Pioneer Profiles: A Few Minutes with Sid Bijou

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This article is an interview with Sidney W. Bijou. His education, work, accomplishments, and honors in the field of behavior analysis are reviewed and described in his own words. Some of his accomplishments include applying operant methodology to normal children and children with retardation, extending operant methodology with children from the laboratory to the natural environment, carrying the banner of behavior analysis to many foreign countries, teaching and advising many students of behavior analysis who have become well known as behavior analysts, and researching, developing, and commercializing such well-known products as the Edmark reading program, the Portage parent training program, and the Wide Range Achievement Test.

Key words: Sidney Bijou, interview, behavior analysis

This article is intended to be the first in a series of interviews with the pioneers of behavior analysis. Sidney W. Bijou was chosen to be the first interview for several reasons: (a) Few can argue that he is a pioneer in the field of experimental and applied behavior analysis, but he was also the first to extend behavior analysis methodology to developmental psychology. Many of his students are considered pioneers in behavior analysis in their own right. (b) Many current behavioral psychologists are not aware of Bijou's contributions to the field of behavior analysis. (c) He began his study of psychology as a Hullian. It took many years for Bijou to try Skinner's experimental methods and become a proponent of Skinner. This feature makes him rather unique.

In his book, *The History of Behavior Modification*, Alan Kazdin (1978) wrote,

The initial programmatic extensions of operant conditioning to human behavior were begun in the early 1950's by Ogden R. Lindsley and B. F. Skinner, who studied the behavior of psychotics, and by Sidney W. Bijou, who studied

the performance of normal and retarded children. (p. 246)

Kenneth Goodall's (1972) article "Shapers at Work" also pointed to Bijou as possibly the first applied behavior analyst.

Bijou trained with Kenneth Spence at the University of Iowa, where he received his doctorate in 1941. He was first trained in Hullian theory, experimental neuroses, and conflict. He was exposed to the experimental analysis of behavior during his brief faculty appointment at Indiana University from 1946 to 1948, where Skinner was chairman of the psychology department. Bijou, however, held to his Hullian beliefs. In 1948, Bijou left Indiana to take a post at the University of Washington.

In the early 1950s, Bijou began to apply the methodology of operant conditioning to study the behavior of children between the ages of 2.5 and 5 years old. The primary purpose of his early work was methodological. Bijou found Skinner's methods of measurement superior to those of Hull and Spence, and he found Skinner's new book *Science and Human Behavior* (1953) to be particularly useful.

Bijou's goal was to devise an experimental procedure that would provide (a) a well-defined and readily recordable dependent measure of behavior change, and (b) a well-controlled set-

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ting that allowed precise manipulation of independent variables. This type of methodology should enable researchers to study problems and behavior processes in humans by evaluating the direct effect of one variable on another (Bijou, 1957a).

In his preliminary research, Bijou evaluated different types of reinforcers (e.g., candy, balls, toy dogs, pleasant-sounding tones, trinkets) and responses (e.g., push buttons and pump handles). One early study required children to drop a ball through a hole. After the ball was returned, the child would perform the task again. Bijou abandoned this response in favor of lever pressing. Unlike ball dropping, which was interrupted by a delay, lever pressing was a free operant that could occur at high rates without interruptions and was more sensitive to various contingency manipulations (Bijou, 1957b).

Bijou studied basic behavioral processes that had been observed in animal research, including acquisition, extinction, and discrimination (Bijou, 1957a). The effect of various manipulations on human behavior, such as the effects of continuous and intermittent schedules of reinforcement on extinction, replicated the results obtained with animals (Bijou, 1957b). This research was carried out along several lines, including the study of both normal children and those with retardation (Bijou & Oblinger, 1960; Bijou & Orlando, 1961; Orlando & Bijou, 1960).

Bijou's work is significant because he extended the study of operant conditioning to children, and he devised an experimental method that allowed the investigation of diverse phenomena. He conducted programmatic research on a variety of behavioral processes, facilitated by his establishment of carefully controlled laboratory conditions. To this end, a trailer was converted into a laboratory to make it portable so that his procedures could readily be brought to the participants (Bijou, 1958a). Although there were other studies that preceded Bijou's work in demonstrating instrumental condition-

ing with children (e.g., Fattu, Auble, & Mech, 1955; Fattu, Mech, & Auble, 1955; Ling, 1941), they were isolated attempts concerned with select hypotheses. In contrast, Bijou worked to systematically expand operant methodology.

Bijou's broader concern can be seen in his conceptualization of mental retardation (Bijou, 1963, 1966) and developmental psychology in general (Bijou, 1959). In the 1950s and 1960s, Bijou developed an extensive research program with normal children and those with retardation (e.g., Bijou, 1955, 1957a, 1957b, 1958a, 1958b, 1959, 1961; Bijou & Oblinger, 1960; Bijou & Orlando, 1961; Orlando & Bijou, 1960). In both of these areas, he placed the emphasis on establishing empirical principles of behavior for individual development. He used functional analyses rather than hypothetical mental processes or physiological states to study development. The individual child could be studied from the standpoint of stimulus functions that had been used by Skinner in animal experiments and by Lindsley with people with psychoses. Stimulus events were those antecedent conditions, settings, and consequences that were associated with production of the response. The responses included respondent and operant behaviors and their combinations. Rather than merely constructing analogies between principles established through observations of animal and human behavior, Bijou suggested that animal research should be a base for direct studies of human behavior. He was the first to describe antecedent-behavior-consequence (ABC) recording as a method of data collection to explore the three-term contingency with humans in natural settings (Bijou, Peterson, & Ault, 1968). This allowed behavior analysts to elaborate on Skinner's analysis of contingencies of reinforcement in *Science and Human Behavior* (1953) and *Contingencies of Reinforcement* (1969).

Bijou's positions at the University of Washington, the University of Illinois,

and the University of Arizona allowed him to recruit many people who would influence the field of behavior analysis. Through the efforts of Bijou and his colleagues, behavior-analytic research prospered at these universities and became a significant part of the field's intellectual legacy.

Bijou began by adopting Clark Hull's concepts of habit strength and drive at the University of Iowa, but after being influenced by Skinner and Kantor at Indiana University, he became one of the pioneers of behavior analysis. The extent of his influence suggested this interview in order to learn more about his efforts in his own words. I began by asking some questions about his education.

How did you become involved with behavioral psychology?

I became a behavioral psychologist at the University of Iowa through the intensive courses in conditioning and learning by K. W. Spence, a student of Clark L. Hull. Spence, then head of the department, was challenging Gestalt psychology through animal research and theoretical discussions with Kurt Lewin and his students at the Child Welfare Station (later called the Institute of Child Development). (Actually, as a graduate student, I went to the University of Iowa from Columbia University to study with Lewin; however, I did my PhD dissertation with Spence on experimental neurosis in the rat using the conditioned response method.)

You left graduate school at Columbia to study with Lewin at Iowa. What was it about Kurt Lewin that caused you to change graduate schools and move halfway across the country?

I was dissatisfied with Columbia because it was theoretically eclectic. I went to the University of Iowa in 1938 to study with Lewin on the recommendation of G. W. Hartman, a Gestalt social psychologist at Teachers' College, Columbia. Hartman said that Lewin, who had recently migrated from Germany, was a gifted person who was going to do great things in the field of

child development. As I indicated in some of my writings, I did not study with Lewin (but I was allowed to take a 1-year course with him on personality development). He was on the faculty of the Child Welfare Station rather than the faculty of the psychology department. When I applied to the University of Iowa, I was accepted by the psychology department and given a fellowship. So on admission, I accepted the offer and selected "learning" as my area of concentration. Spence was assigned as my advisor.

In The History of Behavior Modification (1978), Kazdin writes that you were influenced by Skinner and J. R. Kantor while the three of you were on the faculty at Indiana University (1946–1948). How were you influenced by Skinner at that time?

I was a faculty member at Indiana University through the recommendation of Spence. Skinner was head of the department, and I was an assistant professor in charge of the newly formed clinical program. I became acquainted with Skinner's research (Spence did not cover Skinner's research in his intensive learning course at the University of Iowa), his conceptual analysis, and philosophy of science, through discussions with him and his students. Skinner knew that I was oriented toward Hullian learning theory through my training with Spence but did not "push" his view. It was later when I was at the University of Washington that I changed from the Hullian to the Skinnerian view of psychology because I learned directly from research that Hull's system was not promising for experimental studies of children, even though R. R. Sears had taken that route.

What was the influence of J. R. Kantor?

In discussions with Kantor on the philosophy of science, he made me aware of the limitations of the Hullian system. For example, he pointed out that Hull's system was reductionistic, involved nonempirical, definable hypothetical constructs, and focused on

the learning-conditioning process. Also, his writings clarified for me the necessary steps on constructing empirical systems in psychology. I was taught a different view, one fostered by Gustav Bergmann in his philosophy of science course at Iowa.

What do you mean by "his view"? Was there such a view as a "Skinnerian view" in 1946? I know that The Behavior of Organisms was published in 1938, but did Skinner have that much influence even at that early time?

In 1943, there were, among others, a Skinnerian view, a Kantorian view, a Hullian view, and a Gestalt view.

Please, enlighten me as to the work of Sears that you alluded to. Why was Hull's system not good for experimental studies?

R. R. Sears, a student of Hull, developed a program in child development, first at the University of Iowa and then at Stanford University. His group, which was quite extensive, studied correlational relationships (e.g., between parents' personalities and their preschool children) and individual child behavior. I was interested only in his work on individual behavior so I set up a laboratory, using his technique, which was doll play borrowed from child psychotherapy. A child was placed in a play-room situation (e.g., furnished open house, mother doll, father doll, sister doll, and pet doll) and told to play with the toys. An observer, in plain view, observed and recorded what the child did and said. The protocols were analyzed in psychoanalytic terms. There was no control of antecedent and consequent conditions, and the measures of behavior were vague. I could not see how this kind of data would produce a science of child behavior. So, I retooled the laboratory and investigated the possibility of applying operant techniques and principles to children (Bijou, 1955).

From your vita, I noticed that you listed Harvard 1960–1961 under your education and Harvard 1961–1962 as a Senior Fellow under appointments.

Why did you go to Harvard, and what did you do there?

I did postdoctoral work at Harvard to study complex behavior in children with retardation. I did that by studying the shaping of right-left discriminations at Fernald State School which was published in the 1968 issue of the *International Review of Research in Mental Retardation*. I also audited Skinner's undergraduate course which was the basis for his *Science and Human Behavior*, attended his Pigeon Staff (an informal seminar for investigators doing research with pigeons in labs in and around Harvard), learned programmed instruction in his Teaching Machine Project, and visited many special classes for retarded children in the Northeast area.

You got your PhD in 1941. Isn't it unusual to do a post doc 20 years after getting your doctorate?

I suppose. I was in the military service from 1942 to 1946 and was not able to settle in a research program until about 1945 at the University of Washington. After that, it was a matter of arranging my affairs to get away for a year of study.

You were at the University of Washington for 17 years. According to Kenneth Goodall's article, "Shapers at Work" (1972), you built a "behavioral powerhouse" there. You recruited Donald M. Baer and Montrose M. Wolf. Who else did you recruit?

I also recruited Jay Birnbrauer, who received his doctoral degree from Indiana University; Robert Orlando, a student of Dave Zeaman of the University of Connecticut; Howard Sloan, Jr. from Johns Hopkins School of Hygiene and Public Health and later Director of the Cambridge Center; and Jeffrey A. Grimm, who became Director of Mental Health and Mental Retardation, Dekalb County Board of Health of Illinois.

What else did you do to bolster the behavioral program's influence in the psychology department there?

When I was appointed director of the Institute of Child Development at

the University of Washington, it was, in fact, only a child clinic operating out of the department of psychology and offering only diagnostic psychological services to children in the Seattle area. Under my term of office, the institute expanded, occupying separate space in a building and then its own building with a nursery school for normal children, research laboratory, and a child clinic. In addition, I established a research laboratory at the Rainier State School at Buckley, Washington. Bob Orlando was in charge of that laboratory, which was devoted to basic research on children who were retarded. I also founded at Rainier State School an experimental classroom for special children using individualized, programmed instruction for teaching reading, writing, arithmetic, and assorted subjects. The reading program is now called the Edmark reading program and is marketed by IBM. Mont Wolf and Jay Birnbrauer served as consultants to the teachers on that project.

During this period at Washington, I was consultant to the psychology program at the University of Veracruz at Xalapa and the National Autonomous University of Mexico and worked with the psychologists at Los Horcones community in Hermosillo, Mexico, the Ann Sullivan Center in Lima, Peru, and the Central University of Venezuela in Caracas.

You wrote three little books on child development with Don Baer (1961, 1965, 1967). As an undergraduate student, I read these books for classes in child development. They were my introduction to operant psychology. As I recall, they were primers for behavior analysis and had little to do with child development. How did you come to write these books?

Don Baer and I wrote the child development series out of necessity. We were both teaching large undergraduate classes in child development and had to use the then-current and popular child development book by Mussen, Conger, and Kagan (1956). We wanted books that were compatible with what

we were doing and saying at the Institute of Child Development. We supplemented the series with materials from our research and were soon able to eliminate the Mussen et al. book.

I was once told that publishing books rather than journal articles is the best way to increase your visibility. Publishing journal articles doesn't do much for the authors outside of obtaining promotions and tenure in university settings, and nobody reads them. At best, people just count them. Having done both, what do you think? Do you agree that writing books heightens your visibility more than journal articles?

I think that writing articles goes a long way in enhancing one's visibility. I believe that writing papers for publication heightens visibility among the professionals, which is important in getting invitations to give colloquia, write chapters, and present research findings and conceptual analyses at professional meetings. Some of my papers have performed that function well. I think that writing books, which is not possible for everyone for various reasons, does not increase one's visibility in the broad population if that is what the writer wants. My papers on methodology in natural settings made me known among my fellow psychologists.

You have taught at many universities. Why did you move around so much?

My first academic appointment was for only a year and a half because of rapid changes following World War II. I moved from the University of Washington (after 17 years) to the University of Illinois because as director of the Institute of Child Development, I lost most of my staff to other universities, mostly to the University of Kansas, due to the fact that the psychology department would not grant increases in salaries and ranks offered them by other universities. The majority of the department at Washington was not sympathetic to the publicity received by the institute for their research and

practices. It should be pointed out that the institute was a separate university unit, but its staff were members of the psychology department, and students received their degrees in psychology.

I then moved to the University of Illinois and remained there for 10 years. I became emeritus in 1975 and moved to the University of Arizona, where there was a program in child clinical psychology under Ralph Wetzel, a Washington PhD, and an opportunity to work with Sam Kirk, professor of special education. I moved from Arizona (after 18 years) to the University of Nevada at Reno in 1993 because the psychology department at the University of Arizona had become strongly cognitive in its theoretical orientation, while Nevada was budding with new exciting behavioral programs under the leadership of Steve and Linda Hayes. I guess I moved around a lot because I lived a long life.

How did you get so many visiting and adjunct professorships: San Diego State University, UCLA, University of Michigan, University of Hawaii (twice), Japan, Peru?

I think I got many visiting professorships because psychologists wanted their students to hear about the research at the University of Washington's Institute of Child Development. Also, in Japan, Peru, and Caracas, they were interested in having me help them in setting up new treatment and research programs. Many of my contacts in South America came through my work with the International Committee on Behavior Modification. Emilio Ribes-Inesta and I served as co-presidents.

You've had many students in your long career. Who do you consider your best student or students and why?

The following were some of my outstanding students at the University of Washington:

Douglas T. Kenny (deceased), University of British Columbia, known for his research in personality. He became president of that university.

O. Ivar Lovaas, UCLA, a pioneer in

research and early intensive behavioral interventions for children with autism and their parents. He is internationally renowned for his work in this area.

Robert F. Peterson, University of Nevada, pioneered the use of functional analysis (Bijou & Peterson, 1971). He was the first to use ABC recording with children (Bijou et al., 1968). He studied imitation in normal children (Peterson, 1968) and, with Baer and Sherman, generalized imitation in children who were retarded (Baer, Peterson, & Sherman, 1967). With his wife Linda, he was the first to use positive reinforcement to decrease self-destructive behavior in a child with retardation (Peterson & Peterson, 1968).

Donald K. Pumroy, University of Maryland, coauthored with Shirley Ann Spence Pumroy (1978) *Modern Child Rearing: A Behavioral Approach to Raising Children*. He introduced behavior analysis to regular classroom teaching.

Shirley Ann Spence Pumroy, University of Maryland, coauthor of the above book with Donald Pumroy.

Todd R. Risley, University of Alaska, pioneered, with Montrose M. Wolf, the application of behavior analysis with children with autism (Risley, 1968; Risley & Wolf, 1966; Wolf, Risley, & Mees, 1964). He was also a pioneer in language analysis and development, the first to use incidental teaching, and the first to experiment on correspondence (between saying and doing) training (Risley & Hart, 1968). With Baer and Wolf, he set the standards for practicing applied behavior analysis (Baer, Wolf, & Risley, 1968). He coauthored, with Betty Hart, a 6-year research grant on the development of language that resulted in two books, *Meaningful Differences in Everyday Experiences of Young Children* (1995) and *The Social World of Children Learning to Talk* (1999).

Robert C. Wahler, University of Tennessee, pioneered laboratory and clinical research in young children and their parents.

Ralph J. Wetzel (deceased), Univer-

sity of Arizona, coauthored (with R. Tharp) a book ahead of its time, *Behavior Modification in the Natural Environment* (1969) and coauthored (with R. Houchouer) *Residential Teaching Communities* (1986).

The following were my outstanding students at the University of Illinois:

Edward K. Morris, University of Kansas, known for his writings on philosophy of science and conceptual analysis. He is a past president of the Association for Behavior Analysis (ABA).

Joseph A. Parsons, University of Victoria, Victoria, Canada, conducted research on teaching and learning and was head of a program on study skills in the Counseling Center and the Learning and Teaching Center at the university.

Ely Rayek-Zaga, in private practice in Mexico City, coauthored with me *Analisis Conductual Aplicado a la Instruccion* (1978).

Emilio Ribes-Inesta, University of Guadalajara, Mexico, is well known for his writings on the philosophy of science for psychology and language and author of many books. There were three coauthored with me: *Behavior Modification: Issues and Extensions* (1972), *El Sesarrollo del Compartamiento* (1996b), and *New Directions in Behavior Development* (1996a).

James W. Tawny, Pennsylvania State University, coauthored (with D. L. Gast) the classic book on single-subject experimental designs *Single Subject Designs in Special Education* (1984).

Grover J. Whitehurst, State University of New York at Stony Brook, is well known for his work in language development in children and coauthored (with R. Vasta) *Foundations of Child Psychology* (1976).

Tadashi Azuma, University of Oita, Oita, Japan, a postdoctoral student who trained many teachers in the application of behavior analysis and wrote a well-subscribed book, *Behavior Modification of the Mentally Retarded* (1975).

Kaoru Yamaguchi, Tokyo Gakugei University, Tokyo, Japan, introduced the Portage method for teaching parents to teach their own children with disabilities. The Portage method became a national institution, and he co-founded the International Portage Association and served one term as president. He also translated the Bijou and Baer (1961) book on child development into Japanese.

My outstanding student at the University of Arizona was Chia-Chen Chao, Gung Medical School, Taiwan. She has taken leadership in Taiwan in introducing behavior analysis for people with medical problems.

Could you elaborate on the "Portage method"? I'm not sure if I know what you mean.

The Portage method refers to a program in which trained teachers teach parents to teach their young handicapped child based on the application of behavioral principles. Teaching takes place either in their home or at a center. The Portage Project was developed in the late 1960s by M. S. Shearer and D. E. Shearer of the Cooperative Educational Agency (#5) in Portage, Wisconsin. It was so successful in this country that it "took hold" worldwide, and in 1990, the International Portage Association was founded in Tokyo. At its seventh biannual meeting in 1998, Yamaguchi stated that the Portage program has been translated into 34 languages and is used in 90 countries. Those figures are higher now. I have served as a consultant to both the domestic and international associations.

I was surprised at the acceptance of behavior analysis in Japan as reflected through ABA. In talking with Japanese students at ABA, they indicated that many of the major universities in Japan have departments of behavior analysis. Do you have any thoughts on that?

I have visited Japan over 12 times. My impression is that behavior analysis and applied behavior analysis (mostly in the form of trained teachers helping to teach their handicapped

child) are well accepted. Training and research in behavior analysis go on in most universities. Masaya Sato, of Keio University and past president of ABA, introduced radical behaviorism in the early 1970s and fathered a great deal of research primarily with non-human subjects. And through his efforts, many students have come to the United States for graduate study, mostly to the University of Kansas. The Japan Behavior Analysis Association is now 18 years old.

Do you keep contact with your old students? For example, Bob Peterson is at University of Nevada; do you see him often?

Yes, I am in frequent contact with students such as Edward Morris, Todd Risley, and Ivar Lovaas, and Bob Peterson is my closest friend here at the University of Nevada at Reno.

Congratulations on receiving the Distinguished Service to Behavior Analysis Award from ABA in 2000. You have received many honors and awards. What do you consider your greatest achievement?

I consider my greatest achievement to be twofold: (a) the first systematic application of the operant method for basic research with young children, and (b) the extension of the operant laboratory method to applied research in natural settings with young children.

When and where did you receive the titles, Professor Emeritus and Distinguished Emeritus Professor?

The title Professor Emeritus was given to me when I retired from University of Illinois. The title Distinguished Emeritus Professor was given to me when I accepted an appointment at the University of Nevada.

How many languages do you speak? You have lectured in Peru and Mexico and written books in Spanish, so I assume you speak it. Do you also speak Japanese? Do you think speaking foreign languages is extremely important?

English is the only language I speak. In my visits to Japan, South America, Mexico, and Europe (Italy and Spain),

my hosts have provided either simultaneous or successive translators. I'm sure that if I could speak Spanish, I would have been more effective in Mexico, Peru, Caracas, and Spain.

I think speaking foreign languages is important to disseminate behavior analysis, but I would not go back to requiring one or two foreign languages for a PhD degree. I had to pass a reading language requirement in Russian and French for my PhD degree. In the succeeding years, they were absolutely nonfunctional.

You've been involved with behavior analysis for the past 60 years; you have seen the field of behavior analysis grow and evolve. Could you comment on this?

Obviously, we have picked up from where Watson left off when he said that psychology is the study of behavior. Skinner and Kantor clarified his declaration by saying that psychology is the study of behavior in interaction with the environment. And, it was Skinner's intensive early research on rats and pigeons that provided an explicit, workable methodology for the study of behavior in all organisms. It was also Skinner, as well as Kantor, who showed that the "new" approach was compatible with the natural sciences philosophy. Both made it clear that modern behaviorism was not a variation of S-R psychology but an all-inclusive system involving the interacting between behavior and events in the environment.

Behaviorism appears to have reached its peak in popularity among professionals around 1967, although it now seems to be making a comeback. This comeback is expected to be very slow, considering that the data do not always count for the general public and considering that 52% of the population believe in spiritualism, 45% in faith healing, 37% in astrology, and so on.

Where is behavior analysis going? In your opinion, what is the future for behavior analysis?

I think we are heading in the most promising direction, that is, one that is

compatible with a natural science approach. This approach involves (a) continued support for basic and applied research of all kinds with special emphasis on verbal behavior and (b) continued support of practitioners whose work remains within the bounds of reliable, empirical behavioral principles, that is, the scientist-practitioner model.

There are current indications to suggest that some day (and I hope soon) applied behavior analysis will be accepted in the school systems across the country as the basis for both teaching and classroom management. These indicators also suggest that applied behavior analysis will be accepted as the approach of choice for child-rearing practices. And finally, they suggest that clinical psychology, particularly child clinical psychology, will gradually be based entirely on empirical behavioral principles.

Part of the future of behavior analysis appears to be certification and licensure of behavior analysts. In some states (e.g., Florida), there are requirements that behavior analysts be certified to practice. Now, there is a national certification through the Behavior Analysis Certification Board, Inc. What do you think?

I think the trend toward certification is desirable. We are now witnessing a sad situation with respect to the teaching of young autistic children. Many say they are trained in behavior analysis (maybe they attended one of Lovaas' large weekend workshops), and they do bad things with their children and train parents, and many collect large fees for doing so—all under the banner of behavior analysis. The advantages of certification are stronger than the disadvantages at this stage in our history.

It seems that, as a discipline, behavior analysis is breaking away from psychology. Is this part of our future?

I do not think that behavior-oriented psychologists should "break away from psychology." I think they should remain to help the whole field move toward a unified empirical science. If

psychologists want to be certified as therapists or applied behavior analysts, they should be expected to know not only their specialty but also the whole field of psychology.

I've been to lectures where some people say that despite our data showing that behavioral techniques work, the techniques are not being adopted or assimilated and used. For example, Og Lindsley's standard celeration charts and precision teaching as a whole were developed to accelerate learning, and we all know they work, but few teachers use them. Please comment on this.

A more glaring example of nonacceptance is Keller's personalized system of instruction (PSI) method of teaching at the college level, despite convincing data. Institutional practices are slow to change, particularly when the assumption or philosophy underlying a practice conflicts with that of the culture. Practices with a cognitive orientation, even without supporting data, are readily accepted because of their compatibility with the culture's general belief system, that is, mentalism. This state of affairs means that behavior analysts have to keep working hard at their basic and applied research, and in addition, direct their energies to showing the general public that applied behavior analysis works better than most general practices and will do even better in the future because revisions will be based on research.

In my interview with Don Baer, he said that our tools and procedures are spread through the general public without the formal data collection and other baggage that behavior analysts use, but they are so "robust" that they survive and become popular. For example, many mothers are using time-out to discipline their children these days instead of spanking. They may not know the particulars or take data, but it works, and they like it. What do you think?

I agree with Don, but most of the time our practices are taken over by the

general public in name only. Parents and others do terrible things in the name of "time-out" and "reinforcement," and so on. I've often heard, "I used reinforcement, and it didn't work." What they did was something else.

As an undergraduate student, I remember that when studying personality theorists, I was required to read Theories of Personality (1970) by Hall and Lindzey. In their chapter on B. F. Skinner as a personality theorist, Hall and Lindzey said that it was the large number of gifted students like Nate Azrin, Og Lindsley, Donald Blough, William Estes, Norman Guttman, Richard Herrnstein, William Morse, and Herbert Terrace that increased Skinner's impact on psychology and extended his work in the vanguard of psychology. His students kept experimenting with and extending the tenets of operant psychology. Do you agree?

I do not agree with that statement. I think Skinner had impact because of his own writings and ability to make comments attractive to the media. Although he did not like the way his work was treated by the press, he did make the cover of *Time* magazine. And remember, he was always making comments to the press about the inadequacy of the educational system, the excessive use of punishment in child-rearing practices, the ease with which he could teach pigeons to play ping-pong, and so on.

In Goodall's (1972) article, he wrote that some people credit Skinner through students like Azrin and Lindsley for having created behavior modification or applied behavior analysis, while others give this distinction more directly to Bijou and Baer. How do you feel about that?

I think that Skinner created applied behavior analysis in education and teaching. That was the goal of his Teaching Machine Project, which culminated in his book *The Technology of Teaching* (1968). I think that the staff at the Institute of Child Development created applied behavior analysis in

child behavior therapy, parent training, and special education.

The staff consisted of eminent behavior analysts like you, Baer, Wolf, and Birnbrauer and students like Lovaas, Peterson, Risley, Wahler, and Wetzel. Of course, all these people were young and practically unknown then, but did you have any insight or intuition as to the potential of your colleagues and students then?

I do not think that any of these people had a great insight about the potential of their work. They were getting a great deal of satisfaction because everything they touched "turned to gold." They were enthusiastic, excited, and dedicated to behavior analysis and its potential.

I noticed that you were a member of the board of directors of the "Desert Survivors." What did this involve?

The Desert Survivors was a non-profit, behavior-oriented organization headed by Joseph Lacowitz. The objective of the organization was to train young adults with retardation and other handicapping conditions in the Tucson area. It had a nursery and facilities for groups to do on-site landscaping for residences and businesses.

One of the joys of interviewing is that you can ask questions about the interviewee's personal life. Could you tell me some personal information like where you born, what your childhood and family life were like, and what the various influences were that brought you to choose and establish your career.

I was born in Arlington, Maryland, on November 12, 1908. My parents, who migrated from Marseilles, France, taught themselves English. My father was a custom tailor who was known in the Arlington community as "Frenchie the tailor." Later, in his occupational history, he combined tailoring with dry cleaning. My mother was a housewife who provided me with a great deal of love, affection, and support. I had two older sisters. One died during a flu epidemic and the other from a gastric

condition after she married and had a son.

I played high school football well enough to get an athletic scholarship to Lehigh University, where I matriculated in electrical engineering. The demands of football and heavy laboratory courses caused me to lose interest in both football and engineering. I transferred to business administration, and at the end of my sophomore year, I transferred to the University of Florida. There was no point in staying at Lehigh if I were not to continue in engineering. Besides, tuition and living expenses were much lower at Florida, a factor that was important since I had to support myself. At Florida, I majored in business administration but was reading books on psychology on my own. My initial interests were hypnosis and psychotherapy. I graduated in 1933, during the depths of the depression. I was ready to make my fortune on Wall Street as a broker, but I couldn't find a job, any kind of job. I decided to use my unemployment to study psychology, but I did not have the funds. Fortunately, my wife to be, Janet R. Tobias, who was a certified teacher in the New York City school system, was willing to support us. All she needed was a job. Roosevelt's Public Works Administration came to her aid by providing her with an appointment as a special teacher. With that, we made it through 2 years of graduate study in psychology at Columbia University. My first part-time job was that of a school psychologist in New York City.

Janet and I have been married for 63 years. We have a son, Robert Kenneth (for Kenneth Spence), who has a small business in Mill Valley, California, and a daughter, Judith Ann, who is a family counselor in Santa Barbara, California.

Conclusion

Janet Bijou died in February, 2001. Sid resigned from the University of Nevada at Reno and moved to Santa Barbara, California, to be closer to his

children. He was 93 years old on November 12, 2001.

Sid is extremely modest when he says that he made only two contributions to behavior analysis: the application of the operant method for basic research with children and the extension of the operant laboratory method to applied research in natural settings with young children. He also spread the word about behavior analysis around the globe in Japan, Spain, Italy, Mexico, Venezuela, and Peru. He also contributed to behavior analysis by researching and then popularizing and commercializing the Edmark reading program (Tague, Kidder, & Bijou, 1967) and the Portage parent training programs. I have been receiving catalogs from these companies for years and never realized that these well-known and popular instruments were grounded in behavior analysis and were directly linked to Sid Bijou. One of the reviewers of this article said he dealt with teachers who were not always friendly toward behavior analysis, but they all were fans of the Edmark reading program. He remarked that maybe now he could use Bijou's involvement with Edmark as a tool to promote their interest in and use of behavior analysis. Another surprise was that he coauthored the Wide Range Achievement Test (Jastak & Bijou, 1941; Jastak, Jastak, & Bijou, 1962), which is a popular assessment instrument among special educators.

Sid has been the recipient of several awards and honors, too many to list them all. Among the most prominent ones are the Outstanding Research Award from the American Association on Mental Deficiency (1974); the Certificate of Merit from the Universidad de Veracruz, Mexico (1974); the Fulbright-Hays Fellowship to lecture at Universidad Central De Venezuela, Caracas, Venezuela (1976); Visiting Professor named by the Japan Society for the Promotion of Science (1978); Honorary Professor of Psychology at the Universidad Peruana Cayetano, Lima, Peru (1978); the Career Research Sci-

entist Award from the American Academy on Mental Retardation (1980); the Distinguished Scientist Award from the National Association of Retarded Citizens (1980); the G. Stanley Hall Award in Developmental Psychology from the American Psychological Association (APA) (1980); the Distinguished Psychologist Award from the Washington State Psychological Association (1981); the Outstanding Teaching Award from the Arizona State Psychological Association (1981); the Edgar A. Doll Award in Mental Retardation from APA, Division 16 (1984); the Don Hake Memorial Award in Basic Behavioral Research and its Application from ABA (1992); the Outstanding Contribution to Behavior Analysis from the Northern California Association for Behavior Analysis (1992); the International Contributions to Behavior Analysis from ABA (1994); and the Distinguished Service to Behavior Analysis Award from ABA (2000). In addition, he has written or coauthored 16 books, many of them translated into foreign languages, and 160 journal articles and book chapters pertaining to behavior analysis. In December 1996, Sid and Janet donated a substantial amount of money to the Society for the Advancement of Behavior Analysis to establish the Janet and Sidney Bijou Fellowship Fund. The objective of the program is to enable doctoral students to study child development from a behavior-analytic perspective. The fellowship provides a grant for one student per year in a doctoral program in psychology or education, to conduct research in behavioral child development. Sid is truly an extraordinary man. He has made tremendous contributions to our profession in many ways, conducting research, teaching, and advancing behavior analysis wherever he could.

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