In this occasional series we record the views and personal experience of people who have especially contributed to the evolution of ideas in the Journal’s field of interest. Marc Schuckit qualified in medicine and at an early stage in his career worked with Lee Robins. He currently directs an enormously productive alcoholism research centre and until recently a related clinical service at the University of California, San Diego, where he holds the position of Distinguished Professor. In 2006 he was a recipient of the Jellinek Award.

EARLY YEARS

Addiction (A): Marc, in these interviews, before discussing adult careers, we like to start off with something about personal background. Where were you born and who were your parents?
Marc Schuckit (MS): I was born in Milwaukee, Wisconsin. My parents, who were children of immigrants, came from Romania on one side and from Lithuania/Poland on the other. My grandparents arrived with nothing in their pockets, which was true of many Jewish immigrants in the early 1900s. So my mother and father, both lovely people, went through High School but could not afford to go any further due to the great economic depression that preceded World War II. My dad worked as a butcher, and by the time I entered High School, he owned a small grocery store with an attached meat market. I have two sisters and I am the youngest child.

A: Your parents, would they have felt disadvantaged by being immigrants?
MS: In Milwaukee, a town about 100 miles north of Chicago, people identified with their original immigrant group, but we certainly did not see ourselves as disadvantaged.

A: What about family ethic?
MS: My parents were kind, loving, hard-working people. We children were encouraged to generate our own spending money from an early age, and I helped out in the store. I quickly learned I did not want to be a butcher when I grew up. There is nothing wrong with being a butcher, but I wanted to do something that would use my mind, and my parents strongly encouraged all of us to go as far in education as we could. I also had a loving and supporting extended family who were very important to me. My grandmothers and father’s two brothers and their families lived in Milwaukee, so we would see them regularly, and we were also close to my mother’s sister’s family in Chicago.

A: Your high school education?
MS: We went through public schools, government-sponsored schools, all the way. I was fortunate to be in a school system that was pretty darn good.

A: And what were you best at scholastically in those days?
MS: I loved school and took it more seriously than most. My favourite subjects were English, history and science. From English, I learned early that I enjoyed writing.

When I was a junior in high school my father had a stroke and, as a result, I had to help manage the family store. During my senior year I would open the store at 6 a.m., and my mother would come in around 7 a.m. to take over while I went off to buy fresh produce and meat for the store. Then I would go off to school around 10 a.m., coming back to work after school and on Saturdays. That schedule taught me how to organize my time and how to get things done within the time I had available. While not every day was fun, most were, and it was really interesting to meet the farmers at the markets. After I graduated from high school I stayed in Milwaukee to help with the family business while I attended the University of Wisconsin (Milwaukee Division) for the first year-and-a-half.

A: You were starting in medicine at that point?
MS: I was headed there, but in the United States you gain an undergraduate degree before going to medical
A: Did you enjoy your time at university?
MS: Yes. The University of Wisconsin–Milwaukee had good classes. After a year-and-a-half, when my dad got better, I transferred 50 miles to the University of Wisconsin at Madison, which was a more exciting campus. I graduated there a little early and started medical school in 1964 when I was aged 20.

A: Was medicine an obvious choice for you?
MS: It was right for me, and I thought that it was going to be a really wonderful way to make a living.

A: It could have been any branch of medicine?
MS: I did enjoy all my different clinical rotations in medical school and was tempted to be a general practitioner (GP) or a surgeon. We had a couple of GPs who took care of our family when I was growing up and whom I really liked. However, I had been interested in psychiatry in high school. I do not know why, but perhaps this goes back to the fact that my favourite courses at school were English and history, subjects that presented people’s stories. So when I decided to go into medicine, the branch where I was going to have the greatest chance of becoming involved in people’s stories was psychiatry.

A: How did you get on at medical school?
MS: The first 2 years were more than a little challenging. In undergrad at the University of Wisconsin, I used all my available time to study history, psychology, creative writing and music, and only took the science courses that were required for the usual medical school entrance. So when I got to medical school I had never had, for example, biochemistry. During my first medical year biochemistry was 4 hours of lectures, 2 hours of laboratory and a 2-hour examination on Saturday morning. Between that, microbiology, and similar courses, my first year at medical school was difficult. That was not a great deal of fun for me, so when I discovered I had 3 months free between my first and second years of medical school, I bought a cheap plane ticket to Europe and hitch-hiked there for 3 months. It was during that time I looked around and said ‘I have got to change how I am approaching medical school’. I had learned in high school how to organize my time, but at medical school I had to take an even more detailed approach. I began with the essentials: how many hours’ sleep do I need; how much time is necessary to enjoy three meals a day; how could I have something on my calendar to look forward to each evening? After I made those allotments, I could use the rest of the time to study and go to class and work. After my trip to Europe and my new approach to time management, the second year of medical school was much more enjoyable and the last 2 years, which in the United States are clinical, I loved.

A: So then to a year’s internship?
MS: My internship was medicine and surgery, 6 months of each. It was not psychiatry. I did that deliberately thinking that I will be practising psychiatry for the rest of my life, so what I needed during that year was to learn how to be a better physician.

A: Next?
MS: After the internship I undertook 2 years of residency at Washington University in St Louis and a year as senior resident at a relatively new medical school at the University of California, San Diego (UCSD). Then, because this was Vietnam War time and the United States had conscription for military service, after my final year of residency I went into the Navy for 2 years, from 1972 to 1974.

A: The Navy, again a different experience?
MS: Yes, and I got really lucky. I was assigned to conduct research on alcohol at the Naval Health Research Centre in San Diego. Ransom Arthur, the commanding officer at that facility, had approached me and said he was being asked to carry out some research on alcohol in his Unit and needed some help. Working with him was a wonderful experience, and I loved my 2 years in the Navy.

A: Was this your introduction to alcohol issues, or had it come earlier?

MEETING LEE ROBINS AND FIRST STEPS IN A RESEARCH CAREER

MS: My interest in alcohol problems really began when, as a first-year medical student, I got a job with Lee Robins at Washington University. Until then I had no idea I was interested in alcohol and no idea that I was going to go into research. So I was lucky in my first year of medical school, 1964, to find a job posted on a bulletin board for someone to help in a study interviewing men for a follow-up project. That was my introduction to Lee Robins, a woman who became an important part of my life. She taught me how to ask a question and how to gather data to try to address the question. It was further luck that the question she was addressing at the time had something to do with alcohol.
A: So, in 1964 you were introduced to Lee Robins who, I think we would acknowledge, was one of the most creative minds in the field, and one of the most distinguished researchers of her generation.

MS: Absolutely. An incredible methodologist. She was very detail orientated, a wonderful human being, a marvellous teacher and an even better mentor.

A: Firm up a little now on chronology.

MS: I grew up in Milwaukee to graduate high school at about age 17, then entered medical school at age 20 in Saint Louis. Afterwards I spent a year in a medical-surgical internship in Los Angeles, then back to Washington University for the first 2 years of residency. Next I came to the University of California, San Diego, where I finished my residency and went into the Navy while also working part-time for the university. I then became a full-time faculty member in the Department of Psychiatry at University of California, San Diego, and stayed there for another year, after which I got a marvellous job offer in Seattle, Washington where I was the first director of their Alcohol and Drug Research Institute. Seattle was home for 3 years until I returned to San Diego in 1978, and have remained there ever since.

A: That was a significant appointment and it was definitely an indication that research was going to be your career.

MS: For sure.

A: You were a medic taking on a career in alcohol research. Was that usual at the time? Were there many psychiatrists going into research?

MS: I was constantly amused, but never felt threatened at how some physicians outside the alcohol field seemed to look down on this line of work as a bad way to spend time. However, as I looked around, I saw some awesome people who were studying alcoholism. I could hardly think of a more important public health problem, and I thought, my goodness, what are you other docs missing? Alcohol is a fascinating field.

A: What appointment did you have when you started out in San Diego?

MS: I was an assistant professor out of the Navy. I then became an associate professor, followed by a full professorship while at the University of Washington and came back to San Diego in 1978 as a full professor.

PHASES IN AN INTERNATIONAL RESEARCH CAREER

A: I have been privileged to look at your list of publications. There are about 600 of them. You have probably published about 20 research papers each year of your professional life. It is difficult to read one’s way beyond the detail and discern the deeper story. Can you help?

MS: I have been fortunate to have had consistent funding for my own research from the National Institute of Alcoholism and Alcohol Abuse (NIAAA) over the years. Also, I have been associated with groups of people who have been very productive, such as the Collaborative Study on Genetics of Alcoholism. So there are papers directly from my own laboratory and others that I contributed to, but with someone else as senior author. My research has followed a series of issues over the years. First came the question of whether alcoholism is a psychiatric disorder, a medical condition or a manifestation of pre-existing psychiatric disorders, as many people believed. So my early work related to trying to learn more about the natural history and the relationship of severe and repetitive alcohol problems to major psychiatric disorders.

A: And the next phase?

MS: The second phase started after I became convinced that alcoholism is a condition that is distinct from other psychiatric disorders, not just a variation of pre-existing conditions. Next came the question of what causes it. Science might never answer that question in its entirety, but the beauty of research is that it gives you the opportunity to ask a series of questions, contributing to a body of knowledge where you are only a small part of a fascinating larger question. The body of knowledge develops in a chaotic way, like a dysfunctional caterpillar with legs going off in all different directions, but the beast is still moving forward. The next question for me was are the causes of alcoholism all psychosocial or is there a biological component? I had the chance to participate in some early studies that asked if it were likely for genes to contribute to the risk for alcoholism. My initial thought was that genes were likely to be operating through a collection of different mechanisms that either enhance or decrease the risk for alcoholism. However, the twin and adoption studies (including our own half-sibling approach) indicated that genes were an important part of the picture. That was phase two of our work.
MS: The next phase asked how might the genetic factors operate to affect the risk for heavy drinking and alcohol problems. To me, one important breakthrough came from T.-K. Li, Jean Pierre von Wartburg and others, who identified changes in genes that affect alcohol metabolism, especially in Asians, and were protective from alcoholism [1]. So, at the time in the 1960s when I was beginning to become interested in this problem, it was obvious that variations in genes for aldehyde dehydrogenase contributed, at least in Asians, to whether someone is more or less vulnerable to this disorder. So I started to say, OK, one possible mechanism is protective, perhaps I could help to study other mechanisms that relate to the vulnerability for alcoholism. For that, I was impressed by papers published in the 1960s and 1970s that described early-onset alcoholism in the context of antisocial behavior [2]. Because such impulsivity ran in families and contributed to a wide range of problematic behaviours, it seemed to indicate a second, potentially genetically influenced, characteristic that might impact on the alcoholism risk.

Evidence for this idea had been there since at least the 1940s. Regarding the next phase of my work, asking what is it that might be inherited, there was already evidence for one protective factor and a different vulnerability factor that increased the risk for both alcoholism and drug dependence [3].

A: Beyond that?

'So I started to say, OK, one possible mechanism is protective, perhaps I could help to study other mechanisms that relate to the vulnerability for alcoholism.'

MS: The next phase came from the fact that I am a clinician. I started to ask my patients to tell me about how alcohol initially affected them early in their drinking careers. Most of them said, 'Early on I could drink everyone under the table'. Many said, 'I would be the designated driver even though I was drinking twice as much as other people'. Those answers surprised me and got me to the current phase of my work. We conducted evaluations of 18–25-year-old children of alcoholics and controls, matched on demography and drinking history, which showed that young subjects with alcoholic relatives had a lower level of response to alcohol [4]. A 10-year follow-up of 99% of these subjects, combined with additional work, revealed that the low level of response predicts later alcohol dependence [5], and that this low response was familial, biologically based and potentially genetically influenced [6–8]. We also conducted a series of studies searching for genes contributing to the low alcohol response [9,10] and developed models that identified some environmental factors mediating the impact of a low response on alcohol outcomes [11,12]. Our current efforts are beginning to use the mediators and genetic results to develop preventative trials to diminish the alcoholism risk in adolescents with low alcohol responses.

A: When you look at your vast output, is there anything that you regard as your best piece of work?

MS: I think the best way to carry out research is to enjoy yourself. The probability is that you are going to have a small impact on your field. When I look at my papers, I think about how lucky I have been to make a living by asking questions and then figuring out how to begin to answer them. So I have enjoyed the opportunity to write my papers overall, and there are few that stand out. However, several papers tickled me because they taught me something, or they were important for a change in direction for my career.

A: Give me an example.

MS: In 1972, we published a half-sibling study of alcoholism in the American Journal of Psychiatry [13]. George Winokur gave me the idea, and was co-author along with Donald Goodwin. One day, I asked George how someone in the United States (like me) who did not have easy access to twin populations or adoption records might try to separate the impact of genes versus environment in alcoholism. He suggested I look at a population he was studying with a great deal of alcoholism and many broken homes. These issues resulted in some biological children being raised by the alcoholic, some biological children who knew that their father or mother was alcoholic but were raised by non-alcoholics, and some children with no biological alcoholic parents who were raised by alcoholics. The study results were, to me, surprisingly strong and demonstrated that it was the biological alcoholic relatives that predicted severe alcohol problems in the offspring, not being raised by an alcoholic. Nor was there a significant relationship between the number of years you were raised by an alcoholic and your risk. For that paper I’ll bet I went through 50 drafts, with Lee Robbins, George Winokur and Donald Goodwin looking over my shoulder. In any event, that paper taught me that I was on the right track regarding increasing my understanding of research, how to ask questions, how to write things up, so it was a very important paper to me. I was a Resident then, and came to UCSD and saw a small advertisement in the American Journal of Psychiatry about an annual prize, the President’s Award, given for an outstanding paper on psychiatry in the United States or Canada; I sent in the paper for consideration and was fortunate to win.
A: Heady stuff! You have referred to your patients. What degree of clinical responsibility have you retained, while directing a research programme?

MS: For 30 years I was the director of the Alcohol and Drug Treatment Programme at the major teaching hospital for UCSD. I worked there every day. I was the person who dealt with administrative problems and gave advice on particularly difficult patient problems. I supervised the senior and junior residents, the medical students, and directed rounds on new patients. While I left that program about 2 years ago, I still volunteer about a day a week to continue to teach students and residents.

‘For 30 years I was the director of the Alcohol and Drug Treatment Programme at the major teaching hospital for UCSD. I worked there every day.’

A: Let us look at the question of productivity. You have had a very large research output, but you are also a busy clinician. How do you do it?

MS: I pretty much use the strategies I learned in high school regarding setting priorities and time-management, which saved me in the first 2 years of medical school. As to priorities, my wife and children are more important to me than my career, and the time for my family goes on my virtual daily schedule before anything else. The time I spend working on research must fit around the time I spend with my family. My wife and I negotiate how I work, but I can still find time in the evenings and at weekends to devote to planning studies and writing papers.

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A: When you work in a team have you had a series of long-term collaborators, or are you helping people to develop their research careers and they then move on?

MS: The core of my research team in San Diego is key to what I can get done. My longest collaborator of about 20 years is a PhD psychologist, Tom Smith, who is a good statistician. Two other key personnel include one co-worker with a PhD and another with a Master’s degree who have been with me for about 12 and 18 years. While I set the direction for our projects, it is only done after careful discussion with them. I am also very fortunate to have two remarkable administrative assistants who work with me on budgets, grants and the journal I edit. Most of the team actually collecting the data are young people who have just graduated from college and who are working with us for 2–3 years while on their way out to their own careers. In addition, I have several long-term collaborators outside UCSD. The longest and very important to me has been the Collaborative Study on Genetics of Alcoholism, which is where I have learned almost everything I know about genetics. Another is an excellent research group at the Gallo Center at the University of California, San Francisco.

A: Your primary habitat has been America over your working life. Do you see America as having been a very favorable field in which to pursue your kind of research?

MS: Yes, and at its heart this reason may boil down to two words: stable funding. The National Institutes of Health, including the National Institute of Mental Health, National Institute of Drug Abuse and NIAAA, are at the core of funding for the type of research I do. Therefore, in the United States, if you have a decent research idea and you are willing to go through the trouble of submitting a grant, at least until the last few years you had a remarkable access to relatively stable funding. That is the major reason why the United States has done so well in alcoholism research. Americans are not smarter, we do not work harder, it is simply that we have more stable resources given to us for research.

‘For 30 years I was the director of the Alcohol and Drug Treatment Programme at the major teaching hospital for UCSD. I worked there every day.’

A: Reflect a little on the model of a research organization which we take for granted. So far as I can see, the model rests on the spontaneous emergence of research entrepreneurs. When that person eventually retires the work does not necessarily continue. Do you think that this basic format is to last us another century, or do you think we need to rethink how the research enterprise is planned?

MS: I am not sure your assumptions are completely correct. For example, at Washington University in St Louis, Eli Robins, Sam Guze and others established a superb research orientated department of psychiatry that has continued after their deaths. Yale is a similar success story, as is Stanford. So sometimes individual investigators get together and create an environment that lives beyond them.

A: Another strand to your career: You took over the editorship of what was at the time the Journal of Studies on Alcohol. Tell me about that experience.

MS: I have been editor for about 15 years, and I was previously associate editor for 10 years. Editing a journal is one of my favourite activities. I look at a journal as not just a way to disseminate recent information, but also as a vehicle to help people as they develop their careers. This
includes helping people from countries where there may be less opportunity to have paid research positions and few colleagues to teach them. I am very pleased that there are journals that have the tradition of commentaries on papers, and are proactive regarding ethics; my major interest is in publishing as broad a span as possible of really good articles. For me, with the very limited space in our journal, I want to publish as many research articles as I can across psychosocial, epidemiological and clinical issues related to alcohol and drugs.

A: You have said that the availability of money is highly important for a research life. What about the politics of the thing? Researchers obtain their money from central government, therefore their take on the problem has to be not too discordant in its emphasis with the views of national government. Is that true?

MS: Regarding decisions as to which grants are funded, most US review systems use the chaotic and inefficient peer-review system. It certainly is not perfect, but it is better than any other approach I can think of. It is the research review groups that make the sometimes brilliant and sometimes wacky decisions on funding as a reflection of who happens to be at the meeting when they are reviewing the applications. Members of the committees are as human as anyone else, and their judgment can be affected by some member being upset by a recent paper written by an applicant. It is these peers and not the government who make the key initial decisions. NIAAA, for example, as an institute, can have opinions, but almost no one in those committees works for the Federal Government. So, I think that an applicant’s skills and ideas, rather than whether their views agree with an agency, are likely to hold sway.

A: Something else. Tell me a little about your experience in writing books.

MS: Ah, edited texts. I generally do not enjoy them as much as single-authored texts. For the edited work, no matter how hard I work on it, some of the chapters are stellar while others are not quite as good. Also, there always seem to be one or two authors who send in their work several months late. Riding herd on them is not a lot of fun, so I do not do edited texts anymore. I like single-author texts and each of those I have written has had a personal reason behind it. The first was Alcohol and Drug Abuse, which had its sixth edition in 2006 [14]. This series began in the 1970s because my father had recently died and I wanted to dedicate something to him. The second book, which was for a general readership and entitled Educating Yourself about Alcohol and Drugs, was written when a neighbour came to me and said she was at her wits’ end because of her husband’s alcoholism. I looked around to try to find a book for her to read to learn more, but the available texts were either too technical or they were personal testaments. So I wrote the book based on science but with as little jargon as possible [15].

A: Well now, the future of the field. Do you feel it is in good health or faltering?

MS: To me, the future is incredibly exciting. The alcohol and drug fields have come from neglected backwaters in the 1950s to a state-of-the-art field. The work demonstrates what science can do when we can attract young promising investigators. My only concern is that, right now at least in the United States, Federal money is becoming alarmingly scarce. Still, I doubt there are other fields of medicine that have superior software and models and equipment, and cover as wide a variety of aspects from genes to environment to brain imaging, as the alcohol field. So I am very hopeful.

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A: If a young person comes along and asks you ‘How shall I equip myself as an investigator’, what advice would you give to them?

MS: The major key is finding a good mentor who is productive and willing to help you along. I also ask young people to talk about what they want to develop in their professional career, and what they hope to avoid so we can figure out whether their personal wishes, assets and liabilities match with a research career. Research is not for everybody. You have to be creative, intelligent and disciplined. In addition, you have to be able to tolerate criticism and failure along the way, and you have to be able to enjoy the process of learning and be able to put off gratification. However, there are so many wonderful things to learn that you are unlikely to get bored. You might not make as much money upfront as some other careers, and it is important to be able to value yourself through what you have learned and accomplished rather than your gross salary. But if you have those values, research can be a grand and rewarding career. It sure has been for me.

A: Not long ago there was a young man working part-time at a family shop and he is now a leading researcher in alcoholism. Help me to see how and why that journey happened?

MS: Whatever I have accomplished began with the values my family instilled in me early on. The skills I have
acquired began with my experiences in high school when my father was ill and that I had to learn how to organize my time and I had to prioritize decisions. I was lucky to find my way into a career that matched my assets and liabilities as closely as possible. That, together with the fact that I had the good fortune to have incredible mentors, combined to create a very rewarding career. I continue to thoroughly enjoy what I do.

A: Before we close I want to ask you about the DSM system, because you have played an important role in its development. Where do you want to see it going now?

MS: My bias is that our approach to diagnostic criteria for major psychiatric disorders is, in some ways, the equivalent of bright but somewhat blind people feeling an elephant. Currently, we do not fully understand the disorders we work with and no one view generated from a particular vantage point is necessarily more accurate. Since 1980 (DSM-III), we have looked increasingly to data to help with our decisions, and that is a good thing. However, we may not have enough new information yet to justify major changes from DSM-III-R and DSM-IV to DSM-V. I fear that if we are not careful, we could change the names and shuffle the criteria, so there might be different blind people feeling the elephant, but now from the front rather than from the back. However, I am not so sure we need a radically different DSM-V now. The new diagnostic manual is being put together and I am participating, but I want to be sure that if we are going to do it, it be done in a way that is doing the most good with the least harm.

A: What does this guy like doing when he does take a holiday—the hinterland of your professional life?

MS: I read novels, and if I am too tired to concentrate and appreciate novels, I read mysteries, which I find great fun. I also very much enjoy history. These interests, along with classical music, date back to skills I acquired at university. Most importantly, I spend time with Judy, my wife since 1967, and we have both always had wanderlust. We love traveling, especially to places where we see different life-styles. Among my favourite trips have been New Guinea, India, South Africa, and also a recent trip into the isolated villages in the mountains of Burma. I love scuba diving, love the ocean. We enjoy movies, classical music and good wine. While I am not much of a party person, I highly value spending time with good friends. They are very important to me.

A: Marc, thank you for your generosity and patience in giving this interview. And thank you for what your work gives to the world.

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References