

**Dr. Alan Schechter and Dr. Geraldine Schechter**

**Interview by: Melissa Klein, 1998**

Klein: Perhaps you both could begin by briefly discussing your childhood: Where you attended college and what made you decide to pursue a career in medicine?

AS: I was born in Brooklyn, New York in 1939. I had quite an average childhood in lower, middle class Brooklyn. I went to the quite excellent public elementary school and public high school. I have no recollection at all of why I wanted to attend medical school. Undoubtedly, my parents pushed me in that direction. It must have been subtle, however, because I do not recall them specifically doing so. I just felt that it was an interesting career. In college, I majored in zoology (there was no biology program) and I came very close to changing my career direction. I became so excited doing research projects. I was an honors student at Cornell and did my honor thesis in insect physiology. I was so involved with this work and the academic life, that I came very close to going to graduate school in biology or one of the biological sciences. While, I was in college my mother became ill with breast cancer and died two years later; that was the summer between my junior and senior year in college. At that point, I decided to honor her wishes and continue my original goal of going to medical school and not to go to graduate school. I felt then that I could always do research and get a Ph.D after medical school.

Klein: Where did you attend medical school and do your internship and residency?

AS: I went to Columbia College of Physicians and Surgeons in New York City. I did my internship at the teaching hospital of the Albert Einstein Medical College called the Bronx Municipal Hospital Center.

Klein: When did you apply to be a Research Associate at the NIH?

AS: I applied in the fall of 1963 and I began on July 1, 1965.

Klein: How did you learn about the program?

AS: For me, that is an interesting anecdote. Although I had been very much involved in research projects in medical school, nobody had suggested to me about going to the NIH. Somehow, I was not in the right loop. I started my internship on July 1, 1963, and I was working very hard in the emergency room. It was a busy city hospital. I had mostly research experience, so during the first few months everything was new to me. One day, one of my co-interns, who is still a close friend to this day, came in on a Monday morning and said, 'Did you send off your NIH application?' I said, 'What application?' and he said, 'Well if you want to go to NIH rather than go to Vietnam or some other military assignment after you finish your residency, then you should apply to the NIH Associates Program.' He gave me the name and number. I went to a phone booth and I called. They special delivered a whole packet, which I got within the next few days. I spent two days filling it out and returned it with about one day to go before the deadline. So, had he not casually mentioned that he had spent the weekend filling out his NIH application I would have missed that opportunity.

Klein: Now was it ever advertised?

AS: No, I think it was by word of mouth, Chiefs of Medicine would tell their house staffs about it. But one of the main reasons I did my internship at Albert Einstein was that the Chief of Medicine there, was Irving London, who was famous for hemoglobin research. I knew of his work, I knew of him and I opted to go there largely because of his and a few other research-oriented faculty. But the year of my internship, he was taking a sabbatical in Paris and was just returning when I started. Thus, I think that may have contributed to the fact that I never heard about the program. Most of the people at Einstein who I interacted with, especially the interns and residents, were much less research oriented than I was.

Klein: If you could answer the same question, Dr. [Geraldine] Schechter.

GS: I grew up in Brooklyn also, but in a different part. My father, when I was about five years old, asked me whether I wanted to be a doctor or a dentist. That was the two choices. My parents had not had very much education but they were social climbers. The way to social climb was through education and to especially through professional education. I sure did not want to be a dentist. I was not sure if I wanted to be a doctor, I thought that I might become a teacher. So now, I always laugh because I fooled my father. I became both a doctor and a teacher. I did what he wanted, but I also got what I wanted. I went to Vassar College and I then went to Columbia Medical School where I met Alan. I interned and did my first year of residency at Columbia Presbyterian. We got married and Alan went to NIH and I had to find something in Washington. I finished my residency at the VA Hospital in Washington, where I continued on. I had never heard of the NIH except for the fact that he was going there.

Klein: When he was at NIH did you ever think about applying to the Associates Program?

GS: Yes, actually after I finished my residency at the VA I stayed on as a Research Associate at the VA. That was the time of the Vietnam War and it was sort of well known that the NIH positions were for the men, so that they would not have to serve in the military. There were not that many positions open to women. I interviewed for one position and I talked to the one woman, whom I knew there, Bridget Leventhal. She was not terribly encouraging. She was an outspoken woman. She said, 'Well, if you are any good, something will happen.' I actually interviewed at the Baltimore NCI group, but that seemed very far to go since I was living outside of Washington DC. I do not even think I was offered that position. Instead, I was offered a position at the VA. It was a full time staff position, so I never thought about it again.

Klein: Did others in your medical school class apply for this program.

AS: Certainly no women, but a large percentage of those physicians who went into Internal Medicine did come down to the NIH. So, I think of the 120 people in our class, probably about 20 spent two years at the NIH, ultimately most then left and returned to various fully or partially academic positions. At its maximum,, which would have been in 1967 or 1968, there were about 20 people at the NIH out of a class of 120.

Klein: Do you think that they steered the men towards the NIH?

GS: Well, when I came down looking for a position nobody told me to go to the NIH. There were a limited number of residency positions. It was also that nobody thought that I was going to continue in medicine, especially academic medicine. There was a time where there was a lot of suspicion of female careers. Even my boss down at the VA, who knew me the best, seemed surprised that after I had my first child that I wanted to come back and work. It was a great surprise.

Klein: So, the mentality was almost like wasting this opportunity on a woman?

GS: That's right.

Klein: What attracted you to the Research Associates Program?

AS: I think I knew a little bit about the research activities at the NIH having done research in college and in medical school. In fact, I did my college research on insect physiology and there was a rather large insect physiology group at the NIH throughout the 60's and 70's. So, I knew their work. In addition, I heard Dr. Anfinson, whom I later worked for, give a lecture at Columbia Medical School when I was there. So, I knew of his work in general and I had heard him speak.. That was probably true of a half dozen other physicians or scientists at the NIH who I had heard speak. I would go to the research seminars, which were not designed for the medical students but rather for the faculty, and I would hear a fair amount about what was going on; thus I knew a little about the NIH program. But I think in 1963, it was not perceived as better than the research experience one might have at Harvard or Columbia. However, the NIH, having the leverage with the draft made it a great impetus. When I got the booklet, I suddenly discovered

there were hundreds of research opportunities in all domains, in the whole realm of biochemistry or physiology or immunology, and so on. Suddenly, I discovered that a whole university existed in Bethesda. Now, I had no idea where Bethesda was but it still seemed like a great place to be because there was a whole university of studies there. I had to fill out a form and I had to check those areas that I was interested in. I think I wound up checking two thirds of the areas. When I finally did come for an interview in the spring of 1964, they wound up assigning me interviews from 8am to 6pm, Monday and Tuesday, every half-hour except for 30 minutes for lunch. In total I had more than 25 interviews. By the end of each day I could no longer remember my own name. It was such a cornucopia of research wealth and there were so many people whom I interviewed with during those two days that were doing exciting things. I was very impressed. The hard part came later, when I had to choose where to go.

Klein: Now where did you end up?

AS: I entered the Research Associates Program in what was then the National Institute of Arthritis and Metabolic Disease. At that point, the NIAMD and the National Heart Institute were generally considered to have the best basic research. So I opted for the NIAMD. I basically got my first choice.

Klein: If you would not have gotten your first choice would you still have come?

AS: I would have because at that point I had many friends in the Berry Plan who were going through the end of their residency and then were to be drafted. By the time we were married, which was in February of 1965, six months before I came to the

NIH, there was one of the first large-scale bombing of Vietnam. It was quite clear that things were heating up. Just for that reason, I was not enthusiastic about becoming a military physician. More important than that, was the opportunity to do research. Whatever I did in the military, whether it be that I go to Vietnam or to Germany, the opportunity to do research in any of the military programs was non-existent compared to the opportunity in the Public Health Service at the NIH.

Klein: Why were you opposed to fighting in the Vietnam War?

AS: At that point, I had not made value judgments about Vietnam as a war *per se*. It was really more a selfish decision that I would like to optimize the draft experience and do something that was most relevant to my own career plans. My own opposition to the Vietnam War, which became very intense, only started shortly after I arrived in Washington. We began to have some doubts about it unlike Korea or the Berlin airlift. For me, knowing that my career was headed in a research direction, having military hospital experience, whether it be at the Naval Hospital in Bethesda, or in Pleiku, was just much less relevant if the alternative of working at the NIH was available.

Klein: Dr. [Geraldine] Schechter, did you in anyway feel slighted since you were not able to participate in the NIH Associates program? How do you think participating in the NIH Associates program would have furthered your career?

GS: That is an interesting question. I think that my own training in research was much less rich than my husband's. There is always the question of whether I had the talent for it and I may not have had the talent for it. But, certainly my background,

the time that I spent in research training, was really very limited. The people that I worked with had limited capabilities. I built on what I learned, and I had a measure of success in my career. But, I think that basically in terms of my research output, it was very limited. I was not able to build a research group because I just did not have that capacity. Now, whether that was my training or my talent, I cannot say. However, I have a very good reputation as a teacher and as a clinician, but I certainly do not have one as a researcher. I am not bitter about the fact that I did not have this research opportunity. But, one can always wonder. I can always wonder if I had not followed my husband, I would have probably worked at Columbia. But who knows?

Klein: It just seems to me, that part of what made the Associates Program unique was that they had, as Dr. Rosen put it, the 'best and the brightest,' concentrated into one institution. And, not only were they working with researchers who were already established, but the participants themselves became established researchers and then went off and now today they have connections. It just seems as if women missed out on those connections.

GS: Let me tell you, the reason that I have done very well in my career at the VA Hospital in Washington DC, is because my husband had connections with lots of different people across the country, who then knew me through him. I got positions in academic medicine, on Boards and so on, in part because I knew people through him and I was a woman- right at the time when everybody needed a woman. But it was my link through him and the NIH which got me a lot of the positions I held in academic medicine. Gerry Schechter at the VA Hospital would

not have had those opportunities. And, I am not only at the VA hospital, I am at George Washington University, but I still would not have had those opportunities without my husband's connections through the NIH. Is that a fair statement?

AS: I think that is fair. Part of what you are saying Melissa, is that the nature of research is a social activity. There is a man named John Ziman who has written several books about the nature of research. I think that he, probably more than anybody else, has understood the sociology of the research enterprise. The group of scientists and physicians who were at the NIH during that time, and who had this intense experience, became the dominant force in American medical research until the last five or ten years. It has dissipated in the last decade. However, the NIH's research dominance, having started in 1953 or thereabout, lasted three or four decades.

Klein: When I look at the CVs of the Associates who came to NIH at this time, Harvard, Duke, Columbia, Johns Hopkins and so on were the medical schools where the bulk of the associates came from. Then they went off and became prominent figures in academic medicine. You cannot ask for better networking than that.

AS: There may have been specific activities; I know that Dr. Rall and Dr. Fredrickson have commented on whether the people at NIH tried specifically to recruit from those schools or conversely those schools may have attracted for other reasons, people who were mostly research oriented and they were the ones who were most interested in NIH type programs. So, there is probably a little of both.

Klein: Do you think that this is the case today?

AS: No, I think that the NIH is trying very hard to get anybody willing to try to do the work. They will go to South Africa or Thailand; there are no geographic limits at all.

Klein: Why?

AS: I think several reasons. One, is that there are so many places that have funds to do research, that the NIH no longer has a unique position. It was not quite unique in the 50's, 60's and 70's. There were a few centers like the Harvard hospitals and some parts of Columbia, Hopkins, Chicago, Michigan and Seattle with excellent programs. However, there were only really less than ten. So the NIH, which was larger than any of them, constituted a very significant fraction of what was being done in biomedical research at that time. At one point, in the late 60's I believe that 25% of all the members of the American Society for Biological Chemistry worked at NIH. That should give you some indication of the dominance of the NIH in that field. I think the other thing, which I do not know how much you explored, is what caused a group of government bureaucrats in a "god-forsaken" suburb of Washington DC to have the wisdom to establish such programs and then recruit from the academic types and not the government types. Not only were these some of the people you have heard of, Shannon, Berliner, Fredrickson and Rall, but there were other people not so well known, like Brown and Eberhart and a few others who created say, the National Institute of Mental Health. They were staff of very stereotyped government hospitals or Public Health Service enterprises or activities in the Second World War. They came to Bethesda and created a program that emphasized first rate research and recruited some very

distinguished scientists and physicians, and created for example much of psychiatric research at the biochemical level. That research was almost non-existent anywhere else in the country, or throughout the world, before it was started at the NIMH in Bethesda. They were the ones who then turned to Hopkins and to Harvard to recruit the people. This happened in oncology, immunology, infectious disease, cardiology, endocrinology, and many other areas. The question is what “was the inspiration for all of this?”. For some reason, people were brought together for a limited time in one place which caused a great flowering. It is hard to know what is cause and affect or whether there was one individual or several individuals who nucleated this.

Klein: Or a war?

AS: Or a war, yes.

Klein: In terms of clinical research, today it just seems that it is just not very popular. People would rather go into private practice. I was wondering if you had any thoughts on that?

GS: I think that in the last fifteen or so years, have been very difficult in terms of getting money for research.

AS: It is much better now.

GS: Oh yes, it is much better now. In terms of the VA, the whole organization, there has suddenly been a tremendous rebirth of support for research. But the preceding 15 years, were so dry, people were so suppressed and depressed about not getting

funding that it did not seem like a very attractive thing to do. Clinical research is very tough. It takes much longer to get results and it takes much longer to develop a reputation. Working as a clinician, you get feedback so quickly that the gratification is very rewarding. There is that attraction. There are great people who will stay in clinical research and do clinical research no matter what. They are driven, and want to put together the pieces of the puzzle and solve the puzzle. They really want to make that type of contribution. I think that that takes very special types of people and very lucky people. Vince DeVita use to say, 'You have to be smart and lucky.' In addition, you have to have the resources and you have to have a critical mass.

AS: I think you are using a term clinical research in a specialized way.. I think that the NIH is two cultures which I think are unfortunately at war with one another now. There is the culture of basic research and the culture of clinical research. Even among the physicians who have come to the NIH and are doing research, whether they have come recently or a long time ago, a majority are doing basic research with only minimal clinical involvement either by themselves or the goals of their research. Even a biomedical institution like the NIH has really been split by this two culture problem.

Klein: Actually Dr. Rosen voiced in his interview that he believed that the reason was a disrespect on the part of basic scientists for clinical research.

AS: I think that has gotten much worse in the last decade as a fundamental problem. It is not only the case when funding research at the NIH in Bethesda, Maryland, but

the other 90% that is spent all around the country in NIH extramural programs. The NIH has not yet come to grips with how to reconcile those two cultures and integrate them and have each build upon the other. And by default, a lot of the clinical research is either going to the pharmaceutical companies who are doing it for business reasons, or being done abroad and not in the United States. That was one of the unsolved problems of the NIH. That is part of the reason for the decline in the number of physicians who want to conduct clinical research. Physicians do not necessarily see what goes on at the NIH as congruent with their own immediate goals or aspirations.

GS: Also, the leadership at NIH was not very pro-clinical research. The head of the NIH was quoted as saying that clinical research was something that occurred when a patient and a doctor was in the same room and both were alive. This kind of crack is not a very positive way of looking at how hard it is to do good clinical research.

AS: One of the ways I would defend that statement is to say that it illustrated some of the difficulty in coming up with a definition of clinical research. I do agree the remark was taken in a negative way.

Klein: Did it use to be the case that there was more respect?

AS: I think so. But the change has occurred not only in intramural NIH but throughout the United States for many complex reasons. One is that it is simpler to do basic research. The resources you need and the expenses are less than doing clinical trials or even physiology research on patients. Even at the level of interpreting

data, patient data is always much softer and more complex than basic data. As basic science has developed, most investigators have decided that it is easier to look at a mouse model rather than working with patients in diseases that he or she is interested in. A mouse room may be somewhat expensive to construct and maintain, but it is small potatoes compared to a hospital ward.

GS:: The Europeans have done much more to support clinical research.

AS: Yes, and I think that this is a failing of American medicine at all levels not only at the NIH but across the academic spectrum and the leadership of American medicine. I think it is well recognized problem and that it is necessary to rejuvenate clinical research.

Klein: How do you think participating in the NIH Associates Program furthered your career.

AS: Very greatly for some of the reasons we talked about before. I had, as mentors, world class scientists. My first mentor won the Nobel Prize after I had been in his lab for seven years. You cannot do better in terms of external recognition of one's ability than the Nobel Prize. That laboratory during the first ten years I was there, was certainly one of the world's centers in the field of protein chemistry. So having superb mentors was great. Secondly, the colleagues coming through at the same time were all superb. I was awed by some of my own colleagues who I worked directly with during my first two years. My first mentor Charles Epstein, later a geneticist at UCSF, sometimes knew more about what I was doing than I did! To encounter people like this was a sobering experience. And then thirdly,

there was such a critical mass that whenever you had a question there was always somebody down the hall or in the next building that you could go to. Fourthly, there were seminars and courses to take that rivaled anything at any university. In fact, many times the hospital or the medical school was not next to the university or the times were not conducive for physicians to take courses. But at the NIH, courses were held on campus during the evenings so that you could work a full day and come back in the evenings for the courses. Fifthly, the people you were working with went out and pursued their careers so you had this whole cadre of people who you interacted with from the beginning. They were your friends and colleagues.

Klein: If you had to do it over again would both of you take the same route?

GS: That is hard to say. I think I would have.

AS: I could say 'what if' about anything. I did move, about 10 or fifteen years ago, away from more basic research, to more clinical research, still in biochemistry. That is much harder and I have been much less satisfied with the results (at the time of this interview). But that may be due to my own abilities, aging, the nature of the field, that I was unlucky or so on. I sense that in the last ten years, this kind of work is not being valued by the system as much as it was twenty years ago. I am not sure, in retrospect, if I would have made the switch when I did if I could have had a crystal ball and seen the directions in which the balance between basic and applied research was going.

Klein: Is there anything else that either one of you would like to comment on?

AS: I think the strength of the NIH then, and some of the genius behind it was that fairly ordinary government bureaucrats created this enterprise out of zero. One of the other things that they did very well from the beginning was to balance basic and clinical research. There were many times where one or the other could have become dominant. Probably the greatest fear in the first twenty or thirty years was that clinical research would become dominant and suppress basic. I think for many reasons over the last decade or so, the pendulum has fallen in the opposite direction. The test of the current leadership will be if they can bring the pendulum back to a balance not only within intramural NIH but throughout academic medicine. It takes not only NIH leadership, but also the other leadership of American scientists in medicine. That is going to be very difficult because there are so many forces pushing one way or the other.

GS: I think it is important to point out there are pockets of tremendously excellent clinical research areas still within the NIH. I am speaking from both professional experience and personal experience, as a patient. There are several very high powered people doing clinical research. And they have made wonderful contributions.

Klein: Thank you for speaking with me.