuals, organizations, institutions, and events which are discussed. The use of face-to-face interviews provides a unique opportunity to capture a firsthand, eyewitness account of events in an interactive session. Its importance lies less in the recitation of facts, names, and dates than in the interpretation of these by the speaker.

Historical Archives Advisory Committee, 2000/2001

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ABOUT THE INTERVIEWER

Howard A. Pearson, MD

Dr. Howard A. Pearson is a pediatric hematologist oncologist and a professor of pediatrics at the Yale University School of Medicine in New Haven, Connecticut. He was graduated from Dartmouth College and received an MD degree from the Harvard Medical School in 1954. He served a rotating internship and then a two-year pediatric residency under Thomas E. Cone, Jr. at the U.S. Naval Hospital in Bethesda, Maryland. He had a fellowship in pediatric hematology under Dr. Louis K. Diamond at the Boston Children’s Hospital. He then spent six years in the department of pediatrics at the University of Florida College of Medicine in Gainesville. In 1968, he came to Yale as professor of pediatrics and chief of pediatric hematology oncology. Between 1972 and 1985 he was chairman of the department of pediatrics and chief of pediatrics at the Yale New Haven Hospital. In 1991, Dr. Pearson was elected vice president of the American Academy of Pediatrics and served as AAP president in 1992–1993. In 1993 he was appointed to the AAP Historical Archives Advisory Committee and served as its first chairman.

PERSONAL COMMENTS BY DR. PEARSON:

I worked with Dr. Audrey Brown on many occasions and in many venues over the years and considered her to be a good friend. In early June, 2001, while we were discussing other matters on the phone, Audrey told me that she had recently been diagnosed with inoperable lung cancer, despite the fact that she was never a cigarette smoker, nor was her husband. Our interview was conducted shortly after this phone conversation. She had just learned that she had several brain metastases and was being treated with high dose methylprednisolone to control intracranial pressure. Despite all of this, her memory was excellent and she was, as always, voluble, articulate and funny. She displayed humor, courage and grace to the end. Audrey died on September 14, 2001.
Interview of Audrey K. Brown, MD

DR. PEARSON: This is Dr. Howard A. Pearson. The date is June 27, 2001. I am sitting on the terrace of the beautiful home of Dr. Audrey K. Brown and Dr. A. Jay Bollet overlooking Long Island Sound in Sands Point, New York. I am here to conduct an oral history on Dr. Brown as part of the Oral History Project of the Pediatric History Center of the American Academy of Pediatrics.

Audrey, we have known each other for a very long time, and interacted many times over the years. I want to explore with you today some of the places you have lived, some of the people you have worked with, and some of the things that you have done during your very successful career. First, tell me about your early life and family. You are a native New Yorker?

DR. BROWN: Yes. I was born in the Lenox Hill Hospital in Manhattan. My father, Joseph H. [Joe] Brown worked in New York City for the Union Carbide [Corporation] for most of his life. He was born on a farm in rural Warwick, New York and went through high school in Florida, New York. In 1913, following the death of his parents, he and his brother John sold the family farm, moved to New York City and enrolled in Columbia College. At Columbia my father was very active in sports, especially football, and was elected class president. During a football game in his junior year of college, he suffered a severe knee injury and was admitted to Lenox Hill Hospital. He was cared for by a young nurse, Ann Nemec, whom he courted and they became engaged. After college, my father left New York for about a year to teach and coach at a prep school in California, but returned to New York when he became ill and again entered Lenox Hill Hospital to have his gall bladder removed. He was reunited with his fiancée, my mother, and they were married just before his surgery.

My two sisters, Joan Brown and Eileen Brown, and I attended public schools in New York City. In 1930, our family moved to Bayside, Long Island, not too far from where we are this morning. When Bayside High School first opened in 1936, I entered as a freshman, and my sister Joan entered as a junior. My mother and father continued to live in Bayside. My father was the founder and first president of the Bayside Historical Society.
After graduating from Bayside High School, it was natural that I should attend Columbia [University], considering that my father, uncle and sister had gone there. I entered Barnard College of Columbia University and graduated with an AB summa cum laude with a major in history and was elected to Phi Beta Kappa. At graduation, to my surprise, I was offered a fellowship and became a Francis M. Dibble Scholar in history and earned my MA in history from Columbia in one year.

In that era when few women were encouraged to pursue careers, my father told his three daughters that they could be anything they wanted to be if they worked hard enough. There was never a presumption that gender would interfere. This carried over into every aspect of our education. At no time did my sisters or I feel inferior to male classmates.

I had decided to go into medicine and took the necessary pre-med science courses in my senior year, but I just couldn’t turn down a full time scholarship in history. This was the first of a series of fellowships that I have had. When I decided to try to enter medical school, I only applied to Columbia P & S [Columbia University College of Physicians and Surgeons]. The medical school application had to include a $50.00 fee. I called my father and told him that I wanted to talk to him in his office. He said I could tell him what I wanted over the phone, but I insisted that I wanted to discuss something with him face to face. He finally agreed and I went to his office and told him that I wanted to go to medical school and needed $50.00 to apply. I think that he was very relieved to hear that that was why I wanted to talk to him! He gave me the $50.00 but told me that it was probably best not to tell my mother.

Although I was accepted at P & S, I decided that I had to earn some money to help pay my own way and applied for a job as a teacher on Long Island. I remember going to see the medical school dean, Dr. [Aura E.] Severinghaus, and at my father’s suggestion, I asked the dean to defer my admission for a year so that I could earn some money. He asked me how much I thought I could earn, and I guessed about $2,000 and I would be living at home. He said, "That should cover expenses for about a year, but what will you do then?" I said, "If I’m no good, there will be no problem about further expenses. If I am any good, I'll come back to you for a scholarship." He smiled and said, "Miss Brown, we will see you next year." I taught science at Bayside High School and then entered medical school in the fall of 1946.

DR. PEARSON: How many women were in your class?

DR. BROWN: There were only ten out of a class of 110, but I never felt uncomfortable or out of place in med school on the basis of my gender. I was proud and honored to be in med school at P & S. I did have trouble with many of the medical terms and words – I had only taken the bare minimum
of science courses in college. But many others in my class had just returned from the war, and they had the same problem. All in all I did well and was elected to AOA [Alpha Omega Alpha, medical school honor society].

DR. PEARSON: Do you have any special recollections about medical school. You must have spent some time at Babies Hospital. Wasn’t Rusty [Dr. Rustin] McIntosh professor and chief there at the time?

DR. BROWN: Yes. The pediatric faculty at Babies was wonderful – Dr. [Rustin] McIntosh, Horace L. Hodes, Dick [Dr. Richard L.] Day, Jim [Dr. James A.] Wolff and others. It was because of them that I decided to go into pediatrics.

DR. PEARSON: After graduation in 1950, you took an internship in internal medicine?

DR. BROWN: Yes. Pediatric residency at that time was only two years. It was common to take an internship in medicine or a rotating internship before entering pediatric training. I went to the Columbia Medical Service [First Division] at Bellevue Hospital. This was a kind of shock. The hospital was very large, full of very sick patients and very understaffed. The service at Bellevue was in sharp contrast to Columbia-Presbyterian. My first assignment was a 72-bed chest service ward – mostly patients with advanced tuberculosis. This was recognized as a very hard rotation, and they had apparently assigned "A. Brown" as the intern, not realizing that A. Brown was a woman. It was a very difficult year, but the most positive thing that happened that year was that I met Jay [Dr. A. Jay Bollet] who was a resident physician on the chest service at Bellevue. Then I transferred to the pediatric service and became a pediatric resident at Bellevue on the service of Dr. L. Emmett Holt, Jr.

DR. PEARSON: Tell me about Dr. Holt.

DR. BROWN: Well, Lemmett was an exceptional teacher...

DR. PEARSON: Did you really call him Lemmett?

DR. BROWN: Certainly not to his face. I called him Dr. Holt! If a question came up while we were making rounds he would say, "Well the one who can answer that question is Dr. So & So in Utah," and he would break out of rounds and go to his office telephone and call Dr. So & So. He had contacts all over the world and knew what they all were doing. Once, when we were discussing prematurity, he asked me, "Now, what animal is born premature?" I said, "The kangaroo." He called to his secretary and said,
"Get me the zoo in Sydney, Australia," and began a conversation about these prematurely born animals.

I was deeply impressed and have found myself over the years interrupting my rounds with telephone calls to friends in pediatrics throughout the world who might have information we needed to care for a patient. My two years at Bellevue were excellent. I learned and did a lot.

DR. PEARSON: And then you decided to go into pediatric hematology?

DR. BROWN: During my second year of residency, I began to consider taking a fellowship in pediatric hematology. I first went to talk to Dr. Carl Smith at his office. You know that although he was chief of hematology, he was in private practice, had only a clinical appointment at Cornell [Medical School] and had an office outside of New York Hospital. He said that he would like to welcome me to the hematology service and told me to go over to New York Hospital and talk to his associate. I went there, and whom do you think I saw when I went through the door?

DR. PEARSON: Irv [Dr. Irving] Schulman?

DR. BROWN: Right. Well, Irv told me, rather abruptly, that he had already hired someone else, so I had to look elsewhere. I then went over to Babies Hospital and talked to Jim Wolff who offered me an L. Emmett Holt, Sr. Fellowship in Pediatric Hematology at Babies. Jim Wolff had taken hematology training in Boston, I think that he was Lou [Dr. Louis K.] Diamond’s first fellow.

DR. PEARSON: It was either he or Dave [Dr. David H.] Clement. Dave and Jim were with Dr. Diamond shortly after the war.

DR. BROWN: Jim Wolff essentially had a private practice in Babies Hospital, and he was most interested in oncology. When I started my fellowship in 1953, I told Jim that I wanted to do research in coagulation, bilirubin and abnormal hemoglobins and needed a laboratory. At that time there were only a few small research labs in the whole hospital. So I began to look around and on the top floor of the hospital I found a large room that was unoccupied. It had benches with sinks and sandstone tops that had chairs piled on them. It had outlets for gas, electricity and water. This was the hospital’s formula preparation room that hadn’t been used for years. So I went down and asked Rusty McIntosh whether I could use the formula room for my laboratory. He said, "Why not, it hasn’t been used for a long time?"

So I got my laboratory – a huge laboratory with a wonderful view overlooking the gardens at a time when full professors such as Dick Day were
working in closets. I had no equipment, but Jim Wolff was able to give me $1,300 from a research fund so I went about outfitting it. I bought and assembled a Heath Kit power supply, and soon was able to do hemoglobin electrophoreses – a new technique at that time. I bought a cheap spectrophotometer, and before long people from all over the hospital were asking to use it. We did a lot of bilirubin determinations. Dick Day handcrafted a wooden cuvette holder for us to use. I wanted to do clotting studies in addition. At the time, these were done by mixing a patient’s plasma with the plasmas of patients with known clotting deficiencies. I knew I wasn’t going to the Cornell service for test plasmas, but I was finally able to get some from Dr. Janet Watson in Brooklyn and set up Babies' first coagulation laboratory. I had a wonderful time!

At the end of that year, Jay and I were married and we moved to Washington, D.C.

DR. PEARSON: In 1954–55 you were a "civilian pediatrician" at Walter Reed Army Hospital. Tell me about this.

DR. BROWN: Well, Jay was then a clinical research associate at the National Institute of Arthritis and Metabolism at the NIH [National Institutes of Health] in Bethesda and we wanted to be together. There really wasn’t much interesting for me to do in Pediatrics in the whole Washington area. I didn’t want to do strictly clinical practice. So I got an appointment with the pediatric service at Walter Reed. Colonel Ogden Bruton was the chief of the service and he was a careful and caring pediatrician. The pediatric service at Walter Reed had only about 30 beds but the variety of clinical cases was spectacular. Every day planes would land at Andrews Field bringing Army children with medical problems from all over the world to Walter Reed as their court of last resort.

I was there when Dr. Bruton diagnosed the first case of agammaglobulinemia. He was caring for, and agonizing about, a little boy who had multiple episodes of pneumonia and other serious bacterial infections. He had done every imaginable test and still had no answer. He knew that there were no abnormalities of the child’s white cells and that the other major contributor to immunity was antibody. He discussed the case with a clinical biochemist at the AFIP [Armed Forces Institute of Pathology] who had a Tiselius apparatus for protein electrophoresis, and sent his patient’s serum for electrophoretic analysis. When the report came back that there was no gamma globulin peak, Dr. Bruton could not believe it and sent more serum samples for testing with the same results. He showed the electrophoretic pattern to me and I agreed that there appeared to be no gamma globulin. Bruton was still hesitant to make a definitive statement and wrote several letters to immunologists at Boston Children’s Hospital describing his findings and asking for advice. Well, you know the story;
shortly after Bruton submitted an abstract for the annual meeting of the SPR [Society for Pediatric Research], an abstract was submitted from the Boston group describing four boys with similar findings, but no mention of Bruton. I have been gratified that Bob [Dr. Robert A.] Good, in his writings always referred to "Bruton’s agammaglobulinemia."

DR. PEARSON: That was not the only time Bob Good made such a generous gesture. Although Angie [Dr. Angelo M.] DiGeorge never formally published his description of children with immune dysfunction and hypoparathyroidism, Bob Good insisted on the eponym, "DiGeorge’s syndrome."

DR. BROWN: While I was at Walter Reed, I tried to learn more about bilirubin metabolism in newborns and was able to spend a half-day a week at the AFIP trying to do some research. In 1955, Jay began to look for a faculty position and was invited to interview at the College of Medicine of the Wayne State University in Detroit and I went along with him. At a dinner that night, I was seated next to Jim [Dr. James V.] Neal and we spent the whole evening talking about fetal hemoglobin and how an ability to turn on fetal hemoglobin could cure sickle cell anemia and thalassemia. Jim asked me to come with him to the Detroit Children’s Hospital the next morning and introduced me to Wolf [Dr. Wolf W.] Zuelzer. Wolf and I had a long discussion about hematology, including abnormal hemoglobins and bilirubin. He took me to the Child Research Center [of Michigan] and showed me Tom [Dr. Thomas B.] Cooley’s charts of his original patients with thalassemia major seen at that institution.

Nothing was said about a possible job for me, and I was too shy to ask. Jay accepted a position as assistant professor of medicine at Wayne State University, but I heard nothing from Wolf. I finally called him and asked whether there was a job for me, and he said, "Of course," and offered me a position as a senior research associate in hematology. It seems that between Jim Wolff and Wolf Zuelzer my life has often been involved with "wolves"! My years in Detroit were the most fulfilling of my life, and Dr. Zuelzer was the most intelligent, cultured and stimulating mentor one could have.

DR. PEARSON: Tell me more about your four years in Detroit.

DR. BROWN: I was a senior research associate in hematology at the Children’s Hospital of Michigan and the Child Research Center of Michigan which Wolf headed. I also was an instructor and then assistant professor at the medical college of Wayne State University College of Medicine. I did some clinical work but very quickly became interested in neonatal hyperbilirubinemia – a topic that has occupied most of my professional life. At the Children’s Hospital of Detroit they had many, many infants referred in from all over Michigan with severe hyperbilirubinemia, in fact there were always rooms full of them. It soon became apparent that many of them did
not have Rh or ABO erythroblastosis fetalis. I put together a description of these cases and showed it to Wolf. He read it over and said, "You have to present this at the SPR [Society for Pediatric Research]." I was overwhelmed; the SPR was the ultimate. But Wolf persisted and my abstract on neonatal hyperbilirubinemia unrelated to isoimmunization was accepted for presentation at a plenary session of the SPR in Buck Hills Falls, Pennsylvania in May 1956.

I was very nervous, but the night before my presentation Kurt [Dr. Kurt J.] Isselbacher talked to me and calmed me down. Kurt knew Jay and me from the NIH.

DR. PEARSON: Isn’t Kurt Isselbacher an internist; what was he doing at the SPR meeting?

DR. BROWN: He had just discovered the enzymatic defect in galactosemia. Since galactosemia is a pediatric disease, I guess he decided to report it before the pediatric research society.

My talk [Amer J Dis Child 1956; 92:481-486] described cases of non-hemolytic hyperbilirubinemia. In the discussion I stated that this kind of hyperbilirubinemia might occur because the newborn seemed ill equipped to metabolize bilirubin and excrete it and that this ability apparently gradually matured during the first week or two of life. I speculated that since bilirubin was toxic, it might require a hepatic detoxification system and the most common of these was glucuronidation. Indirect bilirubin might be converted to a glucuronide in order to be excreted. There was a great deal of discussion and I was on cloud 9. These speculations apparently caught the attention of Kurt Isselbacher. After my presentation, Kurt told me that he wanted me to come down to Washington, DC, to meet someone at the NIH. I called Jay and told him that I'd be a day late coming home.

We drove down to the NIH, and went to the laboratory of Dr. Rudi Schmid on Saturday morning. Schmid’s lab looked like one in a science movie with dozens of boiling flasks and machines going "apokata, apokata, apokata." Kurt introduced me to Rudi and said, "I want to you to meet Audrey; she has an idea that hyperbilirubinemia in infants may be due to a deficiency of the enzyme that conjugates bilirubin into a glucuronide." Rudi’s jaw dropped and he turned pale, much to Kurt’s delight. He knew that Rudi had just completed studies in the previous few weeks that showed that direct bilirubin was a diglucuronide. In fact the chromatogram showing this was still hanging in his exhaust hood.

We talked for a while and he told me of his experiments. I said, "That’s great, you can easily do the experiments that I wanted to do in newborn babies. Now I don’t have to do them because you can repeat your studies in
jaundiced infants to see if they can conjugate bilirubin with glucuronic acid." Rudi said in his deep German voice, "I don’t work with babies." But I said, "I don’t know how to do these kinds of studies." Rudi said, "It's very easy, all you need are hepatic microsomes." But I knew nothing about microsomes.

So Kurt took me down to another NIH laboratory where Dr. Gordon Tompkins was working on the hepatic microsomal conjugation of testosterone. I asked him how to make microsomes. He said, "It's easy. Do you know how to cook?" I had been married only two years and just about knew how to boil water. But I got some instructions and went back to Detroit.

Making microsomes required an ultracentrifuge. Most laboratories today have a compact Serval; but in the 1950’s, ultracentrifuges were huge, almost filling a room. I found out that there was an ultracentrifuge in the Child Research Center, but it was kept under guard. I got permission to use it and began to make microsomes from animal livers and was able to show that prenatal animals were unable to conjugate bilirubin, but this system developed rapidly after birth [Amer J Dis Child 1957; 94:510. J Clin Invest 1958;37:332]. I did much of this work while Wolf was in Africa with Jim Neal studying sickle cell disease.

In addition to hyperbilirubinemia and bilirubin metabolism, while I was in Detroit I also became interested in the hematology of the newborn and published a number of articles – you remember "Infantile Pyknocytosis." [Amer J Dis Child 1959; 98:227]

DR. PEARSON: And after four years, you moved on to Charlottesville, Virginia. Charlottesville has to be one of the loveliest places on earth.

DR. BROWN: Jay was recruited to the University of Virginia as associate professor of internal and preventative medicine in 1959. I went to Virginia as an assistant professor and was promoted to associate professor in 1962. I was director of pediatric hematology, but I had a lot of grant support and spent a great deal of my time continuing my research in bilirubin metabolism and red cell enzymology. I was appointed to a review committee at the NIH and was active nationally.

The pediatric department at Virginia was not very academically oriented. Gerry [Dr. Gerald B.] O'Dell was the chairman for a short time in 1961 – 1963. A very southern gentleman, Dr. MacLemore Birdsong, had been a person prominent in the department who was a founder of the Southern Society for Pediatric Research. I'm not sure that I was totally comfortable at first with the southern culture of Charlottesville.
It was during this time that my son, Jeffrey Brown Bollet, was born. We lived very close to the medical school and I was able to be with Jeffrey a lot during his first couple of years. After three or four years, we bought a very nice house on the outskirts of Charlottesville in sight of the Blue Ridge Mountains; and, you are right, it is a very beautiful place. Two years later we bought a farm way out of town and spent a lot of time fixing it up. I think that this may have been my way of indicating that I really didn't want to move again. But in 1966, Jay was approached by the University of Georgia. I knew that he very much wanted to be a chairman, and when he was offered the job, we moved even further south to Augusta.

DR. PEARSON: I remember visiting you in Augusta. You had an antebellum house.

DR. BROWN: Oh, ante, antebellum. 1751, I think. It was the oldest home in Augusta. Jay went down to Augusta first. We had just fixed up our Charlottesville farm and I thought that I'd keep our farm and when I went down there and we'd live at his house, at least for a while. On one of my trips, I met the wife of one of the faculty members named Jan Hudson, who had very good taste. I told Jay to ask her to see if she could find a place for us. Jan called me one night. I was standing in the kitchen. She said, "We've found your house!" I said, "Fine, tell me about it." She asked, "What do you want to know?" I said, "Well, start with the roof; does it have a mansard roof, or a peaked roof?" I described a lot of things which she agreed the house had. I said, "Jan, you're from New York. What you are describing sounds like Sagamore Hill and Teddy Roosevelt. She said "Yes, this house was built around 1910 and it does look like Sagamore Hill." Well, I considered that style to be an early, ugly phase of American architecture. But I went down to take a look at it and confirmed that I didn't like that house.

On one of my trips to Augusta, Jay and I were shown through a mansion, which obviously we couldn't afford. It was huge. If we put all our furniture - we had two houses at that time - this house would still be empty! When I walked into what I thought was the kitchen, I told Jay that I couldn't possibly come home and make dinner in this kitchen. It was enormous, I would need roller skates. Jay said, "This isn't the kitchen. This is the butler's pantry." I felt a draft from the windows and I found out that there was a big ballroom upstairs. Obviously it wasn't for us, but Jay was enthusiastic. He wanted to do something to make up for dragging me down there.

After showing us the house, the realtor went to return the keys to the owner's son who had a house on the same property. There was a man sitting in the son's living room. Assuming that he was the son, the realtor said, "Here are the keys to your mother's house. I think we've got a buyer." The man sitting
in the living room said, "I didn't know his mother was selling her house. I've always wanted it. I'll give you whatever they're paying and give you your commission directly." So much for the mansion!

I knew that Jay was going to be doing a lot of recruiting, so we needed a house and one that could be instantly identified with the South. On another trip I asked another realtor to take me around town. We drove around and I saw a beautiful house, which I knew immediately that I wanted. There was a car parked in front of it and there was no For Sale sign. He stopped the car and started to take me inside. I said, "What are you doing?" He said, "You never know, they might want to sell it." He asked, "How do you know you want to buy this house?" I said, "I have only one question. Did the man who designed the outside design the inside?" He said, "Oh, yes." Mrs. Kilpatrick, the owner, fortunately wasn't home. She was shopping for a hat for a wedding. If she had been there I think she would have thrown us out. I walked through the house very quickly. Although I didn't see most of the house, I could tell that it was perfect. The wallpaper hadn't been changed since the late 19th century. That house had been built in 1751, just three years after the first trading post had been established at the white waters of the Savannah River. There were the same kind of moldings they have in the White House - all marble. There were pier mirrors, gold framed. It was called the "house of a thousand crystal chandeliers" because the mirrors reflected and re-reflected the chandeliers. I’ll show you a picture of our house in Augusta if I can find it. They were going to write it up in the New York Times, but I said, "If you do that please write up the other houses in town that have been made landmarks. I don’t want to be run out of town tarred and feathered!" I have another book that shows the inside of the house. My heart broke when we left Augusta and Jay wouldn't let me take the pier mirrors from it.

The house entertained. It was lonely without a hundred people. I had a wonderful caterer, old Mr. Smoke. He'd bring a ham and a turkey to serve with little biscuits. There was no problem entertaining. I miss that. People just loved to come to our house. The Garden Club would show it every spring. The governor of Georgia during the Civil War, Joseph Brown, had been married in that house. So we really were able to fit in immediately and be identified with the South.

DR. PEARSON: Even as northerners?

DR. BROWN: It didn't show in that house. My son developed a southern accent. As soon as he crossed from South Carolina to Georgia, he was speaking Georgian. I had a terrible time because I have a natural tendency to speak to a person precisely the way that person is speaking to me. I sometimes had to bite my tongue because my northern friends would think that I was putting on. But I spoke Georgian as soon as anybody from...
the South talked with me. You have to be very careful because some people might consider it an insult, you know. We developed, I think, our best friendships there.

I wasn't really into the community at first, even though I was put on the various community boards, the opera board - they put me on everything. When all the board members would try to find a place for board meetings, there was always a problem. I remember one meeting we were trying to get scheduled. We were going to do it in September but everyone said, "Oh no, the children are going back to school." Could we have it in November? "No, that's the beginning of the holiday season. November and December are out and of course January is out and school is in the spring." I said, "Okay, you're all too busy, why don't you just come to my house," even though I was working every day.

The first person to invite us to dinner was our next door neighbor. Jay had forgotten and you just don't forget invitations in the South. He had organized a departmental research club meeting, and, of course, departmental functions were always going to be at the top of his priority list. I arrived there alone and we waited two hours for Jay to come. We were never invited back to that house again for dinner. There were a lot of protocols to be followed in the Deep South. We have the Masters Golf Tournament in Augusta every spring, and you can't get tickets any more, but we still got them then.

DR. PEARSON: You didn't rent your antebellum house to golf pros during the Masters week like so many people there do?

DR. BROWN: No, no we didn't. We really loved our home. We really did.

DR. PEARSON: You worked with Titus [Dr. Titus H.J.] Huisman at this time?

DR. BROWN: Yes. I looked around for someone with whom I could talk and communicate with about sickle cell disease and thalassemia. I just adored that man who headed a wonderful biochemistry department and was working on hemoglobins. He had come to visit me in Virginia. I think there was a mutual respect between us. I went to see him and told him I would really like to study developmental aspects of hemoglobins in infants and children. I said to him one day, "You know, Titus, everything that I've studied changes in the first three months of life: enzymes, proteins, red cells and so many other things. I can't believe that fetal hemoglobin in fetuses and newborns is the same fetal hemoglobin that you see recur in certain conditions in adults." We both were intrigued with this possibility. He didn't have anybody free in his biochemistry lab to pursue this and I
certainly didn't. But later he recruited a young man, named W. A. Schroeder, who was able to show that there were different forms of fetal hemoglobin and that their proportions differed in infants and adults. It was so exciting and I eventually got my name on a paper describing this. [Schroeder WA, Brown AK et al. Pediatr Res 1971; 5: 493] Titus, like Rudi Schmid and like so many others, had no idea that babies can tell you many things about biology.

I was very busy in the department of pediatrics. I was a full professor and was vice chairman most of my time there. Between 1969 and 1971, I was acting chairman of the department, and so was a member of AMSPDC [Association of Medical School Pediatric Department Chairmen]. And, of course, I was chief of pediatric hematology and director of pediatric sickle cell services in the Sickle Cell Center.

When I was in Augusta, we got grants to study our sickle cell anemia patients. Our kids often had to come 250-500 miles to see us. I soon found out that I was losing many babies from severe pneumococcal infections because they couldn't get to the hospital in time. I told myself, "We can prevent streptococcal infections; why can't we do the same thing with pneumococcal infections?" So we started to use penicillin prophylaxis in our sickle cell children and it seemed to work. I was in the national Cooperative Study of Sickle Cell Diseases [CSSCD] when it started in the 1970's. At first we were allowed to continue our usual treatments and procedures. Every time I went to a CSSCD meeting, I reported my observations that prophylactic penicillin was reducing early deaths, only to be told that I really hadn't proven anything statistically. But then one day the study statisticians came to my office gasping. They said, "Audrey, we've gone over the incidence of infections ands deaths in the first two years of life, and you have the best statistics in the country."

I think that this was the major impetus for the CCSCD Prophylactic Penicillin Study [PROPS] in little kids with sickle cell disease. PROPS was organized later, after I had moved to Brooklyn. I was asked to enter the study. I said, "Sure, I'll enter the study except for one thing. I won't have a control group receiving a placebo instead of penicillin unless you consider it reasonable to let patients in nearby hospitals like Brookdale, Long Island University and Brooklyn Hospital, be the placebo control group for my kids that I plan to keep on penicillin." I was told that the statisticians would not accept these as a placebo control group for my treated kids. I said, "Well then my name won't be on the paper, but I think you ought to do the study. Most people around the country aren't using prophylactic penicillin so you will be able to have a controlled study."

DR. PEARSON: Tell me about leaving your antebellum house and going to Brooklyn.
DR. BROWN: Well, it was that time again and two things happened. I got a letter that they were looking for a chairman at Brooklyn Jewish Hospital. I came up to look and I couldn't believe Brooklyn; I just couldn't believe it. I had the same impression that I had when I first went to Detroit, which was that the only way to fix this city was to bomb it. [Don't write that!] When I visited Brooklyn Jewish, I got absolutely physically sick. When they served lunch at a noon meeting I couldn't eat anything but ginger ale and jell-o. When I got home, I got another letter asking whether I would consider looking at the chair of pediatrics at Downstate [State University of New York Medical School]. Jay had also got a letter from Downstate asking him to interview for the chair in internal medicine. Well, we were both interviewed at the same time. Now I'm Brown and he's Bollett; nobody knew the twain shall meet! Nobody reads CV's very closely, I guess. Both interviews were going along very well until apparently the heads of both committees met in the elevator. The head of one search committee said, "Oh we have a good candidate. How's yours? What's the name of yours?" Only then did the other head say, "Don't you know those two are married?" End of my search for the pediatric chair! But I did take a job at Downstate. I was professor of pediatrics and head of hematology/oncology. When we went to Brooklyn, we bought this house in Sands Point, Long Island where we are today, and we have lived here since then.

They were still looking for a chairman and Dav [Dr. C. Davenport] Cook wanted the job and threw his hat in. I didn't know Dav well at that time. People he befriended and did a lot for later spoke terribly about him. He made me vice chairman and we worked very closely together. In fact, there was a rumor that we were having an affair! As you know he had just left his wife and brought in a new secretary who adored him.

DR. PEARSON: She had been his secretary in Boston fifteen years before.

DR. BROWN: She adored him. One day he said, " I won't be here June 19," or whatever date it was. And I said, "Oh, you're getting married." He said, "How did you know?" I said, "I have a place down on an island in South Carolina. Why don't you take it for your honeymoon?" I knew that I was going to have my head handed to me because of this. But I said, "Please tell your secretary so I don't have to tell her." Well it all worked out anyway. Many in the department felt that I was too close to Dav. They didn't like a lot of his decisions, but he tried. He tried very hard to make our department better.

He would send me on missions like a one I remember to King's County Medical Center to get more residents for the ER [emergency room]. They had a very chauvinistic, African-American senior administrator. This fellow would keep me waiting. He wouldn't be doing anything but he would just
want me to sit in his outer office for two or three hours. They had cut down
on coverage in the ER at night. I told him we couldn't run an emergency
room without doctors and that he had to do something about it. Well we
got round and round. At the end of our conversation he said, "You know
Dav shouldn't have sent you." He said it as if it was like sending an amateur
boxer up against Ali. Anyhow I wrote him a letter and I said, "I understand
that you've changed the budget and that you are paying chaplains to go to
the ER at night to explain why there are no doctors there. I would rather
have you pay doctors and have them explain why there are no chaplains
there." He told Dav, "Don't you ever, ever send that woman to see me again.
How dare she tell me what to do?"

But you know that hospital was run by politics. I couldn't figure it out for
the first several years why things weren't happening. Then I caught on to the
fact what really mattered was how many union members there were. That's
all that mattered. Patients didn't matter.

I made one major change. I love clean hands. The nurses would see me
coming and say, "Here comes Dr. Brown. Get the towels out, get the soap
out." I found that there were essentially no sinks for hand washing, even in
the ICU. I went to see Dav and said, "You've got to do something. This is
very, very important." He said, "Let me see what you're talking about," and
he marched over and saw that it was so. We soon got our sinks. It was really
amazing to me, the most fundamental things like sinks for hand washing
were not there. But for me hand washing was a fetish! I loved your newborn
intensive care unit that Lou [Dr. Louis] Gluck had designed and built in New
Haven. Lou had a timer set for three minutes over every sink to remind
everyone of hand washing - remember? I was up there for the opening of
that unit and I loved it. Bells would always be going off.

One day I was rounding with the residents in the newborn nursery and I saw
two workmen come in with caps, gowns and shoe covers - all ready to dust
the venetian blinds. You're not supposed to have any venetian blinds near
the cribs; I was on the newborn nursery committee that wrote the
regulations. But there were these two guys standing on the radiators dusting
over open bassinets. I stopped rounds and said, "Excuse me! Down! Out!
If anybody says anything to you about this, here's my name. Don't you ever
come in here again."

DR. PEARSON: You became emeritus at Downstate in 1991?

DR. BROWN: Yes. In 1980, Jay had taken the position of chairman of
medicine and later vice president of academic affairs at the Danbury,
Connecticut Hospital, and held a clinical professorship at Yale. For ten
years, he spent a lot of time in Danbury. I lived here in Sands Point, but
continued working in hematology and being vice chairman. Jay was in Danbury and it was a tough time for us.

DR. PEARSON: In looking over your CV, probably about three-quarters of your papers are on bilirubin and most of the rest are on sickle cell. Is that fair enough?

DR. BROWN: Fair enough. I have some early papers on red cell enzymology, starting with one presented at the IX International Congress of Pediatrics in 1959 on the differences between the red cells of the newborn and older child. Those first three months again!

DR. PEARSON: I am interested in your more recent concerns about the reemergence of kernicterus.

DR. BROWN: The use of Rhogam to prevent Rh erythroblastosis, combined with phototherapy and exchange transfusion to control excessive hyperbilirubinemia had resulted in a virtual disappearance of kernicterus for twenty years. But, beginning in the early eighties, there was a distinct change in attitude about potential toxicity of bilirubin led by some very prominent people. This really influenced medical management of jaundiced infants around the world.

DR. PEARSON: For example, Drs. Sydney Gellis and Frank Oski?

DR. BROWN: I don't remember too much about Sydney, but J.F. Watchko and Frank Oski unfortunately, and I think disparagingly, coined the term "vigintiphobia" - fear of the number twenty; that is bilirubin levels over 20 mg/dl. Of course, Dr. M. J. Maisels was also involved. Maisels is a very effective speaker. These people essentially changed accepted guidelines for managing jaundiced newborns without any real basis for the change. Tom [Dr. Thomas B.] Newman, an epidemiologist from California, and Maisels generated some statistics that they thought indicated that jaundice was really nothing to worry about in term babies. They called for a "kinder, gentler approach" to neonatal jaundice. I would write instead, "kinder and gentler for whom?" But changes occurred and many pediatricians bought their ideas.

I told the AAP Committee on the Fetus and Newborn that considered this issue, that there were very few values for serum bilirubin levels in healthy term infants in the first twenty-four hours of life. Bilirubin levels are just not done in otherwise healthy, term babies. It was an extra test so why would you do this? All over the world people began to doubt that bilirubin was toxic for term babies and acted accordingly.
Then, at the end of the eighties came managed care. Kids were bounced out of the hospital in twenty-four hours or less. They were not watched for jaundice, they were not checked for adequacy of feeding. There just wasn’t time. And cost cutting became paramount. Larry [Dr. Lawrence] Finberg, our chair at Downstate, would not let me talk about this on rounds. He said, "Oh Audrey haven't you read that you no longer have to do bilirubins on full-term babies with jaundice?" We had them right there in our hospital, and this was going on across the country.

In 1983, I organized and chaired a Kernicterus Symposium that was held at the annual meeting of the APS/SPR [American Pediatric Society/Society for Pediatric Research]. This has become increasingly well attended with more than 800 participants at recent symposia. Two Kernicterus Symposia, modeled after ours, have been held in Japan, and I've enjoyed co-chairing and participating in them.

By the mid-1990’s we knew of 21 cases of kernicterus in American term babies. We heard about six cases of kernicterus at the Children's Hospital of Pennsylvania, almost all of them associated with G6PD deficiency. David Stevenson at Stanford had three or four patients. I remember hearing about a Mexican woman whose jaundiced baby was discharged early. She was told to come back but she didn't quite understand and didn’t return. The baby had an ABO incompatibility and developed kernicterus. It was very sad. So Lois Johnson and I wrote the "Loss of Concern about Jaundice" paper [1996 Year Book of Neonatal and Perinatal Medicine]. Sadly nobody read it because it was in a review journal and so is not listed on the Medline. In that article we said the reemergence of kernicterus was occurring because of a loss of concern about hyperbilirubinemia coupled with changes in the management of newborns. You can't send a lot of kids out of the hospital at twenty-four hours and not expect trouble!

Lois Johnson and I began to gather all of these cases and in 1991 at the Kernicterus Symposium we decided that we needed to have an International Registry to really see what was going on. We hear about a lot of these cases because of medical-legal actions. We also get a lot of calls from doctors. We try to avoid duplication. We have the patient’s initials, and the place and date of birth. We have records of the bilirubins. We kept announcing that anybody who wanted to send in case reports would be welcomed, but of course, most people don't usually send in reports of their own patients with kernicterus.

Now there's a group of women, all of whom have had kernicteric children, who have formed a group called PICK [Parents of Infants and Children with Kernicterus]. We invited them to come to the last symposium and they showed videos of the time their babies were newborns. Everybody was in tears. Here were these babies turning orange and nobody was paying any
attention to them. Then you see what happened to them later. This video is going to be sent around by one of the medical companies to show people that this is a real problem. They have done a fantastic job. JCHAO [Joint Commission on Accreditation of Healthcare Organizations] has recently sent out a Sentinel Alert regarding kernicterus and they're going to check every hospital to see that they are doing something so that this doesn't happen. This is preventable brain damage.

Maisels has finally acknowledged that the risk of kernicterus is real. He was quoted and he was all over the AAP News - a whole page. It's a little annoying. I shouldn't say this, but one of the doctors here said Maisels has stated publicly that he personally started this reconsideration of the dangers of jaundice and kernicterus. But he's repentant and he has to be careful because the AAP is preparing guidelines with new parameters.

One of the best things that's happened is that Vin [Dr. Vinod K.] Bhutani at CHOP [Children's Hospital of Philadelphia], working with Lois Johnson, has done literally thousands of bilirubins in term babies. They have data that show the percentiles of bilirubin levels at every hour of life. We have tried for forty years to tell people that bilirubins should not be done only once, and that you have to know what hour of life that it is done. A 10-mg% at two hours is not the same as a 10-mg% at two days! They have constructed a nomogram that you've probably seen, that is going to go up in every nursery in the country. Doctors will be able to look at the nomogram and decide whether a kid is on track to become hyperbilirubinemic. This is very good, very good.

Now there's going to be a multi nursery study of the issue. David [Dr. David K.] Stevenson at Stanford and others wanted to measure exhaled carbon monoxide to try to assess whether there was too much bilirubin production because of hemolysis. He felt that this should correlate well with the development of hyperbilirubinemia. I think that the level of serum bilirubin is better because it really encompasses both production and excretion. But David is putting both determinations in the study and it's very important.

I've worked with Minolta and Air Shields and others on transcutaneous bilirubin instruments, which I think are superb. But I work mostly with black babies. These instruments aren't as precise in black babies as they are in Asian or white babies. They don't compensate for skin pigment so I had to develop different standards. I am now working with an instrument made by Spectronics, which has a system for neutralizing skin pigmentation. You can even use it after phototherapy. The instrument costs about $4,000 but if you wanted a doctor or nurse to check a baby at home, it would be very useful. You can't rely on a visual evaluation of jaundice, as we all have known from the time of Dr. Ashley Weech. Maisels doesn't advocate doing anything until
he perceives jaundice in a newborn. Maybe Maisels can judge jaundice accurately - but not the average Joe.

I'll tell you a personal side story. I have a granddaughter who was born a month early. My son Jeff, who really doesn't know what I do, thinks that I'm a grandmother, not Dr. Grandmother. So I said, "Look, I don't know your doctor and I am not your doctor and I won't be. However, there's one thing I want you to do. Before they send the baby out, they have to draw a little blood for the New York State Genetic Screening Program. Tell them to take another drop of blood and do a bilirubin." She was born on Valentine's Day; it was snowing; it was a mess. They did the bilirubin and it was high. I was scared. I told Jeff, "Please call your doctor. He's got to see this baby." The baby was four days old. So Jeff called his doctor (who doesn't know me) and told him that the baby's grandmother thinks the baby is too jaundiced. The doctor responded, "Alright, bring the baby in tomorrow morning." You know, the usual. So he drew the blood for a bilirubin and then left. The value came back at 20-mg%. I said to Jeff, "I am now your doctor. You've got to take the baby into the hospital. The baby needs to go under lights at least. It's time to start therapy."

Later that afternoon I got a call from my daughter-in-law's sister who said that they were in the emergency room. I asked, "What are they doing for the baby." She said, "Nothing. They're waiting for her blood test." Then I became the baby's doctor in earnest! I called the nursery. The chief neonatologist wasn't there but her assistant was. I said, "Look, do something; the baby needs phototherapy. First, you don't need a bed; you need to send a phototherapy unit to the emergency room. Second, the baby won't be allowed in the nursery and they don't know anything about premature babies on the ward. Order a phototherapy unit now because it will take two hours to get it up to the ward. Have them dust it off. Have the unit waiting when the baby comes up from the ER. Get everything all ready. Get the orders written." This all happened on Friday afternoon, as it usually does. But if you’re not concerned about bilirubin, you sense no urgency.

DR. PEARSON: Even if you know about it, you may think that it doesn't matter anyway. I remember Dr. Diamond's teaching that 10% of the children in homes for the severely retarded in the 1940’s were there because of kernicterus. Considering that most infants with kernicterus died, that says something about its importance.

DR. BROWN: As I said, our international registry now has 95 substantiated cases, and there were some very interesting findings. Some of the babies that looked bad in the newborn period are now between one in two years, and are acting normal. They were aggressively treated, which is an important message. We also found that people may not appreciate that the time of exposure to high levels of bilirubin also has an effect, not just the
level at one time. As Lois Johnson wrote years ago when we did the study on phototherapy for the National Academy of Science, the area under the curve, reflecting both time and intensity of exposure, is very important. So, as I found out with my grandchild, doctors will say, "Well, I'll see you tomorrow morning." Then they do a bilirubin, but they don't believe a high result and they repeat it. It's three hours later when they get the result, but they've sent the baby home so they spend two more hours getting her back. When they finally get the baby back in the hospital, it takes three to four hours at minimum, sometimes eight, to do an exchange transfusion.

That's another problem. Some doctors don't want to do an exchange because so few are done today that there are not many experienced people to do them. So we have to go on the preventive kick. In most hospitals, there aren't adequate instructions for mothers about breastfeeding. And they don't realize that breastfeeding babies can become dry and lose weight – in fact, they're starving. The effect of starvation on bilirubin metabolism is fantastic.

DR. PEARSON: Another society you've belonged to is the Irish and American Pediatric Society.

DR. BROWN: Oh I joined that about seven or eight years ago through the influence of Jackie [Dr. Jacqueline] Noonan and Len Fries. The meeting this year is going to be in Lexington, Kentucky and Jackie is president. It's fun. I joined because it's an opportunity to go to Ireland every other year. It was nice to get to know these lovely people. Honest to goodness, they're absolutely lovely.

DR. PEARSON: My favorite story is what Sydney Gellis said - you can become eligible to be a member of the Irish and American Pediatric Society if, on flying over Ireland on the way to Heathrow, you looked down.

DR. BROWN: Well, there's also Phil [Phillip] Sunshine. You don't even have to be a pediatrician. I've gotten other medical people in. You don't have to be a pediatrician; you don't have to Irish. It's a beautiful society, if you just appreciate the Irish and Ireland. I have a case of kernicterus from Ireland.

DR. PEARSON: Yes, I'm sure it happens. We have a little time. Tell me about your work with the SPR and APS.

DR. BROWN: I was on the SPR Council and was recorder–editor from 1964 to 1967. In 1967–68 I was SPR vice-president. Our council included Norm [Norman] Kretchmer and Irv Schulman who would send me out of the room if they were going to tell an off color joke. They would say, "Out, Audrey!" Those were the years.
DR. PEARSON: You must have been about the last of the recorder-editors.

DR. BROWN: Yes, I think I was. They stopped recording and publishing the discussions of the plenary papers about that time.

Between 1983 and 1989, I was secretary of the APS. That was a job. No computers! People don't understand that. I was the last of the secretaries who was a secretary in the sense that I did everything. I only had my sickle cell genetics counselor and one other person to help me. We did everything by hand and we had this book which told us, "In January do this; in February do this." Nothing on the computer. We finally got the APS membership on the computer in 1987 or so.

At about that time, we were objecting to the fact that the SPR and APS were becoming essentially one organization, with one common meeting as it is now. Since then it's gotten even bigger with the inclusion of the Ambulatory Pediatric Society. The meeting has got so big that you really need to have combined offices, as they are now, to be able to organize everything. I guess that it can never again be like it was in our day. I shouldn't be so old-fashioned, but there are many of us who think that maybe, once in a while, we ought to have a small meeting of the old crowd and the old format.

DR. PEARSON: You've mentioned an SPR meeting in Buck Hill Falls, Pennsylvania. I remember a presentation there that shook the rafters. Someone reported that there was an extra chromosome in Down's Syndrome. There were large plenary sessions that covered all of pediatrics and everyone attended them.

DR. BROWN: That paper was a biggie. I can remember one also. I was sitting next to Charlie [Dr. Charles A.] Janeway at one meeting when Lou Gluck talked about the changes in amniotic fluid and how they might relate to hyaline membrane disease. Papers like that shaped the meeting. They were what you carried away.

DR. PEARSON: There may still be the same kinds of important papers, but the meetings are so large and spread out, that you might never know.

DR. BROWN: I can never make it to all the rooms to hear papers I am interested in.

DR. PEARSON: You have been involved with the AAP over the years?

DR. BROWN: I was a member of the Committee on the Fetus and Newborn between 1957 and 1961. I served on the Committee on Environmental Hazards between 1974 and 1984. I was a charter member of the Section on Hematology/Oncology and served as section chairman.
between 1983 to 1987. And of course, I've made many, many presentations at AAP educational programs.

DR. PEARSON: Talk a little about how you've been able to climb up the professional ladder although you have had to make some horizontal moves for family reasons. A lot of women are doing this now. Do you think they're going to be able to be as successful as you have been?

DR. BROWN: Define success. I've been very fortunate that Jay is very tolerant and we have worked together on several things. It got a little rough in those years when we were going to Augusta and to Brooklyn because I didn't want to interfere with his becoming a chairman, which he wanted very much to be. Interestingly, we hardly ever saw each other at work in Georgia and at Downstate. He was working in his area and I was working in mine, and where we met was at home. It wasn't that we spent time together at the hospitals, but it was nice being under the same roof. It was very hard when he lived in Danbury and was only here two or three days a week. That was tough. Howard, one time you asked me whether I would consider coming to Yale and I was so flattered. But Jay said, "How can we do that with me in Brooklyn and you in New Haven?" A few months later, he was at Danbury and Yale and I was still in Brooklyn. That was a little tough.

But with regard to women in academia or medicine in general, I think that there have been some changes. Although, I may be wrong. In my day, I think women were so thrilled and grateful to be included they didn't overly assert themselves. They were thrilled and honored, as I was to be at P&S, Babies Hospital and the Child Research Institute in Detroit. Now it is so much easier; more than half of the medical school class is female. I wonder if they place the same value today that I did. I think that there has to be value to be willing to make the necessary sacrifices. Today I think that a lot of women are being very smart and are approaching their lives from the standpoint of medicine as a job, and often a 9 to 5 job, so that they can have a family life. I think it may be smart for them to go into radiology or dermatology or something like this. I may be wrong but I think you have to value having entered a profession in order to give your all to it.

DR. PEARSON: It's not unique to women. You remember that in our early days you would go into our departments on Saturday and Sunday and the research labs would be busy all the time. Now, after 4:30 on Friday afternoon, it's a wasteland. Our young people complain that they don't have any time to write. Well, there are weekends and evenings. But that doesn't seem to occur to them.

DR. BROWN: Every evening, I'd come home with bundles of papers. All my writing was done at night. That's what we did. We wrote and we read in off-hours and went to the library. You found the time, and it was a lot of time. It requires a lot less time now with the computerized facilities at
the libraries and the MEDLINE. Work at home and bundles of papers were a fact of life for both Jay and I. We have more studies in this house than we do bedrooms. Jay has two, I have two and they're all filled. I have a back room full of files that I'll have to get rid of sometime. There’s a lot of history back there.

DR. PEARSON: Tell me a little bit about your son, Jeffrey. You mentioned he was born when you were in Virginia.

DR. BROWN: Yes and now he's forty years old and he has two lovely daughters. They live right next to us, over there. They love living there and we love having them there. The kids are over here often. We have a pool so they come over every day to swim. My little granddaughter came over yesterday; I've tried to encourage her in art and music. She wants to be able to play the Irish harp. We've got her taking violin lessons. She gets Artist of the Week every week in second grade. She designs textiles - unbelievable things - I'm so pleased.

Jeff has a tool franchise of his own and works on the Island. He's a great fisherman. He loves to go to Montauk almost every weekend now for fishing. There is a companion piece, Jay and Jeff and fishing. He goes after the big tuna - 500 pounds - I mean the biggies. For a long time, he was a broker for yachts and boats. But then all the luxury tax business pushed him out of business, which was terrible. So he went into his present job. Although it doesn't give him much free time, which worries me, he does get away on the weekends.

DR. PEARSON: We've also exchanged stories about the founding of the Sub-board of Pediatric Hematology Oncology.

DR. BROWN: Yes, it apparently came about because Irv Schulman held a meeting of pediatric hematologists at a meeting of the American Society of Hematology in San Juan that petitioned the American Board of Pediatrics to set up sub-board certification in Pediatric Hematology Oncology. Ten of us were nominated as a committee to write the first certifying exam. We decided that those of us on the committee also had to take an exam, because we couldn't just kiss the Bishop's ring or be grandfathered. I remember the test. We were answering questions that had been asked in the previous adult Internal Medicine Hematology and Oncology board exams. I was overwhelmed. We were talking about PA, multiple myeloma and things we don't see at all in pediatrics. One question described a poor, sick 72-year-old man who was on Guam. They gave you a choice of what should be done for him. One of the options was to transfer him to a better facility and I chose that. Everyone was quiet, but then Irv Schulman spoke up and said, "I've just killed another 72-year-old man."
This broke everyone up! Well, we all passed and I received certificate # 3 of the Sub-board of Pediatric Hematology-Oncology.

DR. PEARSON: Wasn’t there discussion of whether there should be a single board for both pediatric hematology and oncology? Internal medicine had two separate boards.

DR. BROWN: That's right but there was a fairly straightforward answer from our group. There were pediatric hematology patients and there were pediatric oncology patients and they had been always taken care of by hematologists. So we thought that there should be only one board and it has stayed that way.

DR. PEARSON: Although there are pressures now. A thing that disturbs me about our specialty is that with the successes in oncology - and they've been spectacular, absolutely spectacular - the time involvement, and commitment that is necessary to treat oncological patients today makes our people tend to neglect the basic skills of hematology. I've sensed that many of our modern generation of trainees and younger hematologist/oncologists don't know much hematology at all.

DR. BROWN: That's correct. But whether you're going to have hematology as a separate specialty or whether you're going to have it as a major part of a combined training program, I think, are two different questions. You now need to know so much hematology now with "neupogen and epogen and God-knows-what-ogen" even to treat oncology patients. I see our trainees reading pathology and laboratory reports and counts. Very few of them do differentials, and you have to do differentials to really know whether there are monocytes, atypical lymphocytes or blasts or funny looking red cells. Automated machines can’t tell you this. I still favor the old-fashioned approach; you have to look through that microscope.

DR. PEARSON: I agree but I think we're dinosaurs, Audrey.

DR. BROWN: I certainly am. But I tell you; it was a wonderful dinosaur period - Paleolithic or whatever. When I made rounds with Wolf Zuelzer, and I have a lovely picture of him with his microscope, we looked through the microscope. We saw so much that people just don't see today. I was always fascinated by abnormally shaped red cells.

DR. PEARSON: What haven't we talked about? I usually ask people at the end of these interviews to give me some perspectives of where they think medicine is going - other than to hell.

DR. BROWN: I don't know if there's another direction. I'm not going to pretend to know but I think there are great pressures now, with all the
managed care and HMOs. People are now talking about quality and evaluating quality of care. These are things that haven't really been talked about before. People went to doctors and complained or didn't complain or changed doctors. There's so much information out there that people are testing their doctors more. What that will do to quality of care, I just don't know.

DR. PEARSON: I certainly have had patients coming to see me with thick piles of printouts from the internet about what they think they have, and often they have things - right or wrong - that I may not know about.

Audrey, this has been a most enjoyable day to spend with you in this lovely setting. I thought that I knew a lot about you, but your stories and recollections have made me admire even more the things that you have accomplished. You recognized and described a number of important things for the first time and acted on them successfully to the betterment of your patients and kids in general. Thank you very much.

DR. BROWN: And thank you, Howard.
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CURRICULUM VITAE

AUDREY K. BROWN, M.D.

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Son: Jeffrey Brown Bollet

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PLACE OF BIRTH: New York, NY

DEGREES: Barnard College, Columbia University, B.A., 1944
(summa cum laude)
Columbia University School of Graduate Studies, (Francis M. Dibblee Scholar in History), M.A., 1945
College of Physicians and Surgeons, Columbia University, M.D., 1950

INTERNSHIP & RESIDENCY: Medical Intern, Columbia Medical Division - Bellevue Hospital,
New York, Service of Dickinson W. Richards, M.D., July 1950- June 1951
Pediatric Residency, Children's Medical Service, Bellevue Hospital. Service of L.E. Holt, Jr., M.D., July, 1951-June, 1953

SPECIAL TRAINING: L.E. Holt, Sr. Fellow in Pediatric Hematology, Babies Hosp. Columbia- Presbyterian Medical Center;
under James Wolff, M.D., 1953-1954
Senior Research Associate in Hematology with Wolf Zuelzer, M.D., Child Research Center of Michigan, Detroit, Michigan, 1955-1959

ACADEMIC AND HOSPITAL APPOINTMENTS:

New York University:
Instructor in Pediatrics, 1952-1953

Columbia University:
College of Physicians and Surgeons, L.E. Holt, Sr.
Fellow in Pediatrics, 1953-1954.
Walter Reed Army Hospital:
Wayne State University:
  Assistant Professor of Pediatrics, 1958-1959.
Children's Hospital of Michigan-The Child Research Center of Michigan:
  Senior Research Associate, 1955-1959.
University of Virginia, School of Medicine:
  Assistant Professor of Pediatrics, 1959-1961.
  Associate Professor of Pediatrics, 1962-1966.
University of Virginia Hospital, Charlottesville, Virginia:
  Director, Pediatric Hematology, 1959-1966.
Medical College of Georgia:
  Professor and Vice Chairman, Department of Pediatrics, 1966-1969; 1971-1974.
  Professor and Acting Chairman, Department of Pediatrics, 1969-1971.
  Chief, Section of Pediatric Hematology, 1966-1974.
  Director, Pediatric Sickle Cell Clinical Services and Research, Sickle Cell Center of the Medical College of Georgia, 1971-1974.
  Attending Physician, Medical College of Georgia Hospitals, 1966-1974.
  Consultant, Fort Gordon Army Hospital, Augusta, Georgia, 1971-1974.
State University of New York-Health Science Center at Brooklyn:
  Professor of Pediatrics 1974-1991; Emerita Professor 1991 - present.
  Physician-in-Charge Pediatric Hematology-Oncology, 1974-1991
  Associate Chairman, Department of Pediatrics, 1976-1981.
  Vice Chairman, Department of Pediatrics, 1982-1991.
Kings County Medical Center:
  Attending Physician, 1974-1991
Yale University School of Medicine, Department of Pediatrics
  Visiting Professor, October 1986-April 1987.

SPECIALTY:
Licentiate, American Board of Pediatrics, 1956.
Licentiate, American Board of Pediatrics, Sub-Board Pediatric Hematology-Oncology, 1974.
HONORS:
Summa Cum Laude, Barnard College 1944
Phi Beta Kappa, Barnard College, 1944
Frances M. Dibblee Fellow, Columbia University, 1944-1945
Alpha Omega Alpha (Alpha Chapter, Columbia University, New York), 1974
L.E. Holt, Sr. Fellow, The Babies Hospital, Columbia Presbyterian Medical Center, 1953
Sigma XI (University of Virginia), 1959; (treasurer 1989-90 SUNY Brooklyn Chapter)
Recipient of Commemorative Medallion in recognition of contributions in the field of Pediatrics on the occasion of the 200th Anniversary of the founding of the College of Physicians and Surgeons, Columbia University, 1967.
Volunteer Leadership Award, The National Foundations - March of Dimes (New York Chapter), 1989
Nakasone Scholar, Japan, March 1985.
Columbia - Presbyterian Medical Center - Irving Center. Recognition Award for Distinguished Career in Clinical Investigation - November 12, 1992.

SOCIETIES:
The Society for Pediatric Research, Member 1958
Council Member, Recorder-Editor, 1964-1967
Vice President, 1967-1968
The American Pediatric Society, Member 1968
Legislative Advisory Committee, Member 1982-1984
Secretary-Treasurer, 1983-1989
Centennial Celebration Committee, Chairman 1986-1988
The American Academy of Pediatrics
Committee on Fetus and Newborn, Member 1967-1971
Committee on Environmental Hazards, Member 1974-1984; Liaison Member 1984
Section, Perinatal Pediatrics, Member 1976
Section, Hematology-Oncology, Member 1976;
Executive Committee, 1978-83; 1988-1990
Council of Sections, Member 1983-87.
Perinatal Research Society, Charter Member 1970.
The Southern Society for Pediatric Research 1968
American Society of Hematology,
Member 1970-
Red Cell Committee, Member, 1979-1982
The American Society of Pediatric Hematology-Oncology, Charter Member 1981-
   Chairman, Membership and By-Laws Committee, 1982-1983.
The New York Academy of Sciences, Member. 1982
The Harvey Society, Member 1986-
The Irish American Paediatric Society, Member 1987-
The American Association for the Advancement of Science, Member 1955-
The Southern Society for Clinical Investigation, Member 1960-
The American Federation for Clinical Research, Member 1955-
Brooklyn Academy of Pediatrics (now Brooklyn Pediatric Society), Member 1975-1980.
Brooklyn Pediatric Society (Formerly Brooklyn Academy of Pediatrics), Member 1980-
Pediatric Section, Medical Society of the County of Kings, Member 1975-
Academy of Medicine of Brooklyn, Member 1975-
The Society of Woman Geographers, Member 1980-
The Society of the Alumni of Bellevue Hospital, Member 1981-
The Beaumont Medical Club (Yale), Member 1984-
Eastern Society for Pediatric Research 1988-

SPECIAL BOARDS, COMMITTEES AND GOVERNMENT ASSIGNMENTS:
National Institute of Child Health and Human Development
   Human Embryology and Development Study Section, 1972-1976
The American Board of Pediatrics
   Subcommittee for the Development of Examinations in Pediatric Hematology-Oncology, 1971-1972 Member First Sub-Board
Pediatric Hematology-Oncology, 1972-1976
American Academy of Pediatrics:
   Committee on the Fetus and Newborn
   Committee on Environmental Hazards
   AAP Liaison Member to the American College of Surgeons Commission on Cancer, 1976-1982
   Consultant, Amer. Acad. of Pediatrics Subcommittee on Hyperbilirubinemia, 1992-4
American Society of Pediatric Department Chairmen, Member 1969-1971
   Audiovisual Committee Member 1969-1971; Chairman Elect 1971
   Pediatric Scientist Training Program; Steering Committee Member 1990-1993.
Georgia Regional Medical Program,
Plan for a Statewide System of Care for High Risk Infants, Project Director 1971-1974
National Academy of Sciences
  Committee on Phototherapy, 1972-1975
U.S. Surgeon General's National Immunization Task Force, Member, 1972
Participant in HEW conference, Preventing Disease/Promoting Health:
  Objectives for the Nation.
  Member of Work Group on Toxic Agents Control, appointed by Office of the Surgeon General, USA 1972
The National Foundation - March of Dimes (New York Chapter)
  Health Professional Advisory Board 1975-2000
  Genetics Task Force 1975-1980
  Medical Education Committee, 1979-2000
  Committee to Survey the Effect of Early Discharge; Chairman 1995-1999
NIH, NHLBI Cooperative Study of the Clinical Course of Sickle Cell Disease,
  Steering Committee Member 1977-88
Pediatric Institute of Johnson and Johnson, Inc.
  Member, Board of Trustees 1979-1984; reappointed 1984-1993
  Chairman of the Board 1989-1992
Hemophilia Services Advisory Committee 1980-
  Advisory Committee of Consultants, NCHSR Study, "Strategies to Reduce the Inappropriate Use of Blood Products" 1985-
Accreditation Council for Graduate Medical Education, Appeals Panelist,
  Hematology-Oncology 1987-
Ronald McDonald Children's Charities
Columbia University - College of Physicians & Surgeons, Alumni Council,
  Member, 1988-
  Member, Board of Directors, Alumni Council College of Physicians and Surgeons, 1993-

SPECIAL EDUCATIONAL ACTIVITY:
Founder and chairman, Annual Kernicterus Symposium, held in conjunction with the Annual Meeting of the Pediatric Academic Societies, 1983-2001.

JOURNALS-EDITORIALS BOARDS:
The American J. of Diseases of Children, Member Editorial Board 1966-1976
Medical Times, Associate Editor, Editorial Advisory Board 1981-1990
BIBLIOGRAPHY

PUBLISHED ARTICLES AND CHAPTERS:


74. Hainline, L, Abramov, I, Lamerise, E, Turkel, J, and Brown, AK: Visual Function in Children Enrolled in the NICHD Cooperative Phototherapy


89. Miller, S.T., Stilerman, T.V., Rao, SP, Abhyankar, S., Brown, AK: Newborn Screening for Sickle Cell Disease: When is an Infant Lost to Follow-up?


**BOOKS AND MONOGRAPHS:**


INVITED LECTURESHIPS AND VISITING PROFESSORSHIPS


8. Special Lectureship Series - Sao Paolo, Brazil: a) Hematologic Values in the Newborn; b) Physiology of Bilirubin Metabolism in the Newborn; c) Neonatal Jaundice: Diagnosis and Management d) Coagulation Disorders in the Newborn; e) Fetal Hemoglobin in Normal and Abnormal States. The Hospital De Servidor Publico Estadual, Course in Neonatal Hematology (Lectures published in Atsull Dades Medicas), San Paolo, Brasil, July, 1992.


12. Bleeding Problems in the Newborn: Management of Hyperbilirubinemia:


21. Three Lectures, Neonatal Hyperbilirubinemia: Current Status of Phototherapy; and Bleeding Disorders in the Newborn. The Educational Section of the American Society of Hematology, San Diego, California, December 3-6, 1977.


23. Assessment of the Risk of Kernicterus; Bilirubin Binding Studies. Visiting Professor, the State University of New York, Upstate Medical Center, Syracuse, NY, May 16, 1978.


26. Visiting Professor, University of Southern California, Division of Neonatology, Los Angeles County Hospital, March 29, 1979.


32. American Academy of Pediatrics Meeting at Las Vegas, Nevada, December, 1979:

33. The Metabolic Basis and Differential Diagnosis of Neonatal Hyperbilirubinemia; b) Anemias and Polycythemias in the Neonate; c) Bleeding Disorders in the Neonate.


35. Sickle Cell Disease in Infants, Hyperbilirubinemia Update and Phototherapy: Mechanism Efficacy and Toxicity. Three lectures at University of South Florida, March 12-14, 1980.


38. Phototherapy in Neonatal Hyperbilirubinemia, Results of the National Study. St. Joseph’s Hospital, October 21, 1980.


40. American Academy of Pediatrics Meeting at Las Vegas, Nevada, December, 1979:

41. a) The Metabolic Basis and Differential Diagnosis of Neonatal Hyperbilirubinemia; b) Anemias and Polycythemias in the Neonate; c) Bleeding Disorders in the Neonate.


43. Yellow Hyaline Membranes. Magee Woman's Hospital, Pittsburgh, Pennsylvania, Sept. 18, 1981.


45. Phototherapy in Neonatal Hyperbilirubinemia, Medical Symposium of Momento Medico, Lisbon, Portugal. March 4-8, 1982.

46. Efficacy of Phototherapy in Controlling Hyperbilirubinemia and Preventing


49. Invited Lectures: a) Anemia in Childhood; b) ITP in Childhood at the Medical Symposium of Momento Medico Lisbon, Portugal, December 9-10, 1983.


53. Visiting Professor, Medical College of Georgia, Augusta, Georgia, February 10-11, 1982.

54. Red Cell Disorders of the Newborn. New York Hospital Cornell Medical Center, Memorial Sloan-Kettering Cancer Center, June 7, 1982.


57. Neonatal Hyperbilirubinemia. Flushing Hospital, October 7, 1983.

58. Identification of Infants at Risk for Kernicterus: Concepts and Controversies. University of Louisville School of Medicine, 175th Annual Newborn Symposium, October 20-21, 1983.


62. Red Cell Physiology I. Danbury Hospital, August 2, 1984.

63. Red Cell Physiology II. Danbury Hospital, September 15, 1984.

65. Visiting Professor, Kobe University School of Medicine, Kobe, Japan, November 4-18, 1984.


67. Invited speaker (Nakasone Scholar) at the US Japan Cooperative Cancer Research Program Workshop on Adult Type Cancer under the Age of 30 years. Tokyo, Japan, March 11-13, 1985.


70. Introduction to Perinatal AIDS. New York University Medical Center, Jan. 26, 1986.


75. Future Uses of IVIgG. The University of Vermont, June 18, 1987.

76. The View of the Biomedical Researchers. NIH Centennial Colloquium - The History of Research Involving Human Subject, Bethesda, Maryland, September 3, 1987.


83. Visiting Professor, University of Kentucky, Lexington, Topic: The Impact of
Newborn Screening on Sickle Cell Disease, January 25, 1990.
84. Sickle Cell Disease in Infancy: The Role of Newborn Screening. Nassau County Medical Center, East Meadow, N.Y. February 15, 1990.
87. Spectrum of Bilirubin Toxicity. Norwalk Hospital, Norwalk, CT, November 2, 1990.
88. Uses of IVIgG. Norwalk Hospital, Norwalk, CT, November 2, 1990.
89. Sickle Cell Disease in Infancy. The Impact of Newborn Screening. Nassau County Medical Center, East Meadow, N. Y. November 8, 1990.
96. Panelist, Bilirubin-Induced Neurologic Dysfunction, Presented at symposium, “Frontiers in the Care of the Neonate, Bilirubin-Induced Neurologic Dysfunction,” Sponsored by the Thomas Jefferson Univ, Hospital and the Pennsylvania Hospital, March 21, 1996.
97. Re-emergence of Kernicterus as a Public Health Issue: A Re-evaluation on the Basis of the Kernicterus “Epidemic.” Presented at symposium, “Frontiers in the Care of the Neonate, Bilirubin-Induced Neurologic Dysfunction,” Sponsored by the Thomas Jefferson Univ, Hospital and the Pennsylvania Hospital, March 22, 1996.
98. Early Discharge Concerns and Consequences. 19th Annual Greater New York March of Dimes Perinatal Nurses Conference, April, 1996.