

QUARTER II, 2014

OPERANTS

THE B. F. SKINNER FOUNDATION REPORT



INSIDE:
B. F. SKINNER'S
NOTES ON HOW TO
START A REAL
WALDEN TWO

*"I DID COME BACK TO WALDEN TWO,
AND I WALKED BACK, ALL THE WAY".*

B. F. SKINNER

Revisiting *Walden Two*



Spring has finally come to Cambridge and with it a new project. Many years ago, B. F. Skinner recorded himself reading *Walden Two* onto cassette tapes, and gave them as a birthday gift to his elder daughter (me). Several years later, I converted the original sound files to chapters in digital form.

The files were a mess. Text was repeated when tapes had been turned from side one to side two. High squeaks at regular intervals revealed friction on the cassette recorder. The volume varied from chapter to chapter and even within chapters. Even the overall pitch was not consistent. These were not surprising, since the recording had been done over several weeks, possibly on different tape recorders.

How could the Foundation fix those files? Fortunately then, as now, the Foundation had many friends who contributed their time and expertise. Scott Born volunteered to help. He spent weeks removing the clicks and repetitions. Then Rick Rayfield remastered the resulting MP3 files to provide depth and consistency. For our DVD, he added Skinner's 1984 "News from Nowhere." The Foundation has sold the resulting DVDs for several years. It is time to make the audio book available via download.

This brings up another issue: Should the Foundation offer the mp3 files at no charge? Should we provide them free, but request a small donation? Should we charge for downloads? If so, what would be a reasonable price? This is an issue where you, the readers of *Operants*, could influence the Foundation's decision. What do you think?

With the increasing differential between those in the very top income brackets and those in the lower half, *Walden Two* is as appropriate today as it was when it was published in 1948. In *Walden Two* happiness comes not from what we gain from others, but from what we contribute to each other and to the future.

Julie S. Vargas, Ph.D.
President, B. F. Skinner Foundation



The original cassette tapes

Chinese Translated by Coco Yang Liu

春天終於來到了劍橋，並有了它的新項目。許多年前，BF斯金納記錄自己讀（“Walden Two”）磁帶，並把他們（這裡的原始錄音帶照片）作為生日禮物送給他的大女兒（我）。幾年後，我轉換了原來的聲音文件的章節為數位的形式。那文件那時很糟糕。磁帶里的在从一面到另一面的文字重複，裡面有盒式錄音機摩擦時發出高的刺兒的聲音。每個章節音量都有變化，甚至同一個章節音量都不同。甚至在章節中的語調都有所不同。這些都不奇怪，因為記錄是在好幾個星期里完成的，可能使用了不同的磁帶錄音機。

基金會怎麼能修復這些文件？幸好現在和當時一樣，基金會有很多朋友貢獻他們的時間和專業知識。Scott Born 先生義務幫忙。他花了幾個星期去除拍打聲音和重複。然後Rick Rayfield把它灌錄成了MP3文件，以提供深度和一致性。對於我們的DVD，他補充Skinner的1984“新聞空穴來風NEWS FROM NOWHERE。”基金會已售出此產生的DVD了好幾年。現在是時候讓他們可通過下載獲得。

這帶來了另一個問題：基金會是否應該提供的MP3文件不收費？我們是否應該為大家提供免費的，但要求小額度的捐贈？我們是否應該收費下載？如果是這樣，什麼是一個合理的價格？這是一個你，Operants的讀者來決定的問題，這可能會影響到基金的決定。你怎麼看？

當那些在最高層收入和那些在中低收入階層之間的差距日益擴大的時候，今天，“Walden Two”與1948年發表刊登時是一樣適當的，在“Walden 2”中幸福不是來自於我們從他人獲得的，而是從我們向彼此和未來付出中獲得的。

Japanese Translated by Kae Yabuki

待ち望んでいた春が新たなプロジェクトと共にととうケンブリッジにやって来ました。ずっと前にB. F. スキナーは長女の私への誕生日プレゼントとして、自ら朗読をしたウォールデン・ツーク森の生活（Walden Two）をカセットテープに録音しました。数年後、私はそのテープを章ごとに分けて、デジタル版に変換しましたが、そのファイルには問題がありました。片面から別の面への変更時に同じ言葉が連続で録音されていたり、レコーダーの摩擦のせいで一定の間隔で甲高い音を立てたり、それぞれの章や一つの章の中でも音加減が異なったり、全体的な音程も不揃いでした。しかし、おそらく種類の異なるテープレコーダーを使って数週間かけて録音されたので、これらは仕方のないことでした。

ではスキナー財団はこれらのファイルをどのように修復したのでしょうか。幸運にも財団には、自らの時間や専門知識を使って協力してくれるたくさんの方々がいました。スコット・ボーン氏は自発的に何週間もかけて雑音や繰り返しを取り除いてくれました。そしてリック・レイフィールド氏がMP3に録音されたそれらのファイルをさらに高品質なものにしてくれ、DVDのためにスキナーの“News from Nowhere”(コートピア便り・1984年)を追加してくれました。このDVDはここ数年間財団から販売しています。そしていよいよこれをオンラインでダウンロードできるようにする時がきました。

しかし、それを実現する上で別の問題が浮上してきました。財団のほうから無料でMP3を提供するべきか、無料で提供するけれども募金を募るべきか。それとも販売するべきか、そして販売するなら値段はどうか。Operantsの読者の皆様のご意見が財団の決定に反映されるかもしれません。皆様ははどう思われますか？

高所得者層と低所得者層の格差がますます拡大する中、1948年の出版時と変わらずウォールデン・ツークは現代にも当てはまります。ウォールデン・ツークにあるように、幸福は他人から得るものではなく、他者と未来に貢献することによって得られるのです。

Norwegian Translated by Svein Age Hansen

Våren har endelig kommet til Cambridge og med den et nytt prosjekt. For mange år siden gjorde B.F. Skinner lydopptak av seg selv da han leste boka *Walden Two*, og han ga kassetene til sin eldste datter (meg) i bursdagsgave. Mange år senere omgjorde jeg de originale lydfilene til kapitler i digitalt format. Filene var et rot. Teksten hadde blitt repetert da kassetene hadde blitt snudd fra side en til side to. Regelmessige intervaller med høye gjennomskjærende lyder avslørte friksjon i lydopptakeren. Volumet varierte fra kapittel til kapittel, og til og med innenfor ulike kapitler. Også selve intonasjonen viste seg å være inkonsistent. Disse tingene var ikke overraskende siden opptakene hadde blitt gjort i løpet av flere uker, muligens med forskjellige lydopptakere.

Hvordan kunne vår Foundation fikse disse filene? Heldigvis hadde vår Foundation, den gang som nå, mange venner som bidro med sin tid og ekspertise. Scott Born sa seg villig til å hjelpe. Han brukte *uker* på å fjerne klikk og repetisjoner. Deretter redigerte Rick Rayfield de resulterende MP3 filene for å gi dybde og konsistens. I forhold til vår DVD, så tilførte han Skinner's "News from Nowhere" fra 1984. Vår Foundation har solgt de resterende DVD'ene i flere år. Det er på tide å gjøre dem tilgjengelige via nedlasting.

Dette bringer opp et annet tema: Bør vår Foundation tilby MP3 filene gratis? Bør vi gi dem ut gratis, men be om en liten donasjon? Bør vi ta betaling for nedlasting? Og hvis så, hva vil være en rimelig pris? Dette er en sak hvor dere, leserne av Operants, kan være med på å influere vår Foundation sin avgjørelse. Hva tror dere?

Med de økende forskjellene mellom de øverste og de laveste inntektsnivåene er *Walden Two* like aktuell i dag som den var da den ble publisert i 1948. I *Walden II* så kommer ikke lykken fra det vi oppnår fra andre, men fra hva vi bidrar med i forhold til hverandre og til fremtiden.

Portuguese Translated by Monalisa Leao

A primavera finalmente chegou a Cambridge e com ela um novo projeto. Há muitos anos atrás, o próprio B. F. Skinner registrou a leitura de *Walden Two* em fitas cassetes e as deu (aqui a fotografia das fitas cassetes originais) como presente de aniversário para a sua filha mais velha (eu). Vários anos depois, eu converti os arquivos de áudio original para capítulos em formato digital. Os arquivos estavam desorganizados. O texto estava repetido quando as fitas tinham sido viradas do lado um para o lado dois. Altos chiados nos intervalos regulares revelaram desgaste no gravador cassete. O volume variou de capítulo para capítulo e até mesmo dentro dos capítulos. Até mesmo o tom geral não era consistente. Esses detalhes não foram surpreendentes uma vez que o registro foi feito no decorrer de várias semanas, possivelmente em diferentes gravadores.

Como a Fundação poderia corrigir esses arquivos? Felizmente então, como agora, a Fundação têm muitos amigos que contribuíram com o seu tempo e conhecimento. Scott Born se disponibilizou a ajudar. Ele passou semanas removendo os chiados e as repetições que constavam no áudio. Então Rick Rayfield remasterizou os arquivos resultantes em MP3 para dar qualidade e consistência. Para nosso DVD, ele adicionou "*News from Nowhere*" de Skinner (1984). A Fundação tem vendido os DVDs por vários anos. É hora de torná-los disponíveis para *download*.

Isso levanta outra questão: A fundação deveria oferecer os arquivos em mp3 sem nenhum custo? Nós deveríamos disponibilizá-los sem custo, mas pedir uma pequena doação? Nós deveríamos cobrar pelos *downloads*? Se sim, qual seria um preço razoável? Essa é uma questão na qual você, um leitor da *Operants*, poderia influenciar a decisão da Fundação. O que você acha?

Com o aumento diferencial entre aqueles com renda muito superior e aqueles com renda inferior, *Walden Two* é tão apropriado hoje como era quando foi publicado em 1948. Em *Walden II* a felicidade não vem a partir do que nós lucramos dos outros, mas a partir do que nós contribuimos para o outro e para o futuro.

Russian Translated by Konstantin Evdokimov

Весна, наконец, пришла в Кембридж, и вместе с ней появился новый проект. Много лет назад Б.Ф. Скиннер начитал на кассеты свой роман «Уолден Два», и подарил их на день рождения своей старшей дочери (мне). Несколько лет спустя я оцифровала оригинальные звуковые файлы, разбив их на главы. Файлы были «грязными»: рассказчик повторял куски текста, когда кассета заканчивалась, и ее надо было переверачивать на другую сторону; скрип через равные промежутки выдавал трение на магнитофоне. Громкость менялась от главы к главе и порой внутри глав. Даже тембр голоса не был постоянным, что неудивительно: запись была сделана в течение нескольких недель, возможно на разных магнитофонах.

Как исправить эти файлы? К счастью, тогда, как и сейчас, у Фонда было много друзей, которые готовы внести вклад в общее дело своими знаниями и временем. Первым вызвался помочь Скотт Борн. Он провел *недели*, удаляя щелчки и повторения. Затем Рик Рейфилд сделал ремастеринг получившихся mp3 файлов, чтобы обеспечить глубину и постоянство звука. В наш DVD он добавил «Вести ниоткуда», записанные Скиннером в 1984 году. В течение нескольких лет Фонд продавал получившиеся DVD-диски. Пришла пора сделать эту аудиокнигу доступной через Интернет.

В результате возникают новые вопросы: должен ли Фонд предлагать mp3 файлы бесплатно? Может быть, нам не брать денег за скачивание, но просить взамен небольшое пожертвование? Или загрузка должна быть платной? Если так, то какой будет разумная цена? Мы просим вас, читателей «Operants», помочь Фонду принять решение. Что думаете вы?

С растущим разрывом в благосостоянии между теми, кто наверху в сетке доходов, с теми, кто оказался в нижней ее половине, «Уолден Два» стал еще актуальнее сегодня, чем когда роман был опубликован в 1948 году. В «Уолден Два» счастье приходит не от того, что мы получаем от других, но от того, что мы делаем друг для друга и для общего будущего.

*To voice your opinion on how the Foundation shall handle the
Walden Two audio book downloads, please go to:*

<http://www.bfskinner.org/walden-two-poll>

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Favorite quotes by Skinner

We have asked friends of the B. F. Skinner Foundation and Operants contributors to share their favorite Skinner's quote. Here are some of their submissions:



Melissa Saunders M.S., BCBA Clinical Director at Creative Interventions, LLC

"A failure is not always a mistake, it may simply be the best one can do under the circumstances. The real mistake is to stop trying."

(Beyond Freedom and Dignity, 1972)

It resonates with me as a scientist of behavior because some of the greatest discoveries have been found when something fails. It also serves as a reminder to keep moving forward, if something failed and you don't know the answer- one thing you do know is that whatever the failure was can be ruled out, that means you're that much closer to solving the problem!



**Joseph E. Morrow, Ph.D., BCBA-D
President, Applied Behavior Consultants**

Professor of Psychology and Behavior Analysis (Emeritus)

Licensed Psychologist, State California

"The objection to inner states is not that they do not exist, but they are irrelevant to a functional analysis."

(Contingencies of Reinforcement, 1969)

Having had no courses in Behavior Analysis, my favorite Skinner book was the book of readings called *Contingencies of Reinforcement* as it clarified most of the theoretical issues I had not mastered.



Joseph Ricciardi PsyD, ABPP

Assistant Vice President of Clinical Services (and Psychologist) at Seven Hills Foundation

Psychologist at Private Practice, Clinical and Consulting Psychology

"When I was told I had (leukemia) and would be dead in a few months, I didn't feel any emotion or anything at

all—not a bit of panic, fear, or anxiety—nothing at all. The only thing that touched me, really—my eyes watered when I thought of this—was, I will have to tell my wife and my daughters. See, when you die, you hurt people who love you and you can't help it. You've got to do it, and that bothered me. Otherwise, my dying is...I knew I was going to die, and now I know about when. But I've had a very good life...it'd be very foolish of me to complain."

It truly is one of my favorites and I think it might be an unusual one. It is attributed to Skinner from a radio interview he did for NPR during the last months of his life. Here is a citation from an ABAI SIG: <http://aboutbehavior.webs.com/bfskinner.htm> I have used this quotation in presentations at conferences and lectures to students. What it captures is Skinner the Man—and this is important to know, because Skinner the Legend is a dispassionate atheist who cares only about his data and that's just a caricature. It is the man who teaches us that his behaviorism was in fact a "human endeavor". Skinner was making humanity better. His behaviorism was because he cared about the world, and felt this was going to help. He was a good man, a genuine person. When I share it with students it's to remind them that they are learning to apply behaviorism to help make things better for others.

Brett DiNovi

interview by Sheila Habarad

When did you become involved in the field of behavior analysis?

When I was at West Virginia University during my undergraduate years, I became involved with a Continuous Learning Group. The group consisted of a blend of students in doctorate programs in behavior analysis and industrial engineering. The group worked with UPS and Bell Atlantic, utilizing the principles of behavior analysis in large organizations.

I really got excited about the applications of teaching and education when I started taking Dr. Julie Vargas's classes and studying B.F. Skinner's work. I was lucky enough to have Dr. Julie Vargas as my advisor and Dr. Ernest Vargas on my advisory board during my graduate studies.

What was your best experience studying under both Dr. Julie and Dr. Ernest Vargas?

When Julie and Ernie invited me to teach Educational Psychology, an introductory ABA course for teachers, also known as Behaviorology. While I taught, both Julie and Ernie collected rigorous data on student interactions and student responding in my class. The data amounted to an amazing amount of feedback that provided me the opportunity to make the necessary changes and see the data change. I remember them sitting in the classroom collecting the data while I was teaching. This experience is my foundation to the value of data collection and the impact it can have on a person's behavior.

I also had the opportunity to work at the Autism Training Center during my graduate years. This provided me the opportunity to apply the principles that I was emerged in to a different population while working closely with fellow graduate students.

Since we have been talking about your time studying under Drs. Julie and Ernest Vargas, what do you think about Dr. Julie Vargas's book, [Behavior Analysis for Effective Teaching](#).

I love her book. My copy is sitting on my desk. My clinical team and I review aspects of it weekly at our clinical meeting.

Is there a specific book of Dr. B.F. Skinner that you would recommend above all others?

Verbal Behavior. I like that these principles have been around since the '50s. I find it interesting and a little concerning that there are professionals in our field that put the principles from his book into user friendly packages and the mainstream populations then thinks its some new invention. I work hard at disseminating Dr. B.F. Skinner's work going back to the 50's so that he is



Brett DiNovi is the founder of DiNovi & Associates in New Jersey. He is a Board Certified Behavior Analyst with over 23 years of experience helping students with severe behavior problems and learning difficulties.

credited as well as ensuring the information is accurate that newer learners study.

What is it that you do specifically at DiNovi Associates?

We provide behavioral consultations in schools through New Jersey and New York. We have even picked up consultation in the Virgin Islands. While we work with children with autism, that is not our sole focus, we also consult with children who have traumatic brain injuries (TBI), severe behavior and learning challenges. We really strengthen our ability to work with antecedent manipulations by working with our TBI populations. The strong antecedent manipulations that we have established are a focal point that we utilize across all clients.

We are also working with organizations from an organizational behavior management standpoint. We have been working with



school districts and residential agencies to introduce behavior analytic principles to improve their management systems. The results I saw with the Continuous Learning Group at WVU proved to me that I would be able to not only work with children but also leaders within organizations to help spread the wonders of applied behavior analysis.

I see that your company was awarded as one of the best places to work in New Jersey. Would you say that there is something unique about your company that makes it stand out?

One of the things I am really excited about, are clear measurable performance goals that I set for my staff and senior consultants. They receive monetary bonuses based on their performance. They receive monetary bonuses based on their performance. While money isn't everything, it's certainly the most generalizable reinforcer paired with recognition and feedback. My staff receives graphic feedback in the form of Excel spreadsheets based on everything from submission of assignments on time to hours worked. The graphic feedback is highly motivating. While it does cost extra money it is worth its weight in gold. The clear measurable performance goals and bonuses have resulted in only a 1% turnover rate.



How has B.F. Skinner's work influenced your career?

The application of behavior analytic principles, they run through the fabric of everything my company does. Not only do we utilize the principles of behavior analysis in schools and with our clients, I'm running them at home with my staff and employees.

Is there an area of research that interests you the most?

I'm interested in research that surrounds treatment integrity and how we can increase and maintain it within our field.

What are you most concerned about or excited about for the field of behavior analysis in the future?

My main concern is that mainstream society hasn't fully embraced applied behavior analysis. Currently, ABA is only associated with autism, but organizations and government should utilize ABA as well.

I would find it very exciting if more organizations and the government begin to adopt behavior analytic principles. The government is in control of the resources. It is responsible for the behavior of the people in need of those resources. Therefore, if the government could embrace Skinnerian Principles, we would become a much more productive society. ■



B. F. Skinner on Two Types of Conditioned Reflex: A Review of the Two Articles That Introduced And Developed the Operant-Respondent Distinction

by Robert W. Allan, Ph.D.; Lafayette College

In 1928, Skinner began his journey to Cambridge, Massachusetts to study psychology at Harvard University. He brought three books that would be critical in the development of what Skinner later called the philosophical approach known as *radical behaviorism*. The first was Bertrand Russell's book, *Philosophy*, in which Russell extols the behavioristic position espoused by John Watson. Skinner had purchased this book because of articles by Russell he read in the *Dial* magazine.

These articles and the book, *Philosophy*, occasioned Skinner's purchase of John Watson's book, *Behaviorism*, which promoted a stimulus-response model of all behavior. The third was Ivan Pavlov's book, *Conditioned Reflexes*, which was an experimental account of an extensive stimulus-stimulus research program in which a conditioned stimulus (CS) was paired with an unconditioned stimulus (US). The results supported the stimulus-response model and demonstrated that responses to the US could be transferred to the CS via the CS-US pairing. These were some of the books that persuaded Skinner's study of psychology and, eventually, his remaking of psychology.

After beginning his research at Harvard, Skinner was already a "confirmed" behaviorist. He quickly learned to critique experimental conditions and results – among these, research with mazes used by experimentalists of the time to examine stimulus-guided behavior (ignoring the consequences of maze-behavior). He made several attempts to re-make the maze so that data could be more easily collected without human intervention. These experimental/methodological perambulations led him to create the cumulative recorder which continues to foster careful data analyses in the experimental analysis of behavior. Most importantly, this process of tinkering with the apparatus led Skinner to develop the bar-press chamber (with a wire bent into a "square U" shape) which continues to be used in operant experiments (and, in several variations, e.g., the pigeon key-pecking chamber). The bar-press became his response of choice (1930-31), as this behavior eliminated the myriad "reflexes" in the maze research.

The most intriguing question is what developments occasioned Skinner's initial use of the word *operant* to describe a relation between behavior and its consequences? Initially, he was trapped by myriad research papers on stimu-



Born and raised in New York City, Dr. Allan received his Ph.D. in Experimental Psychology at New York University, and completed a post-doc at the American Museum of Natural history. His research has often been focused on the operant-respondent interaction, using pigeons as experimental subjects. He presently teaches and researches at Lafayette College, in Easton, PA.

lus-driven responses – all behavior was said to be reflexive. Skinner adopted that perspective. His uncovering of the operant developed gradually, and a considerable time after the discovery of the lever press as a method for measuring so-called “reflex strength”.

I believe it began with a paper he published in 1935 which proposed two types of conditioned reflex: Type I and Type II. Type I consisted of a lever serving as a stimulus (S_0) followed by a lever press (R_0) followed by food (S_1) followed by salivation (R_1). The lever as a stimulus was said to elicit lever pressing which was then reinforced (as in Pavlov’s and Thorndike’s use of the term reinforcement), and then became a conditioned reflex. Type II consisted of the standard Pavlovian pairing of S_0 (light) with food S_1 . The response to S_0 was “not important” – that is, the response was not critical to the presentation and pairing of stimuli. Eventually, S_0 came to elicit the same response as S_1 – in this case, salivation.

When writing about Type I, Skinner was already using the word *discrimination* to speak of S_0 – this stimulus was signaling the opportunity to lever press. Nowhere in the article, however, does he mention the word *operant*. This paper was a crucial first

step toward a different analysis of reflexive behavior.

Skinner continued his bar-pressing research, exploring a number of different arrangements of response-reinforcement relations, including interval schedules, and extinction procedures to test so-called “reflex strength”. Although Skinner was not aware, two researchers, Jerry Konorski and S. Miller had proposed two types of conditioned reflex as early as 1928 (Skinner, 1979). In 1937 these authors published a paper that questioned the meaning of Skinner’s types and the differences with the types they had proposed. Skinner responded quickly (thanks to the authors, who supplied Skinner with a pre-print of their paper) with a rebuttal (Skinner, 1937) in which he further distinguished between his Type I and Type II conditions. He initially renames these Type R and Type S, respectively. Later in the paper he renames Type S, for the first time in print. “I shall refer to such a reflex as a *respondent* and use the terms also as an adjective in referring to the behavior as a whole.” He also renames Type R, “I shall call such a unit an *operant* and the behavior in general, operant behavior.” He goes on to commit himself to a clear difference between these two types, “The distinction between operant and respondent behavior and the special

properties of the former will be dealt with at length in a work now in preparation. All conditioned reflexes of Type R are by definition operants and all of Type S, respondents; but the operant-respondent distinction is the more general since it extends to unconditioned behavior as well.” Skinner’s rebuttal provided a clear definition of terms, and a thorough distinction between types of responses and the conditions that arranged and supported the behavior. He ends the paper with a challenge that has occasioned a long history of experimental work,

“The question at issue is whether we may produce contraction of the pupil according to *s – contraction* → *reinforcement*, where (for caution’s sake) the reinforcing stimulus will not itself elicit a contraction. It is a question for experiment.”

Today, the operant-respondent distinction is still debated with hundreds of papers searching for the continuum that Skinner alluded to so many experiments ago. My search for the first use of operant is complete – I hope all your reading has been appropriately reinforced. ■

“You’ve got to
experiment, and
experiment with your
own life!”

— B. F. Skinner
Walden Two

Noteworthy Articles

Kae Yabuki, MS, BCBA

In this edition of Operants, we publish the conclusion of the interview by Associate Editor Kae Yabuki with Robert Jensen and Helene Burgess. The review of their article, Mythmaking: how introductory psychology texts present B. F. Skinner's analysis of cognition, along with the first part of the interview appeared in the previous edition of Operants.



Helene Burgess



Robert Jensen

Is there a better way that Skinner could have presented the material about private activities so that there would be less misinterpretation?

In a word, no. What Skinner wrote was clear, detailed, and systematically related to the empirically-derived principles of a science of behavior. As we noted in our response to question on why a lot of textbook authors deny or ignore Skinner's position on private activities (see *Operants* Q1, 2014, p. 14), these misinterpretations are simply a cultural artifact passed down from professor (and introductory psychology textbook author) to graduate student. Then this student becomes a professor who teaches the next generation of potential professors while writing and having published a more recent introductory psychology textbook, continuing ad nauseum. Readers can find a thoughtful analysis of the contingencies involved in this particular transmission of "culture" in Hobbs (2005).

We have not tried to determine just when these misinterpretations found their way into textbooks. Certainly misinterpretation was elevated to the status of gospel with Noam Chomsky's review of Skinner's *Verbal Behavior*. Chomsky's misinterpretation is now so much a part of what is accepted without question that introduc-

tory textbook authors include parts of it without citing Chomsky as the source (see, e.g., Franzoi, 2014, pp. 392-393; Okami, 2014, pp. 444-445).

As Dr. Caio Miguel noted when we raised these questions with him, the misinformation is likely to continue until textbook authors and publishers are offered an opportunity to engage in writing and publishing accurate descriptions of Skinner's perspective, such opportunity requiring little effort and with the potential of increasing each group's profit. Thus, we come to question number five.

Do you have any suggestions or recommendations to the current behavior analysts on how to improve the general public's view on Skinner's radical behaviorism?

To answer this question we asked four of our colleagues with considerable experience in the field to respond to the question. We acknowledge the following for their helpful suggestions: Caio Miguel, Ph.D., BCBA-D; Kim Roberts, Ph.D.; Jill Young, Ph.D., BCBA-D; and Rae Ditty, M.A., BCBA. Our answer reflects their input as well as our own. We also want to acknowledge the valuable editorial assistance of Cy Epstein and

Anne Jensen.

1. Increase the number of behavior analysts who are also radical behaviorists. Skinner wrote and said repeatedly that radical behaviorism is not the science of behavior; it is the philosophy of that science. The experimental analysis of behavior and applied behavior analysis comprise the field of behavior analysis. Both are expressions of the methodologies discovered and elucidated by Skinner and his colleagues such as Charles Ferster, Charles Catania, and Fred Keller.

A greater number of behavior analysts fluent in radical behaviorism is necessary to continue to develop the theory of radical behaviorism. The dictum “A good theory advances good practice” applies here. People with grounding in radical behaviorism have the tools to investigate the complex verbal and other private behaviors that for now are “explained” by devotees of the hypothetical constructs found among cognitive psychologists.

Furthermore, without a solid theoretical foundation, the behavior of an applied behavior analyst will be less likely to adapt to new contingencies arising from treatment situations.

For example, how can knowledge of Skinner’s *Verbal Behavior* inform practices in teaching language not only to children with developmental disabilities, but also children without such disabilities who are “language deficient?”

Yet graduate programs in behavior analysis are principally designed to increase the likelihood that their graduates obtain paid employment. The employment possibilities are in academic or applied settings. If the employment is in an academic setting, the position will likely emphasize the experimental analysis of behavior or applied behavior analysis. Applied settings will likely require a skill set that includes functional assessment and the application and on-going assessment of behavioral interventions derived from such functional assessments.

However, success in either of these settings does not require that one master and maintain knowledge of the philosophy of science found in radical behaviorism, nor subscribe to that philosophy of science. Neither does success at the master’s degree level for board-certified behavior analysts. A review of the curricula of the master’s level programs found on the first page of listings from Google for “Applied Behavior Analysis” is telling in this regard. Of the curricula offered by six universities, only one included a course that would educate a student in radical behaviorism.

2. Re-read chapters VI & VII in Skinner’s *Science and Human Behavior*, and his *About Behaviorism*; follow with Emmanuel Zagury Tourinho’s article in *The Behavior Analyst*, 2006, 29, 13-31. Talk with/write to another behavior analyst about what you have read.

3. Write directly to textbook authors when misinformation is found in textbooks. A suggestion from Dr. Caio Miguel is that behavior analysts send two-to-three-paragraph corrections to authors that can easily be incorporated into subsequent editions of texts, with assurances that, with the corrections, the text will most likely be selected for use by behavior analysts teaching introductory psychology courses. Such letters can also be sent to textbook publishers. Perhaps even more effective would be to contact behavior analysts across the country teaching introductory psychology courses, asking them to sign a petition stating that they would use a textbook if it contained accurate information about radical behaviorism and behavior analysis. Initially targeting a

single textbook’s author(s) and publisher with the signed petition would alert them to increased profitability and

strengthen any impact by behavior analysts.

4. Write an article for the journal *Teaching of Psychology* that outlines radical behaviorism’s approach to all of the topics found in the “Learning” chapter; include activities an introductory psychology instructor could use in the classroom when the learning chapter of a text is assigned.

5. Write the “Learning” chapter for an introductory psychology textbook author.

Include:

- a) a section on radical behaviorism with an explicit description of Skinner’s analysis of private behaviors;
- b) a clear contrast between Watson and Skinner in their approaches to “behavior;”
- c) a radical behavioral analysis of insight, observational, and latent learning;
- d) the place of phylogenetic contingencies in behavior
- e) the difference between rule-governed and contingency-shaped behavior

6. Become a textbook reviewer and/or content consultant. Offer your service to the book rep when you meet.

We are disappointed that the American Psychological Association and the Association for Behavior Analysis International have not held authors to the standards that are mandated by their respective organizational ethics.

7. Encourage authors and publishers to consult knowledgeable radical behaviorists to review the learning chapter. Wade and Tavris were the only authors who had consulted with a well-known behaviorist in the writing of their learning chapter.

8. Find articles written by academics from other disciplines that contain misinformation regarding radical behaviorism and write directly to the author. Provide corrective substitute writing for the misinformation and ask that it be included with any on-line presence as well as with hard-copy reprints.

9. When you come upon on-line documents with misinformation, pick one and write to the site or creator/author of the site. Note to the person that the misinformation you found typically comes from scholars and professors who are otherwise knowledgeable individuals, but state that accuracy is of value to all readers. Provide two-to-three paragraphs of accurate information, ask that changes be made, and offer your gratitude in advance for bringing the on-line site up-to-date. A Google search for “radical behaviorism” showed about 324,000 results. Looking at the ten sites on the first page, one reads about radical behaviorism as follows:

- a) The theory states that people behave socially only: Through motivators, reinforcement, and modeling; Cognitive theory is the opposite: It states that people learn from both nature and nurture.
- b) An example of operant conditioning can be found in laboratory animals that, when presented with a maze, will learn over time to avoid taking wrong turns. The annoying consequences of taking wrong turns are stamped out while the satisfying consequences of taking correct turns are stamped into the animals’ behavior, thus reinforcing correct responses.
- c) The central idea of Radical Behaviorism [is] that all behavior can be explained as the result of learned associations between a stimulus and a response, . . .
- d) [The] scientific reason for arguing for [sic] Radical Behaviorism should be retired is not to revisit the now stale nature-nurture debate, . . . but rather because Radical Behaviorism is scientifically uninformative.

10. On the other hand, when you come across an accurate description, send a brief note of acknowledgement to the site or individual. Included in the ten sites noted above a reader will also find:

a) Radical behaviorism is a science of behavioral psychology that seeks to explain the role of emotions, private events and other

areas in organisms.

b) Psychologists have a long history of ignoring, not understanding, and/or intentionally misinterpreting behavior analytic interpretations of psychology.

c) Skinner’s radical behaviorism . . . retained overt behavior as an important dependent variable of psychology while acknowledging the existence and significance of unobserved behavior . . .

d) Skinner . . . did not deny the existence of thoughts, which he regarded simply as private behaviors to be analyzed according to

the same principle as publicly observed behaviors.

11. Be proactive in disseminating correct information about radical behaviorism to your colleagues and to the wider community. Volunteer to speak in classes and give department- and university-wide talks. Look for opportunities to disseminate information about Skinner’s writings to the community, for example, through TED talks, local parent groups, civic organizations, and in letters to the editor in a local newspaper.

Where possible, publish in journals not explicitly behavioral.

12. Urge the APA to create a website, perhaps similar to Wikipedia, for error corrections of introductory psychology texts.

Any further comments you would like to add?

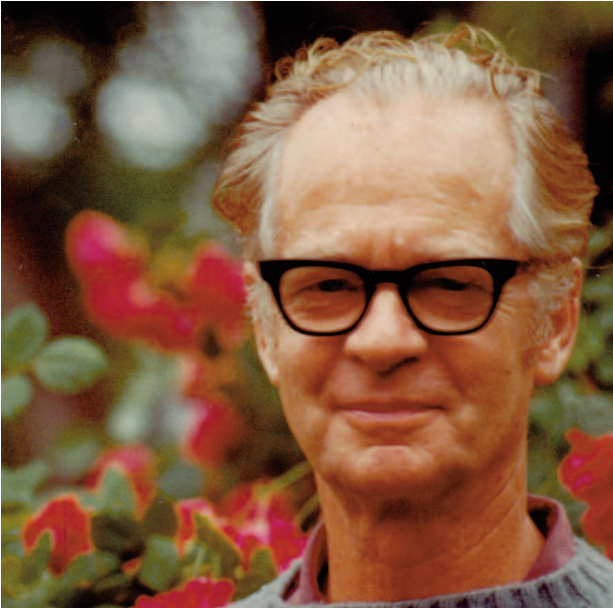
In our experience, the importance of introductory textbooks is underestimated by our colleagues, many of whom see teaching introductory psychology as a nuisance. Perhaps, they believe that introductory textbook errors will be corrected in future courses. However, the introductory psychology course may be the only exposure to psychology that most students receive in their college careers.

This is especially problematic for students in the introductory courses who at present are, or might later become, parents of children with autism or other behavioral challenges. Only one author (Bernstein, 2011) made even a passing reference to the behavioral treatment of autism.

In addition, we are disappointed that the American Psychological Association and the Association for Behavior Analysis International have not held authors to the standards that are mandated by their respective organizational ethics. ■

The importance of introductory textbooks is underestimated by our colleagues, many of whom see teaching introductory psychology as a nuisance.

How to start a real *Walden Two*?



In 1955, B. F. Skinner decided he needed solitude to finish the book *Verbal Behavior* that he had been working on for over 20 years. He found a small boarding house near his elder daughter's boarding school. It was run by a family that would accommodate his younger daughter as a member of their family. Living upstairs in a single room, eating with the family downstairs, and taking walks over fields and through woods, he was reminded of *Walden Two*.

In addition to completing *Verbal Behavior*, he made three dozen notes about problems in starting a real *Walden Two*. They include everything from settling on a name, to designing sleeping quarters, to arrangements for members with large outside funds and commitments like paying for a parent's support. Sections of his notes are reproduced here for the first time.

NAME

A name should be easy, international, probably not meaningful because too much has to be said and less will be understood, short, euphorious, not easily confused. An abbreviation or set of letters would do.

Walden is out. Too tied up to B.F.S. (not to mention HDT).

Communitas. Bad public relations with "commune."

Commune. Ditto.

Phalanx. Historical interest only.

Utopia. Misnomer.

Experiment. Good. cf. *Exp. in Int. Living*.

Brotherhood. Religious undertones. *Bruderhof*.

New Harmony. *Azelium*, etc. Now meaningless.

Group. Pretty close to G. dynamics etc.? (No.)

Group living

Living 1, *Living 2*, etc. It's a living!

Society. cf. *Society of Friends*

Societas. Why Latin?

Social. Trouble from Socialists?

Cooperative. Now means something else

Ethical. cf. *Ethical culture*. Good pub. relations?

Ethos. use this root

Economic

> worth referring to

Educational

EEEE (*Exper. Eth. Edu. Eco.*) *Four E's*. 4-E cf. 4-H Club.

Edecetex 1. *Exetedec*, *Exedetec*.

Asphetive (Coleridge)

Unit

"*Experiment*" is good and bad. Suggests tentative non-permanent venture. "*Experiment in Living*" would be poor.

Group doesn't imply a place — "*The group should do this...*" is weak.

GOAL

Goal of a unit would be not only to become self sufficient economically but to recover 2X original capital to be used in starting new units.

Special cases will require special treatment.

In general not good if some members are secure regardless of fate of community. However, too much are well-to-do to throw in everything. Current income is reasonable request.

Financial obligation outside community raises a problem. If a member has private income, part might be used, e.g. to support a mother or a wife. Setting up a trust fund before assigning income to community. Except the community handles trust.

Financial structure would need to be worked out. Probably shares of ownership according to capital contributed. Since the product of the member's labor cannot be claimed by member, actual value should increase slightly in spite of depreciation. E.g. buildings will be worth more than material paid for from capital. Cattle bred will be worth more the original stock. Shares should be retired, however, in favor of member-ownership. If owned by members, income from sale price remains in community.

BASIC PLAN

Capital for land quarters for group of X people. (100—X—25?) not including most labor but including all labor saving devices. Bulldozer if needed, power saws, cement mixer (heavy stuff possibly on rental basis but better buy and resell. These providing for expansion.)

Current income to support group of X people, X determined by housing available at start. Primarily builders, machine workers, etc. (Other applicants may need to wait until they can be useful.)

Finding group building quarters to provide for incoming group, up to planned unit.

One important matter of overall plan: everything possible should be done to make transition in way of life as easy as possible. Go over every feature of design to check this. E.g. perhaps less anxiety if family is at first held together. Thus children's quarters would be referred to as a boarding school. Children could eat with parents occasionally, say weekends. At the same time, conditions would generally favor leaving children together and away from parents most of the time. Meals could be taken to room for family meal but at some expense of time and effort. In the long run, it would be easier to eat in dining room. Husband and wife in double room if preferred but general practice would be in favor of separates. Smoking, drinking (even), tea and coffee would be permitted (and supported) but strong education and substitutes would oppose practice. Competitive games permitted but advantage of productive group activities played up. Crib available for normal? baby box parents. Some parents' living quarters in children's building for those who won't separate until security of child is seen.

Grouping according to age is desirable - could be done.

One wing filled with new people almost of an age, grow older together, space available if preferred for other old people as quieter nearing dining room etc.

WHAT THE COMMUNITY GUARANTEES THE INDIVIDUAL

Clothing, shelter and food. Choice of these limited by economic considerations. No conspicuous consumption, etc. Cultural design includes educating new members to simple but good tasters. See Veblen.

Choice of work. But net amount of "required," i.e. "laborious," work determined by needs of community. Credits determined by whole group preferences.

Cultural opportunities. Libraries, instructional devices, artistic and musical materials, group activities in all these fields, study groups, classes, etc. always available.

Entertainment. Concerts, plays, readings, created by the group. Sports also. Imported: movies, TV, radio, but cultural design to minimize them.

Information. Books, magazines, papers. News analyses.

Education of children.

Medical aid.

Old age security — depending upon success of group and have an incentive to make it work.

Sanctions by Individuals:

Freedom to leave with essentially same wealth as arriving. Plus extra credits in/shares if these have been accumulated? I.e. true/freedom vs. present right to quit a job when there are no prospects.

Freedom from personal interference.

Behavioral techniques all out in the open. No spying, eavesdropping, trial balloons, etc.

Temporary leave. Absence from community will not affect status. Money to travel from private sources which not in the community, are built up by extra credits, or sale of shares to community.

Freedom from personal interference. Behavioral techniques all out in the open. No spying, eavesdropping, trial balloons, etc.

WHAT THE INDIVIDUAL AGREES TO DO FOR THE COMMUNITY

Supply labor credits according to his ability, talents, and health.

Follow rules set up at any one time for good of group. Including: personal cleanliness. Behavior in public places. Dealings with other members — especially children. Sexual relations.

Restrict behavior outside of community as required — e.g., talking to strangers, comportment in cities, etc.

All income from outside goes to community during residence. Temporary leaves, no.

Sanctions by Community. The individual may be requested to leave for repeated violations of this agreement. Procedures for determining violations will be worked out. ■

From Russia with Hope

by Alexander Fedorov, Ph. D.



There is much suffering in the world, and behavior analysts are uniquely suited to work with others to help alleviate and prevent it. To this end, behavior analysts Adam Dreyfus and Theodore Hoch, and colleagues and behavior analysts Maria Soldatenkova and Abigail Calkin visited the Moscow Pedagogical State University, in October 2013, and Dreyfus, Soldatenkova, and Calkin went on to the Moscow Social University, and a Downs Syndrome group in Moscow, Russia, and then Mogilev State University in Mogilev, Belarus next. They delivered talks on the history of applied behavior analysis, beginning with the work of Ivan Sechenov and Charles Darwin and moving forward to the present day; teaching verbal behavior, beginning with Dr. Skinner's fateful discussion with T.N. Whitehead, and progressing to basic verbal operants, and assessment and instruction of verbal behavior; inner behavior as viewed by a radical behaviorist; and precision teaching as applied to instruction and therapy. Audiences were well-versed in Pavlovian principles and procedures, and participated in lively discussions about operant conditioning, and applications of operant- and respondent-based procedures in educating children with Autism and other disabilities, and in treating Post-Traumatic-Stress-Syndrome. These behavior analysts have been in contact with Russian and Belarussian colleagues since, and are examining further opportunities for promoting behavior analysis in these countries.

Operants: Does behavior analysis have a future in Russia and Belarus?

Hoch: Absolutely. There is a tremendously rich history in Russia and Belarus regarding approaching behavior from a natural science perspective. This is the home of Dr. Sechenov, who gave us Objectivism, and the home of Dr. Pavlov, who extended Dr. Sechenov's work and demonstrated and described respondent conditioning of muscular and glandular responses. Dr. Skinner's work and radical behaviorism are certainly continuations of the work of both of these scientists. We saw in Russia and Belarus a great commitment to examining and working with behavior from a natural science perspective.

Calkin: Yes – behaviorism and behaviorist research started with Dr. Pavlov and it is just natural to continue the work of Dr. Pavlov and Dr. Skinner in examining behavior of human and animals.

Dreyfus: I see a robust future for behavior analysis in Russia and Belarus. Both nations are struggling with dealing with a surge in the number of students diagnosed with autism. Most importantly, behavior analysis has a presence in these countries. Both countries have deep behavioral roots that trace the foundations of behavior analysis directly to their own scientific traditions.

Operants: What questions from audiences were most important to you?



Hoch: The audiences had numerous questions regarding verbal behavior. It is essential that any teacher or therapist understand verbal behavior and verbal mediation of other behavior, and the verbal and social aspects of our interactions with each other. The audiences in both countries displayed great interest in verbal behavior, and teaching verbal behavior for people with disabilities.

Calkin: The audience in Belarus picked up charting with the Standard Celeration Chart very quickly. I appreciated how they found

value in this so readily. In Moscow and in Mogilev, both audiences appreciated that Behavior Analysis is not just an American phenomenon. I greatly enjoyed answering questions about inner behavior, and our colleague, Adam Dreyfus, fielded numerous questions about autism. I had a great conversation with a female colleague in Moscow about working with soldiers who had returned from Afghanistan.

Dreyfus: The questions that were most important to me were directly related to children. On several occasions I had a parent approach me and ask, “Can you help my child?”. The answer is “yes”. We have many tools and a coherent developmental framework that permits us to design interventions that will specifically address your child’s unique needs.

Operants: What could you advise for those who want to promote behavior analysis and behavior analytical treatment of Autism in countries of the former Soviet Union?



Hoch: Translation, and working with a skilled and flexible translator is important, if one is not a fluent Russian speaker. Wear comfortable shoes. There is much to see and do! More importantly, though, attend to what one’s audience and

one’s host has to offer. There is much knowledge on both sides, and much we can learn from each other. Do all you can to learn about the rich history and contributions of Russian scientists to the science of behavior before going. There is much to appreciate!

Calkin: Continuously consult with experts in behavior analysis as applied to teaching children with autism. Our colleague, Adam Dreyfus, does this in an exemplary manner. Further, establishing cooperative arrangements between universities in Russia and the United States – such as the Moscow Pedagogical University, the University in St. Petersburg. Applied behavior analysis training programs would be key to moving this process along.

Hoch: George Mason University has such a program, and we’d be interested in working with our Russian and Belarussian coun-

terparts on a project to develop their own BACB Approved programs, if the opportunity arose.

Dreyfus: I would say be very respectful of their deep scientific tradition. Both Russia and Belarus have very talented professionals whose scientific understanding is world class. They grasp behavior analytic principles and concepts very quickly and ‘speak’ the language of science. Understand you are collaborating with skilled people who care about their students every bit as much as you and your staff. Also, due to centralized control, the ability to change systems on a statewide basis is nearly unparalleled.

Operants: Do you have plans to visit Russia again?

Hoch: Absolutely. Several of us are currently writing articles to submit to our colleagues in Russia for publication. And, if the opportunity presented itself to work collaboratively with my Russian colleagues – particularly with travel by my Russian colleagues to the US as well as my returning – I would look forward to working with my colleagues again!

Calkin: – Yes – St. Petersburg, Ukraine – I would welcome opportunities to do consultations in Russia and elsewhere!

Dreyfus: I plan on returning in the Spring of 2015. ■



C. B. Ferster and B. F. Skinner

“Schedules of Reinforcement”

Commentary: W. H. Morse, Ph.D.; P. B. Dews, Ph.D.



Foreword to the 1997 edition of Schedules of Reinforcement published by the B. F. Skinner Foundation.

S*chedules of Reinforcement (Schedules)* is an extraordinary monograph. It is an account of exciting scientific discoveries that were both important and original. The material was quite unfamiliar except to a small coterie who had been close to the work. A monograph of this magnitude is normally preceded by a series of technical papers in the scientific literature, describing reasonably coherent fragments of the work as it progresses, so that people in the field can have some familiarity (which often passes as understanding) with the new discoveries. But *Schedules* was not preceded by papers. It appeared full grown in 700 pages of almost entirely original material. To most psychologists even the nomenclature was unfamiliar, although some terms had been used before. In a word, it was an uncompromising challenge. Here it is, a mother lode of information on new discoveries: Go ahead and mine it. There are substantive written sections, mostly in the early chapters, but the bulk of *Schedules* is the 921 figures and their accompanying description. This atlas of figures contrasts sharply with the careful, analytical development in earlier books by Skinner (*Behavior of Organisms* and *Science and Human Behavior*) and even more with other books in psychology. An account of why *Schedules* is such a different book will give some perspective on the historical importance of the research and may help those approaching the book for the first time to understand it and appreciate its significance.

Ferster and Skinner discovered the incredible power of schedules of reinforcement to engender patterns of behavior. Their own behavior was so reinforced by the phenomena associated with schedule-controlled responding that, with the aid of automated equipment, they did research 24 hours a day, 7 days a week, year after year. Skinner had stable research funds from the Office of Naval Research that permitted Ferster and him to do uninterrupted research. Skinner did not publish any of this experimental work except for a report of a paper given at the 1951 Congress of Psychology in Sweden and Ferster wrote one technical article about how to do research on operant behavior and published three experimental papers. Rather than stopping research to write reports, new experiments were planned on the basis of the results of those just conducted. Progress was evident from the capability to do experiments that were not possible or even con-

ceivable earlier.

In the Festschrift volume for B.F. Skinner, Ferster gives a good description of the activities of the pigeon lab. He properly emphasizes the effort that went into technical developments and the availability of shop facilities to build equipment. Keys and feeders were tried and improved in a dozen iterations. The cumulative recording of responses, where each response causes a constant step movement of a pen perpendicular to the constant rate of movement of the paper, deserves special comment. Four different models of cumulative recorders were used, starting with one using a Ledex rotary switch as the main stepping mechanism and ending with a recorder built in the Psychological Laboratories by Ralph Gerbrands and later produced commercially by Gerbrands and Co. in a number of still more successively improved models. It was the cumulative recorder that permitted the recognition of the powerful effects of schedules. The information shown in a cumulative record is equally contained in a series of blips corresponding to the steps on a horizontal line of a polygraph, just as the information in most graphs can all be shown in a table of numbers. But the information conveyed to the observer by the cumulative record, as with a graph, is far greater. Changes in rate of responding, indicated by changes in slope, are more obvious in the cumulative record than in a polygraph. The cumulative record shows at a glance the pattern of changes in rate of responding in real time over periods of hours or longer. The characteristic properties of different schedules would not have been discovered without the cumulative recorder.

When at last Ferster and Skinner turned to writing an account of their research on schedule-controlled behavior, they described all of it rather than summarizing the main findings. Dealing with the cabinets filled with cumulative records from experiments over several years was a Herculean task that would have overwhelmed most people. Ferster and Skinner took to writing *Schedules* with boundless enthusiasm. Long before multiple schedule control had been discovered as an experimental phenomenon, it had been Skinner's practice to bring his professional activities under strong stimulus control by working without interruption in a particular place. The room with the cabinets of records was made the writing room. There were log books of the

daily experiments, giving the details about schedules, parameter values, and the subjects that were studied each day. With these books it was possible to retrieve the records for all experiments. Ferster stopped doing any research (freeing about 10 independent experimental units for use by deserving graduate students), and for a long period neither Ferster nor Skinner came into the pigeon lab except for a look at the cumulative records of experiments after they had finished their daily stint of figure preparation.

Ferster's Festschrift description of the mechanics of preparing the figures captures the flavor of their joint activities. The general practice was for Ferster and Skinner together to look at cumulative records for each subject studied in a particular experiment and select records to be photographed. This selection was undoubtedly the most important intellectual activity involved in the creation of *Schedules* and its success is indicated by subsequent workers confirming the important characteristic features of schedule performances described in *Schedules*, but it is impossible for a reader now to assess how the selections were made or to appreciate the extraordinary talent required to understand the details of the records and to recognize the salient and replicable features. In Ferster's account of writing *Schedules*, he says "decisions about what to excerpt were made quickly, usually without much discussion, because we were both so familiar with the records". Because space limitations made it impossible to show photographs of all records as they were recorded without sacrificing details, they devised a method for collapsing the time scale by "telescoping" the pen tracings (see pp.26-27, also described by Ferster). Skinner loved making useful mechanical devices and also took pleasure in working with his hands, cutting out the pen tracings and pasting them on cardboard perfectly aligned with the coordinate scales

showing representative slopes. Ferster later photographed the numbered figures in a part of the room equipped with a lighted stand and permanently mounted camera. After figures were mounted on cardboard, generally both Ferster and Skinner sat together and reviewed them, dictating descriptions of the figures, but sometimes Ferster alone dictated the descriptions. It is clear from reading the text that there was not much editing of the dictations, but Marilyn Ferster (later Gilbert) did do a final editing for consistency of usage. And in this way the accomplishments of their years of research were preserved for posterity.

Unfortunately, the importance of the work was not made obvious to the casual reader. The introductory sections of the book are helpful, but not enough explanatory material is presented to make parts of the book completely understandable to the uninitiated reader. The material in the introductory chapters explains the use of frequency of responding as an experimental datum, technical features about the experiments, the behavioral processes assumed to be important, and special features of fixed-ratio and fixed-interval schedules. Many figures show that responding can be differently controlled by different schedules hour after hour, day after day, without any broad conclusions about the importance and significance of these findings being made explicitly. Readers who understand the figures will certainly appreciate that Ferster and Skinner's studies were extraordinary, but even understanding the figures requires much work for the reader.

The summaries are mostly about particular individual experiments and there is little in *Schedules* to help a reader determine the optimum conditions for engendering definitive schedule performances characteristic of particular schedule conditions. Readers must work through the examples for themselves and undoubt-

edly some give up. For the most part, there is no indication of the chronological order of individual experiments. Technical advances led to an increased degree of control in later experiments, but these are reported together with the findings of earlier experiments. (In an intermediate design of a cumulative recorder, the displacement of the stepping pen indicating food presentations was horizontal rather than downward [p.25], and in general, figures showing this feature are from experiments conducted before 1952.) If one leafs through the pages of any chapter there are clearly differences in the uniformity and reproducibility of performances under a particular type of schedule. Some of these differences in performances came from the continuing technical improvements in the designs of keys and feeders, others from differences in the past experience of subjects before exposure to the current condition or from the duration of exposure to current conditions, and, sometimes, from differences between subjects treated alike. (But often Ferster and Skinner did not use subjects with a common past experience, believing that a consistent finding established in subjects with diverse backgrounds showed greater generality than one established in subjects similarly treated.) The reader is helped by the chronological description of individual experiments. The figures that show the sequential development of behavioral performances toward a consistent pattern during continued exposure to unchanging conditions will generally be understandable to readers. The figures that show terminal performances may be misunderstood because in *Schedules* "terminal" means only the last day of exposure to that schedule and the figure may or may not be representative of the steady state under the particular schedule conditions. Many of the figures or sequences of figures show transitions following a schedule or schedule parameter change. Even

after many sessions of steady-state responding, performances were generally immediately altered by changing the schedule contingencies. An important inference from such figures may be less evident: the features of schedules that are important in developing patterns of responding continue to operate in maintaining the patterns. It is not a matter of “learning” a pattern and then continuing to execute a “learned” pattern, but rather that the pattern of responding is maintained in steady state by the consistency of the schedule.

What does it mean to say Ferster and Skinner discovered the power of schedules of reinforcement? Fixed-interval (initially called periodic reconditioning) and fixed-ratio schedules had been conceived and studied by Skinner in the early 1930's and he had made insightful analyses of their features. In *Schedules*, the experiments on tandem schedules and differential reinforcement of rate follow from Skinner's earlier analysis of the effects under ratio and interval schedules of different probabilities of reinforcement by interresponse times of different durations. In the course of doing these and other experiments on chaining, it became increasingly clear that responding in any pigeon could be brought under discriminative stimulus control and reproducibly maintained for hours with suitable schedule parameters and past experience. Schedule histories, the sequential intertwining of responding and contingent consequences, are the primary determinants of current behavior. This basic fact had not been fully appreciated, even by Skinner, before this time. A dramatic way to show this new understanding is to describe the background for the first experiments on multiple schedules that evolved from studies on chained schedules.

It is now widely accepted that the behavior of an individual is generally under stimulus control and may differ

under different circumstances, but there were no laboratory experiments to show this explicitly until the 1950's. The concept of multiple behavioral repertoires under stimulus control was not part of any earlier psychological literature (consider how different *Science and Human Behavior* would have been without such a concept). In contrast, the chaining of sequential responses had been an established principle of behavior with experimental foundations from the time of Skinner's earliest work. It was a natural development for Ferster and Skinner to extend the concept of chaining by conducting systematic studies on chained schedules.

In a chained schedule, responding under a schedule in the presence of one stimulus produces a second stimulus, in the presence of which responding under another schedule is reinforced with food, water, etc. In studying two-component chained schedules where the initial and

Explanations of behavior in terms of generalized motivational states are untenable when an individual responds in different ways depending on the history of contingencies associated with the current stimulus conditions.

terminal components were different schedules, Ferster and Skinner observed instances in which the pattern of responding in each component was characteristic of the respective schedule. For example, in Fig. 841, segment A shows the performance in the initial component (a 2-min fixed interval schedule maintained by the onset of the stimuli for the terminal component) and segment B shows the terminal component (a 3-min variable-interval schedule maintained by food presentation). A reader who has worked through *Schedules* up to this figure will understand that responding in the two components is recorded separately and that following each mark on the response record in seg-

ment A the stimulus changes, recorder A stops and recorder B starts recording responses in the other stimulus condition. Following food presentations marked on the record in Segment B, responses in the initial component are again recorded in segment A. It was clear from cumulative records such as those shown in Fig. 841 that the performances in the two components were appropriate to the prevailing schedule condition. In a moment of insight, Ferster and Skinner realized that the performance in the initial component maintained by the stimulus change would also be maintained by food presentation. When this proved to be the case, multiple schedules became an experimental reality.

Under a multiple schedule, two or more independent component schedules, each with a distinctive discriminative stimulus, occur sequentially. Ferster had a favorite example of the power of schedule-controlled responding under multiple stimulus control, which is shown in *Schedules* in Figs. 640-642. A pigeon that was being studied under a multiple schedule with 5-min fixed-interval and 275 response fixed-ratio components alternating after each food presentation began to pause for long periods during the fixed-ratio component (strained ratio). In several instances, changing to the

stimulus of the fixed-interval component resulted in immediate responding that increased to the terminal rate for the interval schedule. In Fig. 642, after a pause of about 80 min in the ratio component the schedules were changed. In the presence of the fixed-interval stimulus the pigeon responded appropriately to that schedule and made over 300 responses during the 5-min interval. The long pauses in the ratio component were caused by the number requirement of the fixed-ratio schedule, yet an even greater number of responses were made under the fixed-interval schedule condition. Everyone knows that people behave differently under different circumstances, for example with their friends,

their parents or children. Ferster and Skinner showed that a repertory of different patterns of responding, each under discriminative stimulus control depending entirely on the schedule conditions, could be studied experimentally in laboratory animals.

The capability of studying responding under multiple schedule control completely changed what could be studied in behavioral experiments and the interpretative inferences that could be made. Prevailing psychological theory before the 1950's relied greatly on generalized states (drive reduction, anxiety, etc), as explanations of behavior. Earlier work on schedule-controlled behavior had established that the pattern and output of responding varied with different schedules. With multiple schedules it was now apparent that discriminative stimuli associated with different schedule conditions could, at any time, control separate behavioral performances. Explanations of behavior in terms of generalized motivational states are untenable when an individual responds in different ways depending on the history of contingencies associated with the current stimulus conditions. The later findings, that the effects of drugs could differ and even be opposite in direction under different components of multiple schedules occurring during brief time periods, further

established the biological significance of schedule-controlled responding under stimulus control.

Amazingly, most of the research presented in *Schedules* was conducted in only a four-year period from 1950 to 1953 and during the beginning part of this period there were continued modifications of apparatus, as described in the reminiscence by Ferster cited earlier. The pace of work generated great excitement in those familiar with it and clearly this fantastic research outpouring would have been slowed had Ferster and Skinner interrupted it by publishing research papers in the more conventional way. Yet the impact of the work was diminished by the limited analysis and interpretation of the results and elucidation of their significance in *Schedules*. Indeed, even Skinner's own writing after the 1950's did not as thoroughly incorporate these discoveries as one might have expected. When Skinner was actively involved in the conduct of research, his broader writings emphasized the sequential interplay between an individual's responding and the consequences of responding that characterize schedule-controlled activities. In later writings he gave a greater emphasis to contingencies than to the interplay of the behavior with contingencies. Probably this would not have happened if Ferster and Skinner had

taken more time to analyze the important influence of exposure to prior schedule conditions in determining subsequent schedule performances.

In retrospect, it seems surprising that the concepts of multiple schedule control and schedule-controlled behavior were not appreciated earlier by individuals knowledgeable about operant behavior. While the significance of the work described in *Schedules* remains unfamiliar to most individuals interested in behavior, the technical advances that came from this work are evident everywhere behavioral research is conducted. Unfortunately there has been a decline in the use of the most important technical feature of the work, the cumulative recording of responses in real time, which Skinner considered to be his most important scientific contribution. At Indiana University and after he returned to Harvard University, Skinner had planned to apply the already developed techniques of operant behavior to the analysis of traditional psychological concepts, such as thinking, seeing, and attending. These plans were changed when schedule-appropriate behavior under discriminative stimulus control emerged as the primary determinant of an individual's behavior. *Schedules of Reinforcement* documents this important discovery in a highly original way. ■

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Offer Expires: June 15, 2014

Suzanne Letso

interview by Steven Rodriguez



Suzanne Letso is the co-founder and CEO of the Connecticut Center for Child Development (CCCD). She holds a B.A. in Elementary Education from Southern Connecticut State University, a M.A. in Leadership from Duquesne University, and is a Board Certified Behavior Analyst.

Suzanne currently serves as Treasurer and a member of the Board of Directors of the Behavior Analyst Certification Board. She is on the Scientific Advisory Council for the Organization for Autism Research, the Editorial Review Board for the Association for Behavior Analysis International's journal Behavior Analysis in Practice, the advisory board for the Association for Professional Behavior Analysts, and she is Vice Chair of the Board of Directors for Marrakech, Inc. She has also participated in the establishment of a number of other service organizations and autism-related initiatives.

Last, but not least, Suzanne is the parent of a son with autism.

What attracted you into the field of Behavior Analysis to become a Behavior Analyst (BCBA)?

Prior to having a son with autism I had a career developing new products and markets in the medical industry. Part of my job was to meet FDA requirements to provide evidence that products and medical procedures had a body of empirical evidence to support their use. When my son was first diagnosed I was stymied by the lack of evidence supporting some of the treatments proposed for my child. Another parent shared a copy of Catherine Maurice's book, "Let Me Hear Your Voice," and two Lovass articles with me. The description of ABA in Maurice's book struck a cord with me and gave me the motivation to learn more about ABA, and the Lovass articles gave me a starting place to look into the research. This was before the Internet, so I took the Lovass articles to the Yale Medical Library and spent a day trying to hunt down each of the citations in those articles. Then I started calling some of the people who wrote those articles. The more I learned, the more I wanted to know.

Please describe your current research and recent behavioral interests.

I don't conduct research. I am the co-founder and CEO of a non-profit that provides a variety of programs for people with disabilities, primarily autism in CT and Alaska. We have 3 schools (2 in CT, one in AK); a diagnostic center; adult day program; an outreach program providing ABA to children in home; public school and community settings, an ABA mentorship program; and a day care program that is primarily designed for the children of our employees, but which is also an inclusion site. CCCD had one of the first distance learning programs for a master's degree in Behavior Analysis in collaboration with UNT.

While I used to be actively involved in programming for our students, I now function primarily in an administrative capacity. I sometimes help others start new ABA programs. I have been active in lobbying efforts in CT and Alaska on legislation related to services for people with autism and developmental disabilities, special education law, autism insurance legislation, recognition of the BACB credentials, and licensure of behavior analysts. I have served/am serving on a number of international, national and local boards of directors such as the BACB, APBA, OAR, CTABA and others.

I am very interested in licensure of behavior analysts, and worked in support of the recent licensure bill that was passed in Alaska and is on it's way to the governor's desk at the moment. We are hopeful he will sign it. I am also collaborating with CTABA to introduce similar legislation in CT during the 2015 session.

Rather than programming for individuals students, as Guy Bruce would say, today I focus more on ensuring that my employees "can do, know how, and want to" implement effective ABA programs, that they enjoy doing it, and get better at doing it every day. It is my job to make sure they have the education, training and tools to be successful in this field

What are some challenges the field of Behavior Analysis might still face to

progress from the misconceptions from the past?

I think one of the biggest obstacles we face as a profession is that we are perceived as only “doing autism.” Certainly the majority of us currently work with individuals with autism, but our profession has so much more to offer society.

Through your experience in the field, what recommendations do you provide to new behavior analysts joining the field?

I recommend that newly minted behavior analysts continue to educate themselves, and seek active mentorship even after they have graduated and/or become certified or licensed. While being a BCBA/BCBA-D is a huge accomplishment, it really means that someone has met the minimum requirements. I think most of us want to be great behavior analysts, and this requires much more time and effort to accomplish once our formal education is completed.

What do you believe is a major contribution of Skinner to the field?

Skinner’s contributions are massive. I would like to answer this question with a small Skinner quote because this one particular statement of his has been central to my philosophy of working with people with autism. In “Behaviorism at Fifty” Skinner said, “In an American school if you ask for the salt in good French, you get an A. In France, you get the salt.” This resonates with me because too often we set our goals for people with autism for them to be successful in the least restrictive educational environment - which is good for us, rather than for life in the least restrictive environment - which is better for them.

What are the biggest challenges you have faced as a mother of a child diagnosed with autism?

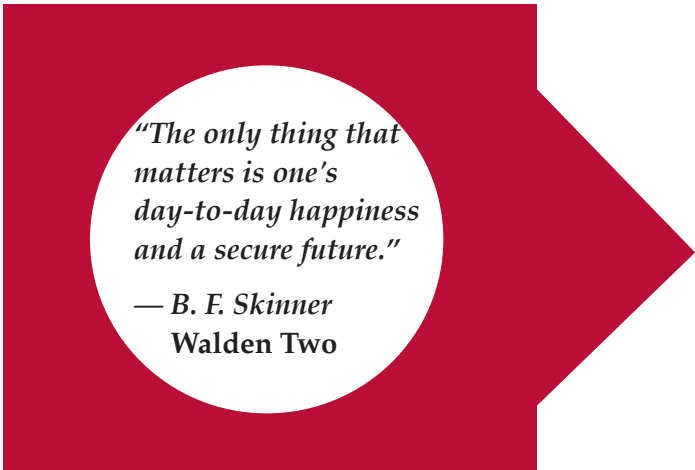
The biggest challenge for me as a mother is watching my beloved child work so hard to do something that comes so easily for most other kids. When he is successful, it is a joy. When he is not, your heart breaks a little each time. Keeping that angst to myself, and continuing to try even when I know the odds are stacked against us is still a challenge that we face together every day.

As a behavior analyst you are daily intervening using behavior analytic techniques. What is a challenge faced of being a behavior analyst and mother with a child diagnosed with Autism?

I utilize behavior analytic techniques with my child, our other students, our employees, parents, students of behavior analysis, and myself every day. Having said that, I think one of the challenges I face as a behavior analyst is to remember that I am Tyler’s mother first and foremost. He has another behavior analyst overseeing his program, and a team of people who work with him each day. I have to remember to let them do their job too. Doctor’s don’t treat their own family members for a reason.

What advice will you give a parent that was just told that their son/daughter was diagnosed with autism?

Knowledge is power. Be the most powerful person in the room by creating an individualized education plan for you, not just your child. Learn about ABA, autism, special education law, conflict management, and negotiating strategies. But also remember that we each only have a short time on this planet. Enjoy life and laugh when you can. Help your child to be all they can be, but don’t lose yourself in the process. ■



Fond Memories And Connecting Skinner with Sartre

By Yoshito “Yosh” Kawahara, Ph.D.



I was born in Hollywood, California, as a third generation Japanese American. Soon after, during WWII, my family and I were incarcerated in an American concentration camp in Heart Mountain, Wyoming, just because my grandparents came from Japan in the 1890s. Growing up interested in Asian American experiences, I eventually did studies on culturally based values (reinforcers) of Asian Americans and European Americans.

I've been re-reading *Walden Two* after many years, and I find that I cannot skim through it because each chapter brings back the old fascination with the concept. I was thinking about my early days at San Francisco State University (SFSU) in the mid-'60s. I was migrating gradually from biology to psychology and being puzzled about the seeming popularity of Freud, Rogers and the personality theorists. There were a few students who discussed *Walden Two* amongst themselves. There was one older student (Ken Swift was his name) who became a real spokesperson for Skinner's perspectives. A friend-to-be, Charley Lawrence, became quite fluent in Skinner's perspective and would spout it out during our time in the lab. Charley later went on to Indiana University and published with Jim Dinsmoor on the observing response project (I think the article appeared in 1972). By the way, a year after Charley Lawrence went to Indiana University, I went there as well with my wife, Marleen. I had a double emphasis in Learning and Physiological Psychology. I had a chance to work on the Observing Response project with Jim Dinsmoor. I really respected him and liked the "Socratic" teaching method which he used in the lab. I had two opportunities to meet Skinner in the lab and I was terribly tongue-tied each time. I think I must have read *Walden Two* two or three times before I left SFSU and it made immediate sense to me. My sense was probably well primed by the great discussions from Ken Swift and Charley Lawrence. Later Melbourne Hovell entered SFSU and was seen constantly carrying his copy of *Walden Two* under his arm as he walked around campus. Mel's father, Frank, joined the SFSU psych faculty and became a "Skinnerian" via discussions with Ken Swift.

I had two opportunities to meet Skinner in the lab and I was terribly tongue-tied each time.

About that period of time, I had taken a class in Existentialism which emphasized Sartre and Camus. They became my heroes. Then, came my introduction to Skinner via Swift and Lawrence. As I was perusing articles in the SFSU library, I came across an article on Skinner and Sartre which made the statement that they actually had a lot in common and, together, their perspective formed a "Radical Phenomenology of Behavior?". I couldn't be more excited by this combination of my two heroes. Later, everyone told me that Skinner and Sartre are totally incompatible and they had nothing common. I'm glad I found this article on synthesizing Skinner and Sartre before talking to all of these other people who tried to tell me that a synthesis could not be done. Of course, I believe that Sartre's phenomenology had lost much (all?) of its free-will features and became based on materialism (and determinism?) later in Sartre's career.

Nowadays as Marleen and I are babysitting our grandson, Kobe, I like to pause and ponder what Skinner would do in a certain situation with Kobe. I think back to Skinner's description of the tolerance to frustration technique used in *Walden Two* and I use such techniques to have Kobe express 'good' patience behaviors. When Kobe grows up, I'll have to tell him that he is such a great person because of B.F. Skinner's teachings and writings. ■

B. F. Skinner Foundation Annual Board of Directors meeting

The Board of Directors met in the B. F. Skinner Foundation's offices on March 22 and 23, 2014. Julie S. Vargas, President, Ernest A. Vargas, Vice President, and Board members Per Holth, Brenda Terzich-Garland, and Joyce Tu discussed the results of the Foundation's activities in 2013 and set plans and budget for 2014.

Fundraising became a clear focus of the annual meeting. The Foundation becomes more and more active in fulfilling its mission: introducing Skinner's science to the new generation of scholars and students and preserving Skinner's heritage. Publishing, archival work, as well as outreach effort through all channels, old and new, requires a constant flow of donations. Any new initiatives, domestic and international, such as scholarships, research support, creation of a Skinner museum, publication of new books in a variety of formats all depend on an increase in institutional support. "There are many companies and individual practitioners in the US and worldwide that are doing well and owe their success to the science created by B.F. Skinner", says Brenda Terzich-Garland, Board member and a co-founder of Applied Behavioral Consultants, Inc. (ABC). "It is only fair for the ones who support the Foundation to do more; and for the ones who are not involved yet to show their appreciation in a meaningful way". ■



2014 annual Board of Directors meeting

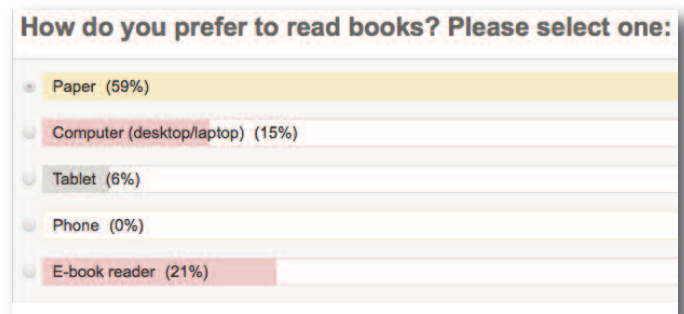
Verbal Behavior is available in e-book formats

Verbal Behavior by B. F. Skinner is now available from the Foundation [bookstore](#) in e-book formats: epub (works on Apple products, Nooks from Barnes and Nobles, Android-powered tablets and phones, KOBO readers, etc.) or mobi (Amazon Kindle) formats.

The B. F. Skinner Foundation would like to thank the Behavior Analyst Certification Board for the encouragement and financial support that made these electronic formats possible. The Foundation is also indebted to Mike Murr for his assistance with the conversion process.

As a reminder, in our [bookstore](#) one can find a downloadable (PDF) version of Skinner's *Science and Human Behavior*, available without charge.

Recently we conducted a poll on our website on how people prefer to read their books, and here are the results of this poll:



More e-book versions of Skinner books are coming soon! ■



This summer Brazil comes into focus, as billions of people eagerly anticipate the soccer (yes, football, for non-US readers!) World Cup. Many know, love, and respect Brazil as a country with vibrant culture, a powerful economy, and rich multi-ethnic tradition. We, however, decided to profile Brazil from the point of view of Behavioral Science. Operants editors interview two prominent scholars to learn more about the past, present, and future of the field in this country, and how it impacts the science worldwide.



Emmanuel Zagury Tourinho

interview by Monalisa Leao conducted in Portuguese
and translated into English

Dr. Emmanuel Zagury Tourinho is a Doctor of Experimental Psychology from the University of São Paulo (Brazil). He is a professor at the Federal University of Pará (Brazil), where he works with the Undergraduate Program in Psychology as well as the Graduate Program in Theory and Research of Behavior. In the latter, he coordinates the Research Group of Behavior Analysis: Conceptual, Basic and Applied Research. His research activities focus on cultural behavioral processes, self-control, private events, and behavior-analytic therapy. Additionally, Dr. Tourinho is a reviewer and a part of the editorial board of almost every major Brazilian journal. Currently, however, he plays a more administrative role. In addition to being the Dean of Research and Graduate Studies at the Federal University of Pará, he is also a Member of the Assessment Committee of the National Council of Psychology for Scientific and Technological Development – CNPq. Dr. Tourinho is often invited to participate in major regional and national meetings of Psychology and Behavior Analysis in Brazil and he has contributed greatly to the growth of the area in the country.

I have enormous respect for Dr. Tourinho's work and it is a great pleasure to be part of the same institution in which he works, and of course to hear his opinion about the current situation of Behavior Analysis in Brazil. I would like to thank him for providing his time to answer these questions on behalf of Operants's readers.

Dr. Emmanuel Zagury Tourinho é Doutor em Psicologia Experimental pela Universidade de São Paulo, Brasil. Atualmente, é Professor Titular da Universidade Federal do Pará (Brasil), onde atua no Curso de Graduação em Psicologia e no Programa de Pós-Graduação em Teoria e Pesquisa do Comportamento, no qual coordena o Grupo de Pesquisa em Análise do Comportamento: Pesquisa Conceitual, Básica e Aplicada. Sua atividade de pesquisa focaliza processos comportamentais culturais, autocontrole, eventos privados e terapia analítico-comportamental. Além disso, o Dr. Tourinho é revisor e integra o conselho editorial de quase todos os principais periódicos brasileiros da área. Exerce atualmente algumas funções administrativas, como Pró-Reitor de Pesquisa e Pós-Graduação da Universidade Federal do Pará (Brasil) e Membro do Comitê Assessor da Área de Psicologia do Conselho Nacional de Desenvolvimento Científico e Tecnológico - CNPq. O Dr. Tourinho é frequentemente convidado a participar dos principais encontros nacionais e regionais de Psicologia e Análise do Comportamento no Brasil e tem contribuído fortemente para o crescimento da área no país.

Eu tenho um enorme respeito pelo trabalho do Dr. Tourinho e é um grande prazer fazer parte da mesma instituição da qual ele trabalha, além é claro de ouvir sua opinião a respeito da situação atual da Análise do Comportamento no Brasil. Eu gostaria de agradecê-lo por disponibilizar seu tempo para responder essas questões em nome dos leitores do Operants.



I would like to start by asking you to tell us a little bit about your history. What events helped you become a Behavior Analyst and why have you been interested in this area of Psychology?

I did my undergraduate studies at the Federal University of Pará, where I had my first contact with Behavior Analysis. During this period, I had the opportunity to attend, at a conference, a lecture by Professor Sergio Luna, from the Pontifical Catholic University of São Paulo (PUC-SP), on the concept of response class. His presentation left a good impression on me and demonstrated what I expected from a scientist – the investigative and critical attitude, which connects empirical data with an effort of conceptual elaboration. Later, I was pursuing my Master's in Social Psychology at PUC-SP and I approached Professor Sergio and asked him to be my advisor. At that time, I developed a project on the concept of “consciousness”, which eventually led me to dedicate a long period of time researching the theme of private events. This work, to which I decided to begin to dedicate myself, was of a predominantly conceptual nature. I was supported by, above all others, Professors Maria Amália Andery and Teresa Sérgio, also from PUC-SP. After that, I was invited by Professor Hélio Guilhardi to present my results at an event of the Brazilian Association of Psychotherapy and Behavioral Medicine. This experience and interaction with other behavioral therapists (Simone Neno, Hélio Guilhardi, Roberto Banaco, Sonia Meyer and Denis Zamignani) sparked my interest in linking research of private events with questions of the clinical application of Behavior Analysis. Later, I returned to Social Psychology with the conceptual tools of Behavior Analysis. In addition to some feedback from Professors Maria Amália Andery, Sigrid Glenn and João Cláudio Todorov, I began to devote my research to the subject of selection processes at the cultural level. In summary, this has been my journey so far in Behavior Analysis. This of course explains my research interests, which perhaps are interconnected via the theme of self-control (including ethical self-control).

Looking at the development of behavior analysis in Brazil, how would you assess the current level of productivity in terms of the production of scientific articles and their real-world application?

When I started my undergraduate studies in Psychology, Behavior

Gostaria de começar pedindo que nos contasse um pouco de sua história. Quais eventos contribuíram para você se tornar um analista do comportamento e porque se interessou por essa área da Psicologia?

Cursei a graduação na Universidade Federal do Pará, quando tive o primeiro contato com a Análise do Comportamento. Nesse período, tive a oportunidade de assistir, em um congresso, a uma palestra do Prof. Sérgio Luna, da Pontifícia Universidade Católica de São Paulo (PUC-SP), sobre o conceito de classe de respostas. Sua apresentação me deixou uma boa impressão, por ilustrar o que eu esperava de um cientista – a atitude investigativa, crítica e que articulava dados empíricos com um esforço de elaboração conceitual. Mais tarde, fui cursar Mestrado em Psicologia Social na PUC-SP e acabei procurando o Prof. Sérgio para orientação. Desenvolvi, nessa época, um trabalho sobre o conceito de “consciência”, o que acabou me rendendo um período longo de dedicação ao tema dos “eventos privados”. Esse trabalho tinha predominantemente uma natureza conceitual, um tipo de pesquisa a que passei a me dedicar contando, sobretudo, com a interlocução das Profas. Maria Amália Andery e Teresa Sérgio, também da PUC-SP. Depois disso, fui convidado pelo Prof. Hélio Guilhardi para apresentar os resultados do meu trabalho em um evento da Associação Brasileira de Psicoterapia e Medicina Comportamental. Dessa experiência, e da interação com outros terapeutas comportamentais, em particular, Simone Neno, Hélio Guilhardi, Roberto Banaco, Sonia Meyer e Denis Zamignani, nasceu o interesse em ligar a pesquisa de eventos privados com questões da aplicação clínica da Análise do Comportamento. Mais tarde, voltei à Psicologia Social, com as ferramentas conceituais da Análise do Comportamento e a interlocução dos Profs. Maria Amália Andery, Sigrid Glenn e João Cláudio Todorov, e passei a me dedicar à pesquisa de processos de seleção no nível cultural. Em síntese, esse foi o meu percurso até aqui na Análise do Comportamento. Esse percurso explica os meus interesses de pesquisa, que talvez se conectem uns com os outros por meio do tema do autocontrole (incluindo o autocontrole ético).

Observando o desenvolvimento da Análise do Comportamento no Brasil, como você avalia o atual patamar de produtividade teórica, em termos de publicação de artigos científicos, e aplicada, com relação à prestação de serviços, em que se encontra?

Quando iniciei o curso de graduação em Psicologia, a Análise do





Analysis was taught in all Brazilian universities that offered the major. Today things have changed a lot. At the time there were few psychologists working with Behavior Analysis in clinical and other professional applications. Now, however, there is a fairly large group of them in the country. Therefore, there has been a change in Behavior Analysis such that its presence in the academic environment has become less significant, while its presence in the professional world has gained greater visibility. In the academic environment, there has also been a change that I consider positive: a greater diversity of investigative interests, which is a recent development. This differentiates Behavior Analysis researched in Brazil compared to those found in some other countries. Likewise, this diversity can be thought of as an important aspect relating to the development within Brazil as well as increasing Brazil's international visibility in the area.

Regarding the question of publication, it is important to note that Brazilian science in general has grown and become considerably more professional over the last decade. However, the scientific production in Behavior Analysis has remained at the same level and the social/institutional organization of scientists in Behavior Analysis remains marked by voluntarism and improvisation. The publication pattern of the Brazilian Behavior Analysts (and perhaps this is the case in other countries as well) hasn't advanced at the same rate as other areas, so it lost its relative share in the general framework of national science. Some claim that this is a result of "publish or perish", but I suspect this is a curtain to avoid self-critiques. In the academic community, he or she who doesn't produce new knowledge or submit it to critical evaluation by his or her peers, doesn't have scientific expression.

How would you rate the current state of Behavior Analysis in Brazil at the institutional level?

I think I talked a little about this in the above paragraphs. On one hand (especially regarding the performance of the Brazilian Association of Psychology and Behavioral Medicine – ABPMC) there has been a very positive increase in the interaction between researchers and professionals of Behavior Analysis in Brazil. However, on the other hand, there has been a lack of professionalism in the organization, integration and representation of Behavior Analysis. Meanwhile, there are many institutional spaces of articulation and management of Brazilian science, dealing with important changes in national policies of science and technology, where we aren't present and lack visibility.

In universities, the research in Behavior Analysis has advanced in a very pronounced way. There are graduate programs in Behavior Analysis, or at least with the possibility of guidance in this area, in many universities including the Federal University of Pará, Pontifical Catholic University of São Paulo, University of

Comportamento era ensinada em todas as universidades brasileiras que ofereciam esse curso. Hoje isso mudou muito. Em outra direção, havia poucos psicólogos trabalhando com Análise do Comportamento na clínica e em outras atividades profissionais e atualmente esse é um grupo bastante numeroso no país. Houve, portanto, uma mudança na inserção institucional da Análise do Comportamento, de modo que a presença no ambiente acadêmico é hoje menos expressiva, ao passo que a presença no mundo profissional tem agora maior visibilidade.

No ambiente acadêmico, também houve uma mudança que considero positiva, a maior diversidade de interesses investigativos, algo não encontrado até pouco tempo atrás. Isso diferencia a Análise do Comportamento feita no Brasil daquela encontrada em alguns outros países e pode ser uma condição importante para o seu desenvolvimento e maior visibilidade.

Quanto à questão da publicação, é importante notar que a ciência brasileira, em geral, cresceu acentuadamente e se profissionalizou ao longo da última década. Enquanto isso, a produção científica em Análise do Comportamento manteve-se no mesmo patamar e a organização social/institucional dos cientistas em Análise do Comportamento permanece marcada pelo voluntarismo e improvisação. O padrão de publicação dos Analistas do Comportamento brasileiros (e, talvez, também dos estrangeiros) não avançou como em outras áreas, portanto perdeu participação relativa no quadro geral da ciência nacional. Alguns alegam que isso é uma reação ao *publish or perish*, mas desconfio que isso seja uma cortina para evitar a autocrítica. Na sociedade do conhecimento quem não produz conhecimento novo e não o submete à avaliação crítica dos pares não tem expressão científica.

Como você avalia a Análise do Comportamento no Brasil atualmente a nível institucional?

Acho que falei um pouco sobre isso nos parágrafos acima. Um dado positivo é que, especialmente pela atuação da Associação Brasileira de Psicologia e Medicina Comportamental - ABPMC, tem havido uma interação muito positiva entre pesquisadores e profissionais da Análise do Comportamento no Brasil. Mas falta profissionalismo na organização, integração e representação da Análise do Comportamento. Enquanto isso, há muitos espaços institucionais de articulação e gestão da ciência brasileira, lidando com transformações importantes nas políticas nacionais de ciência e tecnologia, nos quais não estamos presentes e não temos visibilidade.

Nas universidades, a pesquisa em Análise do Comportamento tem avançado de modo muito expressivo. Há programas de pós-graduação em Análise do Comportamento, ou com possibilidade de orientação em Análise do Comportamento em muitas universidades, incluindo a Universidade Federal do Pará, Pontifícia Universidade Católica de São Paulo, Universidade de São Paulo,



São Paulo, Federal University of São Carlos, University of Brasília, Federal University of Paraná, State University of Londrina, and Catholic University of Goiás.

In these institutions, there are groups dedicated to the investigation of various themes, including basic behavioral processes (studies on verbal behavior, instructional control, cognition, self-control, aversive control, and behavioral variability); cultural behavioral processes (interlocking behavioral contingencies, metacontingencies, cultural selection, and macrobehavior); Applied Behavior Analysis (especially in the areas of clinical application, education, health care, and consumption) and the development of technologies in Behavior Analysis (especially those focused on autism). Therefore, the opportunities of graduate training and education are diverse and are always at a high academic and scientific level.

Regarding the previous questions, in your opinion, which variables or practices were most important for Behavior Analysis to arrive at this level in the country?

The government-driven stimulus to research has been essential to the development of Behavior Analysis in Brazil. Moreover, there are a lot of researchers who treat the task of training new researchers with great dedication. The increasing value of the integration of experimental research, conceptual research, and behavior analysis's professional applications has also been central to fuel the interest in the discipline in the country. In addition, the reception of various research interests largely explains the survival of behavior analysis in the academic environment.

At the major meetings in behavior analysis held in Brazil, there have been some explicit proposals to enhance the growth and development of the area in the country, such as creating another Brazilian Association of Behavior Analysis as well as a certification process for behavior analysts. From your point of view, what would contribute to behavior analysis growing even more in Brazil?

I may be wrong, but it seems there is no shortage of behavior analysis societies or events in Brazil. On the contrary, there have never been so many "leagues" and events of behavior analysis. It is interesting to note that the spread of behavior analysis has been led primarily by the undergraduate and graduate students and not by the researchers or veterans in the area. What is missing is to enhance the interest that comes from these students to build a solid and stable organization capable of stimulating research and application in behavior analysis; an organization that attempts to enter into institutional environments of national science and has a long-term plan for the development of this area.

Universidade Federal de São Carlos, Universidade de Brasília, Universidade Federal do Paraná, Universidade Estadual de Londrina e Pontifícia Universidade Católica de Goiás.

Nessas instituições, há grupos dedicados à investigação de temas diversos, incluindo processos comportamentais básicos (estudos sobre comportamento verbal, controle instrucional, cognição, autocontrole, controle aversivo, variabilidade comportamental), processos comportamentais culturais (contingências comportamentais entrelaçadas, metacontingências, seleção cultural, macrocomportamento), aplicações da Análise do Comportamento (sobretudo na clínica, na educação, na atenção à saúde e no consumo) e desenvolvimento de tecnologias em Análise do Comportamento (em particular, para a atenção ao autista). As oportunidades de formação pós-graduada são, portanto, variadas e sempre com excelente nível acadêmico e científico.

Frente às questões anteriores, em sua opinião, quais variáveis ou práticas foram importantes para que esta ciência tenha alcançado tal situação no país?

O estímulo à pesquisa tem sido essencial para o desenvolvimento da Análise do Comportamento no Brasil. Além disso, há um bom número de pesquisadores que encaram com muita dedicação a tarefa de formar novos pesquisadores. A valorização da integração entre investigação experimental, pesquisa conceitual e as aplicações profissionais da Análise do Comportamento também tem sido central para alimentar o interesse pela disciplina no país. E o acolhimento de interesses de pesquisa diversos explica em grande medida a sobrevivência da Análise do Comportamento no ambiente acadêmico.

Nos principais encontros realizados no Brasil de Análise do Comportamento, têm ficado explícito algumas propostas para favorecer o crescimento e desenvolvimento da área no país, tais como a criação de outra associação brasileira de Análise do Comportamento e uma certificação de analistas do comportamento. Do seu ponto de vista, o que pode contribuir para que a Análise do Comportamento cresça ainda mais no Brasil?

Posso estar errado, mas parece-me que não faltam sociedades ou eventos de Análise do Comportamento no Brasil. Ao contrário, nunca houve tantas "Ligas" de Análise do Comportamento e tantos eventos de Análise do Comportamento. E é interessante notar que a difusão da Análise do Comportamento tem sido liderada, sobretudo, por alunos – de graduação e de pós-graduação, não pelos pesquisadores e profissionais veteranos na área. O que falta é potencializarmos o interesse que vem desses alunos para construir uma organização sólida, estável, capaz de estimular a pesquisa e a aplicação em Análise do Comportamento, que busque uma inserção nos ambientes institucionais da ciência nacional e que tenha um pla-

brazil



The certification process seems to be a delicate topic, which has been brought up in discussion many times. However, the problem is that the variables involved aren't very clear. Perhaps we should create a certification system that attends to the professional market's demands, but it seems unlikely that we'd use this process as an important aspect for the institutional organization of behavior analysts.

Finally, what are your expectations for behavior analysis in Brazil in the coming years?

I think there is a huge potential for Brazil to become a leading producer of knowledge and technology in behavior analysis and to lead innovative initiatives for the dissemination of this knowledge to society. We have researchers and competent professionals focusing on various problems. Furthermore we have a good number of young people willing to take on academic functions as well as many well-known professionals in the behavior analysis community. Finally, we have a national system of research and graduate programs willing and able to support the work of good researchers. All that remains is to seek greater interaction with other bodies of scientific knowledge (a requirement of contemporary science) as well as with the institutional agents that act on behalf of science and technology in the country. ■

nejamento de longo prazo para o desenvolvimento da área.

A certificação parece-me um tema delicado, trazido à discussão sob controle de variáveis que não estão muito claras. Talvez tenhamos que criar um sistema de certificação para atender demandas do mercado profissional, mas parece razoável tomar esse processo como referência para a organização institucional de Analistas do Comportamento.

Para finalizar, quais são suas expectativas para a Análise do Comportamento no Brasil para os próximos anos?

Creio que há um potencial enorme para o Brasil se tornar um dos principais produtores de conhecimento e de tecnologias em Análise do Comportamento e liderar iniciativas inovadoras de difusão e transferência desse conhecimento para a sociedade. Temos pesquisadores e profissionais competentes, atuando frente a problemas variados; temos um bom contingente de jovens com vontade de assumir funções acadêmicas e profissionais referenciadas pela Análise do Comportamento; e temos um sistema nacional de pesquisa e pós-graduação apto a apoiar o trabalho de bons pesquisadores. Falta apenas buscar uma interação maior com outros sistemas de conhecimento, uma exigência da ciência contemporânea, e com os agentes institucionais que atuam em favor da ciência e da tecnologia no país. ■

brevis

Behavior Analysis Digest International

by Amanda N. Kelly, PhD, BCBA-D, Associate Editor:

Another way behavior analysis is being brought to the attention of the masses, across the globe, is through the Dissemination of Behavior Analyst-Special Interest Group's (DBA-SIG) revival of the Behavior Analysis Digest International (BADI), which halted printing in 2011 after a 23-year run under Joseph Wyatt's editorship. In 2014, BADI has once again begun production with the release of Vol. 26. Some new changes have been made, including an expansion incorporating feature articles alongside the digest material as well as a move to the digital stage of production. The digital version of BADI ensures that the materials are FREE to anyone interested and also allows for easier cataloguing of past work. BADI encourages submission of original newsworthy topics related to behavior analysis and synoptic versions of interesting publications released in the last 24 months. Subscription and submission inquiries can be sent to the current editor at benjamin.witts@gmail.com. ■





Dr. Celso Goyos, on verbal behavior and higher order thinking

interview by Monica Vandbakk

Professor Goyos graduated in Psychology from the Catholic University of São Paulo, Brazil, and got his Masters in Applied Behavior Analysis from Western Michigan University in 1978 under the supervision of Dr. Jack Michael. He took courses for his Ph.D. at W.M.U., in the US, and practical training at the University of Manitoba under Dr. Garry L. Martin, in Canada, and got the Sc.D. degree from the University of São Paulo under the supervision of Dr. Carolina Bori in 1986. He was a visiting scholar at the University of Bangor where he worked under Fergus Lowe, at the University of Kansas, with Richard Saunders, and at the University of California – San Diego with Edmund and Stephanie Fantino. Prof. Goyos is currently associate professor at the Psychology Department, Federal University of São Carlos, where he was first admitted in 1979, acts as the chief editor of the *International Journal of Behavior Analysis and Autism Spectrum Disorders (IJOBAS)*, and is a member of the editorial board of the *European Journal of Behavior Analysis*, *The Analysis of Verbal Behavior*, and the *Brazilian Journal of Behavior Analysis*. Dr. Goyos is proud to have been the chair of the São Paulo School for Advanced Science: Autism, director of LAHMIEI lab and of the Applied Behavior Analysis in Autism graduate course at UFSCar.

Dr. Goyos, could you please tell a little bit about your background in the field of behavior analysis?

I was introduced to Behavior Analysis while an undergrad student at PUC in Sao Paulo, Brazil, in the early 70's and my first readings were B.F. Skinner's *Science and Human Behavior*, Whaley & Malott's *Elementary Principles of Behavior*, and Keller and Schoenfeld's *Principles of Psychology*. I also read many JABA and JEAB papers and, of course, was very much familiar with Fred Keller's work on P.S.I., which was designed while Keller was working in Brazil. I further developed my interest through Professor Garry L. Martin, from the University of Manitoba, who spent two terms working in the design of our undergrad program at PUC. Meanwhile I read Sidman's *Tactics of Scientific Research* and was introduced to B.F. Skinner's *Verbal Behavior* and was ever since then very much interested in the area of verbal behavior, which led me to apply for a Master's Degree in Applied Behavior Analysis under Professor Jack L. Michael at Western Michigan University (WMU), in 1976. At WMU most of the courses I took were from Dick Malott, Brian Iwata, and Jack Michael. Even before I graduated from WMU, in 1978, I intended to take my Ph.D. at the same university, but at the time there were very few scholarships in Brazil for students overseas and in order to raise funds to pay for my tuition fees I worked at the Manitoba School in Canada, for two successive summers. At the end of this second period I was invited by Dr. Carolina Bori, to occupy a position at the Universidade Federal de São Carlos (UFSCar), and to help her and other colleagues to start the first special education graduate program in Brazil with emphasis on Behavior Analysis. My Doctor of Science degree was completed a few years later under the supervision of Dr. Bori. Shortly after that I spent some significant time at Bangor University, in the U.K., under the supervision of Dr. Fergus Lowe, to study verbal behavior under the perspective of Naming,





which later became known as the Naming Theory. As I was also involved in research in the area of stimulus equivalence I also spent time working under the supervision of Dr. Richard R. Saunders at Kansas University's research facility in Parsons, KS. More recently, I did a post-doctoral research work under the supervision of Dr. Edmund Fantino at the University of California, San Diego, to study an experimental model Dr. Fantino developed, the Sharing Game, a behavioral economics game, to investigate generosity and altruism.

What is your main interest and current work?

I still have a position as associate professor at UFSCar and I am currently the director of LAHMIEI (http://www.lahmiei.ufscar.br/index_ing.html), where I supervise undergrad and grad students, with four other colleagues, who are doing research on verbal behavior and on decision making processes. I try, as much as possible and desirable, to converge these two research lines into a "verbal behavior and higher order thinking" umbrella. Other than research work at LAHMIEI we are currently working on a large project on Behavior Analysis applied to the autism spectrum disorders. This project (Instituto LAHMIEI Institute), a unique model in Brazil, involves a research center, an experimental model for services and in-service training, and a graduate course. Students for the first graduate program are now being selected, and the experimental model for services and in-service training is to be inaugurated in February 2015, with funds from the Ministry of Science, Technology and Innovation, UFSCar, CNPq and FAPESP. The provenance of the LAHMIEI Institute was an international event on autism held in São Carlos in 2012 attended by 75 international participants and a number of Brazilian participants to match. This event was totally funded by FAPESP, the state of São Paulo foundation for scientific research, and also launched the International Journal of Behavior Analysis and Autism Spectrum Disorders (IJOBAS) (www.ijobas.org), which is now in its first number of the first issue.

If you should rank the most important work of Skinner, what would that be, and why?

I particularly find Skinner's *Verbal Behavior* his most important work along with *Science and Human Behavior*. Of course the former was an exercise of interpretation, based on a solid amount of experimental data, but lately it has been scrutinized by many behavior analysts. However it has never lost its great potential, either conceptually, or experimentally. But above all, its implications to practical applications for the teaching of language to individuals with developmental and language delays is increasing as the years go by. *Science and Human Behavior* is important in itself and also as the first reading for so many behaviorists and behavior analysts.

What of Skinner's work do you wish you had written yourself?

Actually, when I read Skinner's books for the first time I never thought I would be able to write anything novel like that let alone any of them myself. I still find I couldn't match any of his works, but one book I wouldn't have written is *Walden Two*, even though many aspects of the utopia are highly desirable.

How is the field developed in your country Brazil? Does it differ from other places like the US?

In Brazil, Behavior Analysis was introduced by Fred S. Keller in the early 60's. We have now a solid nationwide network of behavior analysts and have behavioral courses in many universities all over the country.

You were visiting Norway this summer, and now continue to collaborate with several of colleagues of mine, so you know a little bit of the field of behavioral analysis in Norway. Are there any similarities with the growth in your country?

We can hardly compare Brazil and Norway in a number of features, but as far as Behavior Analysis is concerned it appears to me that they are both in solid conditions.

What are your thoughts about the future of behavior analysis in your country?

I think we may have a gap between the first or second generation and the current generation of behavior analysts. In many senses, the future is already secured, at least as far as the number of behavior analysts graduating in psychology and related areas, and this number is growing. However, it is disheartening that most of them prefer to go to clinical practice and very few to research or start new areas of application. As a developing country, there are so many opportunities for newly graduated, or even doctoral and post doctoral students, such as, environmental issues, traffic issues, political, moral and ethical issues, health, education, and so forth.

Several articles and discussions have targeted the general health of our field, what are your thoughts concerning this?

I have commented on this issue in Goyos, C. & Escobal, G. (2012). **The Flight From Experimental Analysis: Remarks on Catania (1981) [Peer commentary on the paper "Discussion: The Flight From Experimental Analysis" by A. C. Catania].** *EJOBA*, 13 (2), 207-209.

Do you yourself work and do research with people outside the field of behavior analysis?



Most of my graduate students come from areas different than Psychology, such as Sports, Computer Sciences, Education, Nutrition, Speech Pathology, with almost no background in Behavior Analysis, but I have also Psychology undergrad students with a very solid background on the Applied and Experimental Analysis of Behavior. More recently, however, through our graduate program in Behavior Analysis Applied to Autism, I have established contacts with parents from many different areas, either because they are professionals who want to deal with autism or parents of children with autism. It has been a tremendously rich experience.

Your work is grounded in the experimental domains, and there has been some concerns related to the experimental versus the applied domains of the field. Do you think this is a relevant and productive discussion?

Indeed, I think it is a very important discussion and once again I

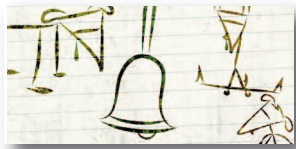
would refer to my paper cited above (Goyos & Escobal, 2012).

As a behavior analyst - What do you wish for in the future? And do you have any advice for the next generation of behavior analysts – whether they work in the experimental or applied domains of behavioral analysis?

Considering the power of our science, I would very much like to see the forthcoming generations getting involved with research in socially relevant issues and with basic research as well. I think our laboratory at the Universidade Federal de São Carlos is getting ready for this. We have two different but related research areas which deal with the development of language and complex higher order thinking such as those involved also in decision making processes. ■

TED-Ed lecture series

by Amanda N. Kelly, PhD, BCBA-D, Associate Editor



Behavior analysts have also begun to embrace the digital age of dissemination through participation with TED (Technology, Entertainment, Design) platforms. Dr. Benjamin Witts, BCBA-D was involved with the creation of a TED-Ed lecture on how respondent learning can influence dating scenarios. The TED-Ed lecture series (www.ed.ted.com) consists of a narrated lecture, typically between three and five minutes, with an accompanying animation done by a professional animator or animation team. TED-Ed lectures are designed to be supplemental to educational coursework, helping to expand on or clarify some topic. Interested persons can have a talk nominated by having another individual submit a nomination form from the TED-Ed website. While the process is often long and confusing and undoubtedly requires a great deal of flexibility, the opportunity to promote our science and allow access of our science to a larger population is certainly worthwhile in the end. ■

In time for the World Cup: fish playing soccer

Josh Pritchard, Ph.D., BCBA-D



What do rats playing basketball, fish playing soccer, and roaches bowling have in common?

Other than the fact that most folks find it simply amazing, all three are possible through careful planning and execution of operant conditioning. Moreover, these can be trained by anyone with a good understanding of shaping – a combination of reinforcement and extinction.

In April, the Science Museum of Virginia celebrated this very science with their annual March Ratness in which four rats (each representing one of the Final Four NCAA basketball teams) face off and play a tournament of short 2-minute games in front of a live audience.

If you want to get in on the action, the means to teach your pet fish to play soccer is now available to the masses via R2Fish School, a kit which provides props and instructions (written and video) on how to use Skinner's science to teach your fish a number of tricks, including soccer! (www.r2fishschool.com).

If you want to really push the boundaries, you can explore the cockroach lab at SIU. Mark Dixon and his students have taught roaches to bowl, navigate mazes, and much more! Visit <http://ehs.siu.edu/rehab/graduate/behavior-analysis/lab/dixon-lab/cockroach-lab.php> to learn more.

It is exciting to see the science of behavior disseminated in a variety of ways from science museums to retail kits on how to train your own pet fish at home! The ability for people with minimum training to get such robust changes speaks to the power of the science that B. F. Skinner developed. He first began describing operant conditioning in the 1930s in a series of back-and-forth papers between Konorski and Miller and himself. From that point on, he developed a robust science which to this day continues to improve the lives of many people throughout the globe. From autism treatment to zoological enhancement, Skinner's science of behavior has provided humankind with the means to directly improve society through the engineering of an environment which supports the kind of behavior that benefits all. ■

*"If your friends
organized as a team,
they ought to make
good progress."*

— B. F. Skinner
Walden Two

Front Cover Art

Artwork on the front cover of this *Operants* is a reproduction of the original etching by Deborah Skinner, the youngest daughter of B. F. Skinner.

Deborah grew up in Cambridge, Massachusetts, and has drawn horses for as long as she can remember. Following a university degree in the history of art, she spent a year studying mosaics in Florence, Italy. She then moved to London, where she studied etching under Henry Wilkinson at the City & Guilds of London Art School. Etching became her main career, but she continued to sell horse drawings.

Skinner has sold widely at galleries in North America and Britain. Various solo and group shows include The Royal Academy Summer Exhibition, The Royal Society of Painter-Etchers, Limited Editions, L'Angle Aigu (Brussels), The Camden Art Centre, and Artists at the Barbican. Her works have been included in many public collections including The Bank of America, Kulturamt Dortmund, Germany, Lloyds Bank International, St Pancras Library and Plymouth Museum and Art Gallery.

Deborah is married to Barry Buzan, professor emeritus of International Relations at the London School of Economics. They live in London. To see more works by Deborah, please visit her website: horsesbyskinner.com ■



Good luck, Amy!

Amy Kucharik, an accomplished musician and a freelance designer, has worked part time for the B. F. Skinner Foundation for the better part of 2013. She was instrumental in building our social media outreach, worked on the website, and was Operants Managing Editor. As Amy moves on to new adventures, we wish her the best.

I was not a disciple of Skinner when I came to the Foundation, however, I was surprised to find that I agreed with many of Skinner's ideas once I began reading some of his work, and even in cases in which I did not necessarily agree, I found that he made his points with great logic and clarity, so that it was hard to see how his detractors could argue against him so vehemently. I also learned about the Aircrib, which was a fascinating device, and some details about behaviorist techniques used in animal training that I found very interesting. Spending time with Julie Vargas was rewarding. She is eloquent and kind, and I enjoyed talking with her about her father's work, as well as music and many other subjects. On a more work-specific note, I felt a sense of accomplishment at having build up the Foundation's Facebook following, and working on *Operants*.

I am a singer-songwriter, and I'm just about to release my full-length debut CD, "Cunning Folk," which will be available online and at shows starting around the beginning of July. I'm producing a cabaret show at the Oberon Theatre in Cambridge on July 11 as our CD release event. After that, hopefully, I will be doing some touring with my band; I'm also laying the groundwork for a Halloween show to happen in October if all goes well. I also anticipate continuing to work as a freelance artist and graphic designer. I've been getting into more hand lettering and illustration, especially on scratchboard, lately. You can keep up with everything at my website, amykucharik.com. ■

Cynthia Lopez, Ph.D.

in her own words



As a supporter of Skinner's work and the mission of the B.F. Skinner Foundation I wanted to share some thoughts on his influence in my decision to become a behavior analyst.

I read my first Skinner text, *Science and Human Behavior* as a graduate student studying Educational Leadership. While I had studied Skinner's work as a psychology student in other courses and as a consultant, this was the first time I found myself looking more in depth into his writing in order to defend and explain his contributions to my fellow classmates. A typical perspective I ran into involved reducing Skinner's work to "stimulus and response" and the assertion that behavior was more complex than that, and besides he studied the responses of rats, right? I did my best to outline how Skinner's contribution to understanding human behavior produced an important philosophical approach to working with individuals with disabilities. The emergence of Applied Behavior Analysis has its foundation in Skinner's work and seeks to create socially significant outcomes for individuals by using positive procedures. This philosophy about improving individual lives greatly influenced my decision to become a behavior analyst. ■

Dr.. Cynthia Lopez received her Doctorate Degree in Educational Leadership from California State University Stanislaus and Master's Degree in Psychology with an emphasis in Behavior Analysis from the University of the Pacific. Dr. Lopez's dissertation, Early Intensive Behavior Treatment (EIBT) for Children with Autism: A Multiple Case Study of Long-term Outcomes was presented at the Northern California Educational Leadership Symposium in 2014. She has also co-presented at the Early Childhood Educators Training Conference 2012 (Merced County Office of Education): Understanding Autism Challenges and Strengths. Dr. Lopez is a member of the Association for Behavior Analysis International at the national and state level, committee member of Autism Speaks and Co-chair of the 2012 Central Valley Walk for Autism Speaks. She is also a member of Phi Kappa Phi Honor Society, 2011.

Dr. Lopez is a Board Certified Behavior Analyst at the doctorate level and has over 10 years experience providing ABA treatment to individuals with Autism/ASD and other developmental disabilities in classrooms, at home, and center based. She is currently the Associate Director for Applied Behavior Consultants, Inc., in the Central Valley. During her time with ABC, Inc., she has served as a consultant and supervising consultant. Her duties entail working closely with the Central Valley Clinical Administrator overseeing the quality and effectiveness of ABC, Inc.'s ABA services for that region. This can include direct/indirect supervision of behavior consultants and senior behavior consultants, program assessment and development, staff training, and regional supervision including our Fresno office. Dr. Lopez is also a consultant who provides Behavioral Instructional Services (BIS) for Valley Mountain Regional Center and Central Valley Regional Center through ABC, Inc.

(English)

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(Spanish)

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(Norwegian)

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(Italian)

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Grazie per il sostegno che darai alla Fondazione.

(Chinese)

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(Japanese)

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bfskinner.org

皆様のご理解、ご協力をお願い致します。

B. F. Skinner Foundation (B. F. スキナー財団)

B. F. スキナー財団は、501-C3の非課税法人です。

(Russian)

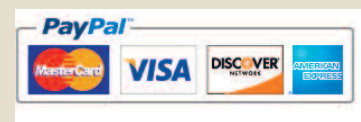
Стань другом

Ваше благотворительное пожертвование будет использовано для поддержки деятельности Фонда. Мы ценим вашу помощь в создании новых программ и расширении нашей текущей активности.

Посетите наш сайт для получения дополнительной информации: bfskinner.org

Благодарим вас за поддержку Фонда.

Фонд Б. Ф. Скиннера является освобожденной от налогов организацией.



As always, the editors welcome your feedback. Suggestions and news items are very welcome. Feel free to contact any of us by emailing operants@bfskinner.org.

*"The ... man looked at the board, then at his
opponent. He said "Hm" and returned to the board
with a deep frown."*

– Walden Two



*B. F. Skinner with daughter Julie and grand daughter Lisa Kristina.
Photo by Jerry Ash.*



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